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PREFACE

This publication summarizes the fiscal year 2024 Budget for the U.S. Department of Agriculture (USDA). Throughout this publication any reference to the "Budget" is in regard to the 2024 Budget, unless otherwise noted. All references to years refer to fiscal year, except where specifically noted. The budgetary tables throughout this document show actual amounts for 2021 and 2022, enacted levels for 2023, and the President's Budget request for 2024. Amounts for 2023 estimated levels include: non-enacted amounts such as Full-Time Equivalent levels, fleet levels, information technology investment levels, recovery levels, transfers in and out, balances available end of year, and obligation levels.

Throughout this publication, the "2018 Farm Bill" is used to refer to the Agriculture Improvement Act of 2018. Most programs funded by the 2018 Farm Bill are funded through 2023. Amounts shown in 2024 for most Farm Bill programs reflect those confirmed in the baseline.

Pursuant to the Balanced Budget and Emergency Deficit Control Act of 1985, sequestration is included in the numbers for mandatory programs in 2021, 2022, 2023 and 2024.

AGENCY-WIDE

PURPOSE STATEMENT

The Secretary of Agriculture established the Animal and Plant Health Inspection Service (APHIS) on April 2, 1972, under the authority of Reorganization Plan No. 2 of 1953 and other authorities. The mission of the Agency is to safeguard the health, welfare, and value of American agriculture and natural resources.

APHIS, together with its stakeholders, promotes the health of animal and plant resources to facilitate their movement in the global marketplace and to ensure abundant agricultural products and services for U.S. customers. APHIS also ensures that biotechnology-derived agricultural products are safe for release in the environment. APHIS strives to assure its stakeholders that it is on guard against the introduction or re-emergence of animal and plant pests and diseases that could limit agricultural production and damage export markets. At the same time, APHIS also monitors and responds to potential acts of agricultural bioterrorism, invasive species, diseases of wildlife and livestock, and conflicts between humans and wildlife. The Agency also helps to resolve sanitary (animal) and phytosanitary (plant) trade barriers and addresses certain issues relating to the humane treatment of animals.

APHIS' mission is carried out using three major areas of activity, as follows:

Safeguarding and Emergency Preparedness/Response

APHIS monitors animal and plant health domestically. APHIS also monitors disease situations throughout the world and uses this information to set effective agricultural import policies to prevent the introduction of foreign animal and plant pests and diseases. APHIS and the U.S. Department of Homeland Security cooperate to ensure that these policies are enforced at U.S. ports of entry. These policies prevent the entry of many invasive pests and diseases, including those that impact crops, pollinators, woodlands, and livestock. APHIS also develops and conducts pre-clearance programs to ensure that foreign agricultural products destined for the United States do not present a risk to U.S. agriculture. The Agency engages in cooperative programs to control pests of imminent concern to the United States. APHIS certifies animal and animal products, and plants and plant products, for export to other countries and regulates imports of designated endangered plant species.

Should a pest or disease enter the United States, APHIS works cooperatively with other Federal, State, and industry partners to conduct animal and plant health monitoring programs to rapidly determine if there is a need to establish new pest or disease management programs. APHIS, in conjunction with States, industry, and other stakeholders, protects American agriculture by eradicating harmful pests and diseases or, where eradication is not feasible, by minimizing their economic impact. The Agency monitors endemic pests and diseases through surveys to detect their location and through inspection to prevent their spread into non-infested parts of the country.

The Agency maintains a cadre of trained professionals prepared to respond immediately to potential animal and plant health emergencies. Program personnel investigate reports of suspected exotic pests and diseases and take emergency action if necessary. To facilitate these efforts, APHIS develops pathway studies and thoroughly investigates outbreaks to determine the origin of animal and plant pests and diseases and the most appropriate response actions to take including the development of tools and technologies to help manage these pests. APHIS also actively engages State, Tribal, and local governments, and industries to advance their emergency preparedness and response capabilities.

APHIS develops methods to control animals and pests that are detrimental to agriculture, wildlife, and public safety through its Wildlife Services program. The Agency's regulatory structure brings the benefits of genetic research to the marketplace, while ensuring they do not pose a plant pest risk. APHIS also conducts diagnostic laboratory activities that support the Agency's veterinary disease prevention, detection, control, eradication, and response programs.

Safe Trade and International Technical Assistance

Sanitary (animal) and phytosanitary (plant) (SPS) measures implemented by U.S. trading partners can have a significant impact on market access for the United States as an exporter of agricultural products. APHIS plays a central role in resolving technical trade issues to ensure the smooth and safe movement of agricultural commodities into and out of the United States. APHIS' role is to negotiate animal and plant health certification requirements, assist U.S. exporters in meeting foreign regulatory requirements, ensure requirements are proportional to risk without being excessively restrictive, and provide any necessary technical information to support the safety of U.S. agricultural products destined for foreign markets.

APHIS helps to protect the United States from emerging animal and plant pests and diseases while meeting obligations under the World Trade Organization's SPS agreement by assisting developing countries in improving their safeguarding systems. APHIS collaborates with other Federal agencies including the Foreign Agricultural Service, the U.S. Agency for International Development, the State Department, and the Office of the U.S. Trade Representative to implement technical and regulatory capacity building projects with shared resources. APHIS develops and implements programs designed to identify and reduce agricultural pest and disease threats while still outside of U.S. borders, to enhance safe agricultural trade, and to strengthen emergency response preparedness.

Animal Welfare

The Agency conducts regulatory activities to ensure the humane care and treatment of certain animals and horses as required by the Animal Welfare Act of 1966 as amended (7 U.S.C. 2131-2159), and the Horse Protection Act of 1970 as amended (15 U.S.C. 1821-1831). These activities include inspection of certain establishments that handle animals intended for research, exhibition, and sale as pets, and monitoring of certain horse shows.

Statutory Authorities

APHIS operates under the following authorities:

General:

7 U.S.C. 1633	Talmadge-Aiken Act (cooperation with States)
7 U.S.C. 7759	User Fees (for export certification of plants)
21 U.S.C. 136-136a	User Fees
31 U.S.C. 9701	User Fees (offsetting collections and miscellaneous receipts)
7 U.S.C. 3291(a)	Authority to provide technical assistance and training
7 U.S.C. 5623	Agricultural Trade Act of 1978 (reporting on SPS issues and trade barriers)
7 U.S.C. 5925	Food, Agriculture, Conservation, and Trade Act of 1990 (authorizes funding for national honeybee pest survey)
7 U.S.C. 2279g	Marketing Services; cooperative agreements

Animal Health:

7 U.S.C. 8301-8317	Animal Health Protection Act
7 U.S.C. 7501 note	American Rescue Plan Act (COVID surveillance)
49 U.S.C. 80502	28-Hour Law (feed, water, and rest for animals)
19 U.S.C. 1202, Part I, Item 100.01	Purebred animal duty-free entry
7 U.S.C. 1622	Section 203 of the Agricultural Marketing Act of 1946
7 U.S.C. 1624	Section 205 of the Agricultural Marketing Act of 1946
7 U.S.C. 398	Section 101(d) of the Organic Act of l944
7 U.S.C. 3801-3813	Swine Health Protection Act
7 U.S.C. 851-855	Anti-hog cholera serum and hog cholera virus
7 U.S.C. 2274	Firearms (tick inspectors)
7 U.S.C. 1901 note	Transportation of Equines to Slaughter
21 U.S.C. 151-159	Virus-Serum-Toxin Act

21 U.S.C. 113a	Authority to establish research facilities for Foot-and-Mouth and other diseases
21 U.S.C. 618	Section 18 of the Federal Meat Inspection Act, as amended, as it pertains to the issuance of certificates of condition of live animals for export
7 U.S.C. 8401 and 8411	Title II, Subtitles B and C of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002
7 U.S.C. 8318	Section 10504 of the Farm Security and Rural Investment Act of 2002 (training of accredited veterinarians)

Plant Health:

7 U.S.C. 7701-7772; and 7781-7786	Plant Protection Act
7 U.S.C. 1581-1610	Title III, Federal Seed Act
7 U.S.C. 2801 note; 2814	Federal Noxious Weed Act
7 U.S.C. 281-286	Honeybee Act
7 U.S.C. 7760	Terminal Inspection Act
7 U.S.C. 2279e and 2279f	Title V of the Agricultural Risk Protection Act of 2000 (penalties for interfering with inspection animals)
16 U.S.C. 1531-1544	Endangered Species Act (plants)
16 U.S.C. 3371-3378	Lacey Act (importation or shipment of injurious mammals, birds, fish)
7 U.S.C. 8401	Title II, Subtitle B of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002
39 U.S.C. 3015	Alien Species Prevention and Enforcement Act of 1992

Wildlife Services:

7 U.S.C. 8351-8354	Control of predatory and other wild animals

Animal Welfare:

7 U.S.C. 2131-2159	Animal Welfare Act
15 U.S.C. 1821-1831	Horse Protection Act

Staffing and Offices

There were 5,672 permanent full-time employees as of September 30, 2022. Of the total, 958 full-time employees were located at headquarters. APHIS manages programs on a national basis through Hubs, regional offices and field offices, area offices, telework and home workstations, technical centers, and animal import centers. APHIS conducts much of its work in cooperation with State and local agencies, private groups, and foreign governments. APHIS performs work in the 50 States, Washington, D.C., Guam, Puerto Rico, Virgin Islands, Mexico, Central America, South America, the Caribbean, Western Europe, Asia, and Africa.

Each year, the Office of Inspector General (OIG) and the Government Accountability Office (GAO) audits selected programs to examine the efficiency of the programs and operations including program results, compliance with applicable laws and regulations, and fair presentation of financial reports. Audits in which APHIS has been involved during 2022 include those listed below.

OIG AND GAO REPORTS

Table APHIS-1. Completed OIG Reports (Audit report has been issued and recommendation(s) have been implemented.)

ID	Date	Title	Result
33601-02-31	07/2021	Animal Care Program Oversight of Dog Breeders	Audit started September 2019. APHIS received the final report on July 1, 2021, and the Management Decision memo on July 22, 2021, with OIG accepting plans to implement recommendations #1-#3. APHIS will continue to work with the programs to implement recommendations. As of September 30, 2022, the program indicates a new estimated completion date of December 31, 2022, for recommendations #1-#3.
33601-03-23	03/2021	Follow-up on APHIS Controls Over Licensing of Animal Exhibitors	Audit began in December 2019. OIG issued the final audit report on March 12, 2021. On March 15, 2021, OIG provided APHIS with the official Management Decision memo accepting the Agency's response to implement the four recommendations. APHIS implemented recommendations #1, #3, and #4. Recommendation #2 is still pending.
33601-04-23	09/2021	Follow-Up on Smuggling, Interdiction and Trade Compliance	Audit started November 2019. OIG issued the final report on September 30, 2021. OIG and APHIS reached management decision on all 13 recommendations. The Achievement of Management Decision Form was received on October 6, 2021. Recommendations #1, #7, and #10 closed in July 2022. The remaining 10 outstanding recommendations are scheduled for closure by December 2022.
33701-01-21	08/2018	National Veterinary Stockpile Oversight	OIG report was issued with eight recommendations. Of the eight, seven have closed. APHIS is working to close recommendation #7 related to a Veterinary Services training program which was delayed due to the pandemic conditions and now has an estimated completion date of December 2022.
33701-02-21	07/2021	Controls Over Select Agents	Audit started October 2019 and the OIG close-out meeting was held in October 2020. OIG issued the final report on July 28, 2021, accepting 3 of the 11 Agency responses. Recommendations #2, #5, and #9 were accepted. The second response for the remaining eight recommendations was sent to OIG September 30, 2021. On October 20, 2021, OIG accepted for recommendations #3, #4, #8, and #11, leaving recommendations #1, #6, #7, and #10 pending. Recommendations #2, #5, and #11 closed by August 2022. Recommendations #1, #3, #4, #6-#8, and #10 are scheduled for closure by December 2022. Recommendation #9 is scheduled for closure by March 2023.

ID	Date	Title	Result
50601-01-32	11/2013	Controls Over APHIS' Introduction of Genetically Engineered Organisms	OIG report was issued with 13 recommendations. Of the 13 recommendations, 12 have been closed. APHIS is working on recommendation #8 pending implementation of the e-File system which experienced contractor and pandemic-related delays. The estimated completion date is December 2022.
50701-01-21	09/2018	Release Permits USDA Activities for Agro-terrorism Prevention, Detection and Response	OIG report was issued with five recommendations for APHIS. Audit included ARS and FSIS. Of the recommendations, two have been closed. Recommendation #1 closed on June 3, 2022. APHIS is working on recommendations #4 and #5 that require additional support and reconciliation to complete. The estimated completion date is December 2022.

Table APHIS-2. In-Progress OIG Reports

ID	Title
33601-01-21	Plant Pest and Disease Management and Disaster Prevention Program - Audit started November 2019. OIG issued the official draft report on August 15, 2022, and issued a revised version on October 24, 2022. APHIS issued its official response on October 31, 2022. OIG is scheduled to issue its final report on November 2022.
33601-03-41	Cattle Health Program Disease Incident Response – Audit began in October 2020. OIG briefed APHIS on the status of their work on March 29, 2021. OIG issued the official draft report on September 29, 2022. APHIS was provided an extension and a response is being prepared.

Table APHIS-3. Closed GAO Reports (Audit report has been issued and recommendation(s) have been implemented.)

ID	Title
102051	USDA's Preparedness for Foot-and-Mouth Disease - Audit included other USDA agencies. GAO issued the report on March 12, 2019, with two recommendations for APHIS. All recommendations have been implemented and closed as of February 7, 2022. The Audit included ARS, ERS, NIFA, OCS, and the Office of the Economist. APHIS was the lead agency for this audit.
103549	Federal Government's Use of Internet of Things Technologies - Audit started December 2019. GAO issued its survey, and Federal agencies provided their completed surveys in January 2020. GAO Audit Report 20-577 was issued on August 13, 2020, with no recommendations for APHIS.
103992	Animals for Testing, Research and Trauma Training - GAO requested follow-up concerning information facilities place on the APHIS Form 7023d. GAO and APHIS' Animal Care held a teleconference in April 2020. A follow-up meeting was held in October 2020, for APHIS to provide a demonstration of how information/data is collected electronically in the Agency's e-File system. This audit is being performed by GAO's Defense Capabilities and Management Team. GAO requested follow-up information concerning the information Facilities place on the APHIS Form 7023d. Statement of Facts received August 20, 2021. Report was issued May 2022 with no recommendations for APHIS.

ID	Title
104292	Biodefense Preparedness and Response - GAO provided follow-up responses and has asked for APHIS' written responses by December 2020. APHIS provided written responses in November 2020. GAO issued the final report on Aug 04, 2021, with no recommendations for APHIS.
104351	Monitoring and Oversight of Response to the Coronavirus 2019 Pandemic - GAO started the audit for its November 2020 report to Congress. GAO provided APHIS with written questions and has requested that APHIS provided written responses by October 2020. Food and Nutrition Service is the lead agency. GAO issued the final report with no recommendations for APHIS.
291264	High-Containment Laboratories: Comprehensive and Up-to-Date Policies and Stronger Oversight Mechanisms Needed to Improve Safety - GAO issued the report with five recommendations for APHIS on March 12, 2016. APHIS implemented all recommendations. All recommendations have been closed as of January 27, 2022. Audit included APHIS and other USDA and Federal agencies. APHIS, ARS, and FSIS provided GAO with additional information for the closure of the recommendations process.

Table APHIS-4. Completed GAO Reports

ID	Date	Title	Result
100267	03/2017	Federal Actions to Monitor and Control Antibiotic Resistance in Food and Animals	Audit includes APHIS, other USDA, and Federal agencies. GAO issued the final report in 2017 with one recommendation which has three parts for APHIS. All three-parts have been implemented and are closed. Parts #1 and #2 were closed on November 3, 2021. Part #3 closed on April 12, 2022.
101985	05/2018	Multilateral Organizations Animal Use in Federal Research: Agencies Share Information, but Reporting and Data Quality Could Be Strengthened	GAO issued the final report on May 18, 2018, with four recommendations for APHIS. APHIS anticipates implementation of all four recommendations by November 2022.
361589	04/2016	Genetically Engineered Crops	The audit includes APHIS and USDA's National Agricultural Statistics Service. GAO issued the report March 5, 2016. Recommendation #1 was closed October 2021. Recommendations #2 and #3 are open and under review for administrative closure.

Table APHIS-5. In-Progress GAO Reports

ID	Title
105804	GAO review of USDA Employee Civil Rights Complaints (105804). On October 28. 2022, GAO is conducted a review of USDA employee civil rights complaints, as directed by the Agricultural Improvement Act of 2018. This review is part of the Civil Rights Mandate (104716) review, but the portion about employee complaints has been spun off to this separate review (105804). GAO is scheduled to meet with APHIS in November 2022. APHIS is not the lead agency for this review.
105238	Federal Efforts to Address Zoonotic Diseases, Audit Notification Date: 06/24/2021. GAO announced this audit on June 28, 2021. GAO held the entrance conference on July 12, 2021. GAO is focused on APHIS's Center for Epidemiology and Animal Health internal ongoing risk assessment and identification processes. Inquiries and meetings with key APHIS personnel are ongoing.

ID	Title
104338	Inspection of Imported Agriculture - In keeping with the new Departmental guidance, GAO provided written questions in lieu of holding an entrance teleconference. APHIS provided GAO written responses in August 2020. APHIS held a meeting to discuss GAO's Statement of Facts on March 31, 2021. GAO issued the final report on June 1, 2021, with two recommendations for APHIS. As the lead Agency, APHIS will work with Customs and Border Protection to complete the two recommendations.
104489	Welfare of Federal Working Dog - Audit began in September 2020. APHIS provided written responses to GAO questions in October 2020 and continues to provide written responses, as the lead agency. GAO expects to send APHIS the Statement of Facts by the end of May 2021. Audit also involves USDA Forest Service (FS). FS sent APHIS documents in June 2021, APHIS forwarded them to GAO. On October 18, 2021, GAO requested further information. Response and information were provided October 29, 2021, and November 16, 2021. On August 4, 2022, GAO provided a draft report for Agency Comment on the Welfare of Federal Working Dogs (JC104489). GAO transmitted the final report to APHIS in October 2022. APHIS prepared the Statement of Action to address the recommendation.

Table APHIS-6. New GAO Reports

ID	Date	Title	Result
105445	Audit Notification 02/17/2022	GAO-23-105445, Consumer Product Safety Commission: Action Needed to Improve Preparedness for Product Examination Disruptions.	GAO will issue a report in October 2022.

AVAILABLE FUNDS AND FTES

Table APHIS-7. Available Funds and FTEs (thousands of dollars, FTEs)

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Salaries and Expenses:								
Discretionary Appropriations	$1,064,179	4,855	$1,110,218	4,922	$1,171,071	5,035	$1,188,788	4,993
Citrus Greening General Provision 739	8,500	-	-	-	-	-	-	-
Cogongrass General Provision 797	5,312	-	-	-	-	-	-	-
Cogongrass General Provision 775	-	-	3,000	-	-	-	-	-
Mandatory Appropriations								
Farm Bill - Section 7721	70,725	26	70,725	26	70,725	26	70,725	26
Farm Bill - Section 12101	-	-	-	-	28,290	2	28,290	2
Agricultural Quarantine Inspection User Fees								
Total Collections	337,810	1,325	595,853	1,325	759,846	1,325	822,321	1,325
AQI User Fees General Provision 799D	635,000	200	-	-	-	-	-	-
AQI User Fees General Provision 785	-	-	250,000	-	-	-	-	-
American Rescue Plan Act	300,000	335	-	-	-	-	-	-
Supplemental Appropriations								
AQI User Fees General Provision 2102	-	-	-	-	125,000	-	-	-
Buildings and Facilities:								
Discretionary Appropriations	3,175	-	3,175	-	3,175	-	3,175	-
Trust Funds:								
Mandatory Appropriations								
Mandatory Appropriations	8,063	50	12,222	50	9,000	50	9,000	50
Total Discretionary Appropriations	1,081,166	4,855	1,116,393	4,922	1,174,246	5,035	1,191,963	4,993
Total Mandatory Appropriations	1,351,598	1,936	928,800	1,401	867,861	1,403	930,336	1,403
Total Supplemental Appropriations	-	-	-	-	125,000	-	-	-
Rescission	-2,312	-	-	-	-	-	-	-
Transfers In	500,000	300	739,791	154	-	-	-	-
Transfers Out	-533,104	-	-589,732	-	-639,000	-	-577,500	-
Total Adjusted Appropriation	2,397,349	7,091	2,195,252	6,477	1,528,107	6,438	1,544,799	6,396
Balance Available, SOY	401,571	745	1,400,691	1,646	1,567,112	1,645	929,275	1,419
Recoveries, Other	37,803	-	21,280	-	-	-	-	-
Total Available	2,836,723	7,836	3,617,223	8,123	3,095,220	8,083	2,474,074	7,815
Lapsing Balances	-833	-325	-1,628	-699	-	-	-	-
Balance Available, EOY	-1,400,691	-1,646	-1,567,112	-1,645	-929,275	-1,419	-731,177	-1,266
Subtotal Obligations, APHIS	1,435,199	5,865	2,048,483	5,779	2,165,945	6,664	1,742,897	6,549
Total Obligations, APHIS	1,435,199	5,865	2,048,483	5,779	2,165,945	6,664	1,742,897	6,549
Obligations Under Other USDA Appropriations:								
Agricultural Marketing Service	27,523	29	29,452	60	29,450	48	29,450	48
Agricultural Research Service	31,550	67	33,617	63	33,620	55	33,620	55
Food Safety and Inspection Service	16	-	19	-	20	-	20	-
Foreign Agricultural Service	4,218	15	3,874	56	3,870	40	3,870	40
Forest Service	770	4	681	8	680	8	680	8
National Appeals Division	4	-	5	-	5	-	5	-
National Institute of Food and Agriculture	-	-	154	1	150	1	150	1
Natural Resources Conservation Service	39	-	108	1	110	1	110	1
Office of Chief Economist	83	-	4	-	4	-	4	-
Office of the Chief Information Officer	166	1	84	-	80	-	80	-
Office of the Secretary	119	-	119	-	120	-	120	-

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Total, Other USDA	64,488	116	68,118	190	68,109	153	68,109	153
Total, Agriculture Appropriations	1,499,687	5,981	2,116,600	5,969	2,234,054	6,817	1,811,006	6,702
Other Federal Funds:								
DOD, U.S. Air Force	13,175	129	13,737	122	13,740	122	13,740	122
DOD, Air National Guard	4,608	45	5,815	52	5,810	52	5,810	52
DOD, U.S. Navy	7,293	71	8,039	72	8,040	72	8,040	72
DOD, U.S. Marine Corps	1,394	14	1,400	13	1,400	12	1,400	12
DOD, U.S. Army	2,663	25	2,647	22	2,650	22	2,650	22
DOD, U.S. Army Corp of Engineers	1,963	19	2,318	21	2,320	21	2,320	21
DOD, Defense Threat Reduction Agency	98	-	6	-	6	-	6	-
Department of Energy	312	3	385	3	380	3	380	3
Department of Health and Human Services	18	-	475	1	480	1	480	1
DHS: for Coast Guard & other services & support	548	4	606	3	610	3	610	3
Federal Emergency Management Agency	7,794	27	459	11	460	11	460	11
National Aeronautics and Space Administration	378	4	527	5	530	5	530	5
Office of Insular Affairs	2,035	20	2,550	23	2,550	20	2,550	20
USDOI, Bureau of Land Mgmt & Reclamation: for administrative and technical support	1,046	7	1,284	6	1,280	6	1,280	6
USDOI, Fish and Wildlife Services: for natural resources and endangered species	2,784	27	3,560	31	3,560	20	3,560	20
USDOT: Federal Aviation Administration	1,265	12	1,468	13	1,470	13	1,470	13
Department of Veterans Affairs for miscellaneous services	32	-	32	-	30	-	30	-
Environmental Protection Agency	1,449	14	1,871	17	1,870	15	1,870	15
GSA: for miscellaneous services	15	-	6	-	10	-	10	-
Other Federal Funds	744	6	540	1	540	1	540	1
Total, Other Federal	49,614	427	47,726	416	47,736	400	47,736	400
Non-Federal Funds:								
Funds from organizations, states, & local entities for wildlife, plant, & animal services support	68,354	659	68,311	663	68,400	663	68,400	663
Import-Export User Fees	39,212	287	42,818	296	43,032	296	43,247	296
Phytosanitary Certificate User Fees	21,981	147	19,530	148	19,627	148	19,726	148
Reimbursable Overtime	9,207	76	12,411	105	12,473	95	12,536	95
Veterinary Diagnostics User Fees	5,542	28	6,417	45	6,449	30	6,481	30
Other User Fees	98	-	191	-	192	-	193	-
Total, Non-Federal	144,393	1,197	149,678	1,258	150,174	1,232	150,583	1,232
Total Available, APHIS	1,693,694	7,605	2,314,004	7,643	2,431,964	8,449	2,009,325	8,334

Note: The details associated with Supplemental appropriations provided to the Office of the Secretary, but implemented in this Agency, are found in the USDA Budget Summary and are not reflected above.

PERMANENT POSITIONS BY GRADE AND FTES

Table APHIS-8. Permanent Positions by Grade and FTEs

Item	2021 Actual			2022 Actual			2023 Estimated			2024 Estimated		
	D.C.	Field	Total	D.C.	Field	Total	D.C.	Field	Total	D.C.	Field	Total
SES	32	8	40	30	8	38	30	8	38	30	8	38
GS-15	86	63	149	75	84	159	77	86	163	76	85	160
GS-14	360	331	691	283	441	724	291	453	743	286	445	731
GS-13	310	607	917	244	681	925	250	699	950	246	687	933
GS-12	153	895	1,048	140	925	1,065	144	950	1,093	141	933	1,075
GS-11	102	751	853	76	773	849	78	794	872	77	780	857
GS-10	1	10	11	-	13	13	-	13	13	-	13	13
GS-9	79	486	565	50	487	537	51	500	551	50	491	542
GS-8	6	244	250	6	238	244	6	244	250	6	240	246
GS-7	45	611	656	33	607	640	34	623	657	33	613	646
GS-6	7	195	202	3	166	169	3	170	173	3	168	171
GS-5	6	87	93	7	130	137	7	133	141	7	131	138
GS-4	4	21	25	3	14	17	3	14	17	3	14	17
GS-3	-	4	4	-	3	3	-	3	3	-	3	3
Other Graded	16	131	147	8	144	152	8	148	156	8	145	153
Ungraded	-	-	-	-	-	-	-	-	-	-	-	-
Total Permanent	1,207	4,444	5,651	958	4,714	5,672	983	4,840	5,822	967	4,757	5,724
Total Perm. FT EOY	1,207	4,444	5,651	958	4,714	5,672	983	4,840	5,822	967	4,757	5,724
FTE	1,480	6,125	7,605	1,223	6,420	7,643	1,352	7,097	8,449	1,333	7,001	8,334

Note: In addition to these numbers above, there are temporary positions as well.

VEHICLE FLEET

Motor Vehicle Fleet

APHIS uses vehicles to deliver mission critical services. The Agency's veterinarians, animal health technicians, inspectors, plant protection and quarantine officers, wildlife biologists, and other technical personnel use motor vehicles in their daily responsibilities. This entails travel between inspection sites, farms, ranches, ports, nurseries, and other commercial firms. In some cases, APHIS' cooperators use Agency vehicles as authorized in program cooperative agreements.

Operators are required to keep historical maintenance records and submit the vehicles' operational and cost data for review, and report on the vehicle's condition and usage statistics at least once a year to maximize the life span of vehicles. Periodic maintenance surveys and reviews of consolidated vehicle fleet data ensure optimal use of each vehicle in the fleet.

In late 2022, APHIS purchased 2,315 telematics devices to retrofit all agency-owned vehicles to comply with the Agricultural Property Management Regulation (AGPMR) 21-01. USDA requires all agency owned vehicles are equipped with telematics to provide real-time, accurate vehicle data for future fleet decisions, and performance assessment on or after 2021. With the telematics devices, APHIS also purchased 850 National Finance Center (NFC) card readers and 620 key fobs to eliminate the need for drivers to manually complete vehicle logs. The NFC card readers are only assigned to the vehicles used by multiple employees. Each employee will use his or her LincPass (Personal Identification Verification card) to swipe in and out of the vehicle. The employee that does not have a LincPass will be assigned a key fob to use. APHIS expects to have all devices installed by the end of December 2022.

Replacement Criteria

APHIS replaces vehicles in accordance with Title 41, CFR § 102–34.270. Agency programs replace and retire vehicles using data on utilization, age, condition, and funding availability. Vehicles not meeting USDA utilization criteria are required to be justified by the programs for review and approval of the Associate Deputy Administrator for Marketing and Regulatory Programs Business Services before they can be replaced. The average age of APHIS' vehicle fleet is six years.

To comply with the President's Executive Order, 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, APHIS developed a Zero-Emission Vehicles (ZEVs) Strategy Operational Plan to replace petroleum-based vehicles with electric vehicles (EVs). Additionally, APHIS completed the USDA Zero-Emission Vehicles Strategic Plan to project the number of EVs will be acquired and the number of Electric Vehicle Supply Equipment (also known as charging stations) will be installed in 2023 through 2026, to meet the E.O. 14057 target dates. APHIS projects that the vehicle acquisition and fleet operating costs will increase in 2023 and 2024 due higher prices of ZEVs and fees to install charging stations.

APHIS uses the USDA Lifecycle Model to perform an owning versus leasing analysis to determine which option would be the most cost effective. The Lifecycle Model complies with the Federal Management Regulation, Bulletin B-43, Vehicle Allocation Methodology. Vehicles cannot be acquired without the documented analysis of the Lifecycle Model.

Reductions to Fleet

APHIS ended 2022 with 4,256 vehicles (leased and owned), which is an increase of 43 vehicles from the previous year. APHIS' fleet remains under the 2018 vehicle inventory-based line number of 4,595 because the vehicles purchased in 2022, still have not been received. The vehicle supply and production challenges continue to delay the vehicle delivery dates. APHIS' fleet will increase slightly each fiscal year until all the vehicles purchased are received but will still stay within the vehicle inventory target approved by USDA.

Table AES-9. Size, Composition, and Annual Costs of Motor Vehicle Fleet

Note: Number of vehicles by type include vehicles owned by the agency and leased from commercial sources or GSA.

Annual Operating Costs excludes acquisition costs and gains from sale of vehicles as shown in FAST.

	Sedans and Station Wagons	Vans	SUVs	Light Trucks 4X2	Light Trucks 4X4	Medium Duty Vehicles	Buses	Heavy Duty Vehicles	Total Vehicles	Annual Operating Costs
2018 End of Year Operating Inventory ...	**246**	**118**	**955**	**272**	**2,092**	**896**	**0**	**16**	**4,595**	**$19,456,575**
2021 End of Year Operating Inventory ...	**167**	**88**	**870**	**218**	**1,954**	**903**	**0**	**13**	**4,213**	**19,535,169**
2022 Planned Acquisitions	6	0	90	14	498	126	0	2	736	
2022 Planned Disposals.....	8	0	71	6	371	81	0	2	539	
2022 End of Year Operating Inventory ...	**159**	**88**	**845**	**210**	**2,005**	**934**	**0**	**15**	**4,256**	**22,485,364**
2023 Planned Acquisitions	11	6	51	5	243	38	0	0	354	
2023 Planned Disposals.....	11	7	51	4	209	34	0	0	316	
2023 End of Year Operating Inventory ...	**159**	**87**	**845**	**211**	**2,039**	**938**	**0**	**15**	**4,294**	**28,223,247**
2024 Planned Acquisitions	2	1	20	4	209	23	0	0	259	
2024 Planned Disposals.....	2	1	20	4	186	18	0	0	231	
2024 End of Year Operating Inventory ...	**159**	**87**	**845**	**211**	**2,062**	**943**	**0**	**15**	**4,322**	**34,794,239**

Table APHIS-10. Statement of Proposed Purchase of Passenger Motor Vehicles

	Net Active Fleet, SOY	Disposals	Replacements	Additions	Total Acquisitions	Net Active Fleet, EOY
2021	193	-26	6	0	6	167
2022	167	-8	0	0	0	159
2023	159	0	11	0	11	159
2024	159	0	2	0	2	159

Aircraft

APHIS uses aircraft to conduct mission critical activities such as aerial resource and surveillance surveys, aerial application tests, equipment demonstration and testing, implementation of methods for the control and/or eradication of destructive plant pests or wildlife to reduce damage to agricultural crops, among others.

The annual appropriations act provides APHIS with authority to purchase, replace, operate, and maintain aircraft. The Agency replaces aircraft when necessary to maintain fleet safety and efficient operating conditions.

The APHIS aircraft fleet consists of 80 aircraft, of which 7 operable aircraft and 1 non-operational aircraft are used for domestic plant pest and disease management programs and are owned. Of the remaining 72 aircraft used for the wildlife damage management programs, 65 are owned, 5 are borrowed from State cooperators, and 2 are rented. Of the 65 owned aircraft, 10 are non-operational. APHIS uses the non-operational aircraft for parts. APHIS is working to repair aircraft acquired from the Department of Defense in 2023. These aircraft will be used to retire legacy war-era aircraft currently in the fleet.

SHARED FUNDING PROJECTS

Table APHIS-11. Shared Funding Projects (thousands of dollars)

Item	2021 Actual	2022 Actual	2023 Estimated	2024 Estimated
Working Capital Fund:				
Administrative Services:				
Material Management Service	$1,107	$1,161	$1,279	$1,202
Mail and Reproduction Services	151	319	339	387
Integrated Procurement Systems	1,631	1,471	1,462	1,750
Personnel and Document Security	-	-	-	413
Procurement Operations Services	85	55	59	44
Human Resources Enterprise Management Systems	153	145	149	159
AskUSDA Contact Center	-	-	-	971
Subtotal	3,127	3,151	3,288	4,926
Communications:				
Creative Media & Broadcast Center	848	8,055	251	897
Finance and Management:				
National Finance Center	2,247	2,187	2,154	2,441
Internal Control Support Services	116	119	93	107
Financial Shared Services	10,513	10,201	10,078	10,578
Subtotal	12,876	12,507	12,325	13,126
Information Technology:				
Client Experience Center	36,724	32,202	41,861	33,817
Department Administration Information Technology Office	-	7	-	-
Digital Infrastructure Services Center	14,150	7,966	12,831	10,796
Enterprise Cybersecurity Services	-	-	-	2,588
Enterprise Data and Analytics Services	-	-	-	1,031
Enterprise Network Services	9,147	7,181	6,586	10,362
Subtotal	60,021	47,356	61,278	58,594
Office of the Executive Secretariat	991	1,252	1,252	435
Total, Working Capital Fund	77,863	72,321	78,394	77,978
Department-Wide Shared Cost Programs:				
Advisory Committee Liaison Services	5	7	6	6
Agency Partnership Outreach	547	488	635	635
Diversity, Equity, Inclusion and Accessibility	-	-	169	169
Human Resources Priority Goals	1	-	322	322
Medical Services	40	38	28	28
National Capital Region Interpreting Services	101	64	251	251
Office of Customer Experience	766	674	254	254
Personnel and Document Security	223	223	-	-
Physical Security	340	329	360	360
Security Detail	366	348	410	410
Security Operations	514	479	557	557
Talent Group	-	-	285	285
TARGET Center	94	99	138	138
USDA Enterprise Data Analytics Services	431	340	-	-
Total, Department-Wide Reimbursable Programs	3,428	3,089	3,415	3,415
E-Gov:				
Budget Formulation and Execution Line of Business	8	8	7	7
E-Rulemaking	44	42	47	39
Financial Management Line of Business	12	13	13	13

Item	2021 Actual	2022 Actual	2023 Estimated	2024 Estimated
Geospatial Line of Business	13	13	13	13
Grants.gov [8]	-	3	-	-
Human Resources Line of Business	24	22	23	23
Integrated Acquisition Environment	110	37	49	43
Hiring Assessment Tool	-	18	-	-
Total, E-Gov	211	156	152	138
Agency Total	81,502	75,566	81,961	81,531

ADVERTISING EXPENDITURES

Table APHIS-12. Advertising Expenditures (thousands of dollars)

Item	2022 Actual Number of Contracts	2022 Actual Dollars Obligated	2023 Estimated Number of Contracts	2023 Estimated Dollars Obligated	2024 Estimated Number of Contracts	2024 Estimated Dollars Obligated
Total Contracts for Advertising Services	6	$4,789	6	$3,153	6	$3,047
Contracts for Advertising Services to Socially and Economically Disadvantaged Small Businesses	-	-	-	-	-	-
Contracts for Advertising Services to Women-Owned and Minority-Owned Small Businesses	1	333	-	-	-	-

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ACCOUNT 1: SALARIES AND EXPENSES

APPROPRIATIONS LANGUAGE

The appropriations language follows (new language underscored; deleted matter enclosed in brackets)

Salaries and Expenses

For necessary expenses of the Animal and Plant Health Inspection Service, including up to $30,000 for representation allowances and for expenses pursuant to the Foreign Service Act of 1980 (22 U.S.C. 4085), [$1,171,071,000]$1,188,788,000, [of which up to $9,552,000 shall be for the purposes, and in the amounts, specified for this account in the table titled "Community Project Funding/Congressionally Directed Spending in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act);] of which [$514,000]$543,000, to remain available until expended, shall be available for the control of outbreaks of insects, plant diseases, animal diseases and for control of pest animals and birds ("contingency fund") to the extent necessary to meet emergency conditions; of which [$15,450,000]$15,737,000, to remain available until expended, shall be used for the cotton pests program, including for cost share purposes or for debt retirement for active eradication zones; of which [$39,183,000]$40,067,000, to remain available until expended, shall be for Animal Health Technical Services; of which [$4,096,000]$3,166,000, shall be for activities under the authority of the Horse Protection Act of 1970, as amended (15 U.S.C. 1831); of which [$64,930,000]$66,324,000, to remain available until expended, shall be used to support avian health; of which [$4,251,000]$7,451,000, to remain available until expended, shall be for information technology infrastructure; of which [$216,117,000]$222,037,000, to remain available until expended, shall be for specialty crop pests; of which $8,500,000, to remain available until September 30, [2024]2025, shall be for one-time control and management and associated activities directly related to the multiple-agency response to citrus greening; of which, [$14,986,000]$15,425,000, to remain available until expended, shall be for field crop and rangeland ecosystem pests; of which [$21,567,000]$24,430,000, to remain available until expended, shall be for zoonotic disease management; of which [$44,067,000]$45,198,000, to remain available until expended, shall be for emergency preparedness and response; of which [$62,562,000]$64,272,000, to remain available until expended, shall be for tree and wood pests; of which [$6,500,000]$5,813,000, to remain available until expended, shall be for the National Veterinary Stockpile; of which $6,016,000, to remain available until expended, shall be for invasive species control in coordination with other Federal agencies and the Civilian Climate Corps; of which up to $1,500,000, to remain available until expended, shall be for the scrapie program for indemnities; of which $2,500,000, to remain available until expended, shall be for the wildlife damage management program for aviation safety: *Provided*, That of amounts available under this heading for wildlife services methods development, $1,000,000 shall remain available until expended: *Provided further*, That of amounts available under this heading for the screwworm program, $4,990,000 shall remain available until expended; of which [$24,527,000]$24,820,000, to remain available until expended, shall be used to carry out the science program and transition activities for the National Bio and Agro-Defense Facility located in Manhattan, Kansas: *Provided further*, That no funds shall be used to formulate or administer a brucellosis eradication program for the current fiscal year that does not require minimum matching by the States of at least 40 percent: *Provided further*, That this appropriation shall be available for the purchase, replacement, operation, and maintenance of aircraft: *Provided further*, That in addition, in emergencies which threaten any segment of the agricultural production industry of the United States, the Secretary may transfer from other appropriations or funds available to the agencies or corporations of the Department such sums as may be deemed necessary, to be available only in such emergencies for the arrest and eradication of contagious or infectious disease or pests of animals, poultry, or plants, and for expenses in accordance with sections 10411 and 10417 of the Animal Health Protection Act (7 U.S.C. 8310 and 8316) and sections 431 and 442 of the Plant Protection Act (7 U.S.C. 7751 and 7772), and any unexpended balances of funds transferred for such emergency purposes in the preceding fiscal year shall be merged with such transferred amounts: *Provided further*, That appropriations hereunder shall be available pursuant to law (7 U.S.C. 2250) for the repair and alteration of leased buildings and improvements, but unless otherwise provided the cost of altering any one building during the fiscal year shall not exceed 10 percent of the current replacement value of the building.

In fiscal year [2023]2024, the agency is authorized to collect fees to cover the total costs of providing technical assistance, goods, or services requested by States, other political subdivisions, domestic and international organizations, foreign governments, or individuals, provided that such fees are structured such that any entity's liability for such fees is reasonably based on the technical assistance, goods, or

services provided to the entity by the agency, and such fees shall be reimbursed to this account, to remain available until expended, without further appropriation, for providing such assistance, goods, or services.

The first change (lines 3 - 6) removes language as the 2024 Budget does not propose funding Congressionally Directed Spending projects.

The second change (lines 24 - 26) adds language related to a new program for invasive species control in coordination with other Federal agencies and the Civilian Climate Corps.

LEAD-OFF TABULAR STATEMENT

Table APHIS-13. Lead-Off Tabular Statement (In dollars)

Item	Amount
Estimate, 2023	$1,171,071,000
Change in Appropriation	+ 17,717,000
Budget Estimate, 2024	1,188,788,000

PROJECT STATEMENTS

Table APHIS-14. Project Statement on Basis of Appropriations (thousands of dollars, FTE)

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.	Chg Key
Discretionary Appropriations:											
Safeguarding and Emergency Preparedness/Response											
Animal Health Technical Services	$38,093	151	$38,486	151	$39,183	151	$40,067	151	+$884	-	(1)
Aquatic Animal Health	2,272	13	2,306	13	5,000	18	6,461	18	+1,461	-	(2)
Avian Health	63,213	238	63,833	238	64,930	238	66,324	238	+1,394	-	(3)
Cattle Health	105,216	493	108,500	493	111,771	493	103,658	493	-8,113	-	(4)
Equine, Cervid & Small Ruminant Health	28,982	116	32,284	116	35,319	116	32,498	116	-2,821	-	(5)
National Veterinary Stockpile	5,736	6	5,751	6	6,500	6	5,813	6	-687	-	(6)
Swine Health	25,020	142	25,390	142	26,044	142	31,624	147	+5,580	+5	(7)
Veterinary Biologics	20,570	126	20,898	126	21,479	126	22,217	126	+738	-	(8)
Veterinary Diagnostics	56,979	167	61,414	196	63,777	196	63,425	196	-352	-	(9)
Zoonotic Disease Management	19,620	62	20,282	62	21,567	62	24,430	70	+2,863	+8	(10)
Subtotal, Animal Health	365,701	1,514	379,144	1,543	395,570	1,548	396,517	1,561	+947	+13	
Agricultural Quarantine Inspection (Appropriated)	32,893	367	33,849	367	35,541	367	37,690	367	+2,149	-	(11)
Cotton Pests	13,597	49	14,725	49	15,450	49	15,737	49	+287	-	(12)
Field Crop & Rangeland Ecosystems Pests	10,942	75	11,137	75	14,986	77	15,425	77	+439	-	(13)
Pest Detection	27,733	186	28,218	186	29,075	186	30,164	186	+1,089	-	(14)
Plant Protection Methods Development	20,884	128	21,217	128	22,557	130	22,556	128	-1	-2	(15)
Specialty Crop Pests	196,553	768	209,553	791	216,117	796	222,037	801	+5,920	+5	(16)
Tree & Wood Pests	60,456	292	61,217	292	62,562	292	64,272	292	+1,710	-	(17)
Subtotal, Plant Health	363,058	1,865	379,916	1,888	396,288	1,897	407,881	1,900	+11,593	+3	
Wildlife Damage Management	111,647	574	116,312	587	121,957	623	122,897	587	+940	-36	(18)
Wildlife Services Methods Development	21,046	122	23,363	122	26,244	126	25,658	126	-586	-	(19)
Subtotal, Wildlife Services	132,693	696	139,675	709	148,201	749	148,555	713	+354	-36	

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.	Chg Key
Animal & Plant Health Regulatory Enforcement	16,400	114	16,697	114	18,722	120	19,390	120	+668	-	(20)
Biotechnology Regulatory Services	19,020	93	19,262	93	19,691	93	23,916	110	+4,225	+17	(21)
Subtotal, Regulatory Services	35,420	207	35,959	207	38,413	213	43,306	230	+4,893	+17	
Civilian Climate Corps	-	-	-	-	-	-	6,016	5	+6,016	+5	(22)
Contingency Fund	478	5	491	5	514	5	543	5	+29	-	(23)
Emergency Preparedness & Response	41,268	193	42,021	193	44,067	197	45,198	197	+1,131	-	(24)
Subtotal, Emergency Management	41,746	198	42,512	198	44,581	202	51,757	207	7,176	+5	
Subtotal, Safeguarding and Emergency Preparedness/Response	938,618	4,480	977,206	4,545	1,023,053	4,609	1,048,016	4,611	24,963	+2	
Agriculture Import/Export	15,722	79	17,928	81	19,292	84	17,766	81	-1,526	-3	(25)
Overseas Technical & Trade Operation	24,198	52	24,333	52	25,572	57	28,976	57	+3,404	-	(26)
Subtotal, Safe Trade and International Technical Assistance	39,920	131	42,261	133	44,864	141	46,742	138	1,878	-3	
Animal Welfare	31,661	228	32,256	228	37,506	260	35,641	228	-1,865	-32	(27)
Horse Protection	2,009	12	3,040	12	4,096	21	3,166	12	-930	-9	(28)
Subtotal, Animal Welfare	33,670	240	35,296	240	41,602	281	38,807	240	-2,795	-41	
APHIS Information Technology Infrastructure	4,251	-	4,251	-	4,251	-	7,451	-	+3,200	-	(29)
Physical/Operational Security	5,153	4	5,163	4	5,182	4	5,205	4	+23	-	(30)
Rental and DHS Security Payments	42,567	-	42,567	-	42,567	-	42,567	-	-	-	(31)
Subtotal, Agency Management	51,971	4	51,981	4	52,000	4	55,223	4	3,223	-	
Congressionally Direct Spending	-	-	3,474	-	9,552	-	-	-	-9,552	-	(32)
Subtotal, Discretionary Appropriated	1,064,179	4,855	1,110,218	4,922	1,171,071	5,035	1,188,788	4,993	17,717	-42	
General Provisions:											
General Provision 739 - Citrus Greening	8,500	-	-	-	-	-	-	-	-	-	
General Provision 797 – Cogongrass	5,312	-	-	-	-	-	-	-	-	-	

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.	Chg Key
General Provision 775 – Cogongrass	-	-	3,000	-	-	-	-	-	-	-	
Mandatory Appropriations:											
Farm Bill, Section 7721	75,000	26	75,000	26	75,000	26	75,000	26	-	-	
Farm Bill, Section 2408	-	-	-	-	-	-	-	-	-	-	
Farm Bill, Section 12101	-	-	-	-	30,000	2	30,000	2	-	-	
Sequester P.L. 113-6 Farm Bill	-4,275	-	-4,275	-	-5,985	-	-5,985	-	-	-	
Agricultural Quarantine Inspection User Fees:											
Total Collections	319,998	1,325	606,658	1,325	778,000	1,325	825,000	1,325	47,000	-	
Sequester P.L. 113-6 AQI User Fees	-15,387	-	-26,192	-	-44,346	-	-47,025	-	-2,679	-	
Sequester Restored AQI User Fees	33,200	-	15,387	-	26,192	-	44,346	-	+18,154	-	
General Provision 799D - AQI User Fees	635,000	200	-	-	-	-	-	-	-	-	
General Provision 785 - AQI User Fees	-	-	250,000	-	-	-	-	-	-	-	
Trust Funds:											
Trust Funds	8,060	50	12,222	50	9,000	50	9,000	50	-	-	
Trust Funds Sequester Restored P.L. 113-6	78	-	75	-	75	-	75	-	-	-	
Foreign Service National Separation Liability Trust	-	-	-	-	-	-	-	-	-	-	
Subtotal, Trust Funds	1,051,673	1,601	928,875	1,401	867,936	1,403	930,411	1,403	+62,475	-	
Supplemental Appropriations:											
American Rescue Plan	300,000	335	-	-	-	-	-	-	-	-	
AQI User Fees General Provision 2102	-	-	-	-	125,000	-	-	-	-125,000	-	
Subtotal, Supplemental Appropriations	300,000	335	-	-	125,000	-	-	-	-125,000	-	
Offsetting Collections:											
Offsetting Collection	289,985	1,785	252,322	1,785	260,000	1,785	263,000	1,785	+3,000	-	
Subtotal, Offsetting Collection	289,985	1,785	252,322	1,785	260,000	1,785	263,000	1,785	+3,000	-	
Total Adjusted Appropriation	2,719,649	8,576	2,294,415	8,108	2,424,007	8,223	2,382,199	8,181	-41,808	-42	

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.	Chg Key
Add back:											
Rescission, Transfers In and Out	-35,415	300	338,787	154	-639,000	-	-577,500	-	-61,500	-	
Sequestration	-75	-	-75	-	-75	-	-75	-	-	-	
Total Appropriation	2,684,159	8,876	2,633,202	8,262	1,785,007	8,223	1,804,699	8,181	-103,308	-42	
Transfers In:											
Commodity Credit Corporation	500,000	300	739,791	154	-	-	-	-	-	-	
Total Transfers In	500,000	300	739,791	154	-	-	-	-	-	-	
Transfers Out:											
Transfer to DHS	-533,104	-	-399,509	-	-639,000	-	-577,500	-	+61,500	-	
Transfer to Department Working Capital Fund	-	-	-1,496	-	-	-	-	-	-	-	
Total Transfers Out	-533,104	-	-401,005	-	-639,000	-	-577,500	-	+61,500	-	
Rescission	-2,312	-	-	-	-	-	-	-	-	-	
Sequestration	-75	-	-75	-	-75	-	-75	-	-	-	
Recoveries, Other	35,358	-	20,328	-	-	-	-	-	-	-	
Balance Available, SOY	496,867	924	1,520,397	1,825	1,680,732	1,745	1,037,201	1,519	-643,531	-226	
Total Available	3,216,383	9,800	4,173,851	10,087	3,465,664	9,968	2,841,825	9,700	-746,840	-268	
Lapsing Balances	-7,594	-370	-8,171	-700	-	-	-	-	-	-	
Transferred Balances	-	-	-188,728	-	-	-	-	-	-	-	
Balance Available, EOY	-1,520,397	-1,825	-1,680,732	-1,745	-1,037,201	-1,519	-836,000	-1,366	+201,201	+153	
Total Obligations	1,688,392	7,605	2,296,221	7,643	2,428,464	8,449	2,005,825	8,334	-545,639	-115	

Note: The details associated with Supplemental appropriations provided to the Office of the Secretary, but implemented in this account, are found in the USDA Budget Summary and are not reflected above.

Table APHIS-15. Project Statement on Basis of Obligations (thousands of dollars, FTE)

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.
Discretionary Obligations:										
Safeguarding and Emergency Preparedness/Response										
Animal Health Technical Services	$36,518	115	$40,377	115	$41,138	151	$40,067	151	-$1,071	-
Aquatic Animal Health	2,272	13	2,300	12	5,000	18	6,461	18	+1,461	-
Avian Health	65,053	236	61,232	229	67,820	238	66,324	238	-1,496	-
Cattle Health	105,490	490	107,468	442	112,679	493	103,658	493	-9,021	-
Equine, Cervid & Small Ruminant Health	28,978	112	32,264	115	35,319	116	32,498	116	-2,821	-
National Veterinary Stockpile	9,120	6	4,772	6	7,072	6	5,813	6	-1,259	-
Swine Health	25,015	133	25,283	124	26,044	142	31,624	147	+5,580	+5
Veterinary Biologics	20,566	104	20,881	98	21,479	126	22,217	126	+738	-
Veterinary Diagnostics	46,304	133	49,286	137	65,339	196	67,425	196	+2,086	-
Zoonotic Disease Management	17,754	59	19,766	60	23,734	62	25,430	70	+1,696	+8
Subtotal, Animal Health	357,070	1,401	363,629	1,338	405,623	1,548	401,517	1,561	-4,106	+13
Agricultural Quarantine Inspection (Appropriated)	32,886	357	33,811	365	35,541	367	37,690	367	+2,149	-
Cotton Pests	13,455	36	14,411	31	16,453	49	15,737	49	-716	-
Field Crop & Rangeland Ecosystems Pests	10,015	67	12,605	48	14,047	77	15,085	77	+1,038	-
Pest Detection	27,726	158	28,112	140	29,075	186	30,164	186	+1,089	-
Plant Protection Methods Development	20,880	122	21,194	96	22,557	130	22,556	128	-1	-2
Specialty Crop Pests	195,019	752	209,638	721	220,667	796	224,037	801	+3,370	+5
Tree & Wood Pests	64,280	259	61,880	237	61,212	292	64,272	292	+3,060	-
Subtotal, Plant Health	364,261	1,751	381,651	1,638	399,553	1,897	409,541	1,900	+9,988	+3
Wildlife Damage Management	111,096	556	115,582	575	123,043	623	123,397	587	+354	-36
Wildlife Services Methods Development	21,100	108	23,598	102	26,224	126	25,658	126	-566	-
Subtotal, Wildlife Services	132,196	664	139,180	677	149,267	749	149,055	713	-212	-36
Animal & Plant Health Regulatory Enforcement	16,397	100	16,284	101	18,722	120	19,390	120	+668	-

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.
Biotechnology Regulatory Services	19,014	90	19,142	90	19,691	93	23,916	110	+4,225	+17
Subtotal, Regulatory Services	35,411	190	35,426	191	38,413	213	43,306	230	+4,893	+17
Civilian Climate Corps	-	-	-	-	-	-	6,016	5	+6,016	+5
Emergency Preparedness & Response	38,804	191	41,825	208	45,942	197	48,454	197	+2,512	-
Subtotal, Emergency Management	38,804	191	41,825	208	45,942	197	54,470	202	+8,528	+5
Subtotal, Safeguarding and Emergency Preparedness/Response.	927,742	4,197	961,711	4,052	1,038,798	4,604	1,057,889	4,606	+19,091	+2
Agriculture Import/Export	15,719	77	17,904	71	19,292	84	17,766	81	-1,526	-3
Overseas Technical & Trade Operations	24,193	50	24,306	53	25,572	57	28,976	57	+3,404	-
Subtotal, Safe Trade and International Technical Assistance	39,912	127	42,210	124	44,864	141	46,742	138	+1,878	-3
Animal Welfare	31,654	211	31,734	192	37,506	260	35,641	228	-1,865	-32
Horse Protection	2,009	9	2,988	9	4,096	21	3,166	12	-930	-9
Subtotal, Animal Welfare	33,663	220	34,722	201	41,602	281	38,807	240	-2,795	-41
APHIS Information Technology Infrastructure	4,224	-	4,112	-	4,099	-	7,451	-	+3,352	-
Physical/Operational Security	5,151	3	5,163	2	5,182	4	5,205	4	+23	-
Rental and DHS Security Payments	42,400	-	42,567	-	42,567	-	42,567	-	-	-
Subtotal, Agency Management	51,775	3	51,842	2	51,848	4	55,223	4	+3,375	-
Congressionally Direct Spending	-	-	3,474	-	9,552	-	-	-	-9,552	-
Subtotal, Discretionary Obligations	1,053,092	4,547	1,093,959	4,379	1,186,664	5,030	1,198,661	4,988	-11,997	-42
General Provisions:										
General Provision – Cogongrass	3,604	-	2,950	-	1,758	-	-	-	-	-
General Provision - Citrus Greening	8,229	-	271	-	-	-	-	-	-	-

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.
Mandatory Obligations:										
Farm Bill, Section 7721	70,227	21	69,932	11	70,745	26	70,725	26	-20	-
Farm Bill, Section 2408	7,231	58	9,118	61	11,977	47	-	-	-11,977	-47
Farm Bill, Section 12101	39,014	6	34,204	6	41,700	16	28,511	2	-13,189	-14
Agricultural Quarantine Inspection User Fees	234,240	1,197	222,798	1,150	264,000	1,325	247,500	1,325	-16,500	-
American Rescue Plan Act	-	-	43,297	22	64,000	50	85,000	89	+21,000	+39
Trust Funds	8,032	34	12,701	34	9,500	50	9,000	50	-500	-
Foreign Service National Separation Liability Trust	-	-	2,527	-	-	-	-	-	-	-
Subtotal, Mandatory Obligations	358,744	1,316	394,577	1,284	461,923	1,514	440,736	1,492	-21,187	-22
Supplemental Obligations:										
USMCA Lacey Act	203	-	426	-	1,371	-	-	-	-1,371	-
Subtotal, Supplemental Obligations	203	-	426	-	1,371	-	-	-	-1,371	-
Other Obligations:										
Commodity Credit Corporation	2,436	2	535,565	116	510,723	120	100,000	69	-410,723	-51
Offsetting Collections	258,494	1,740	265,523	1,864	266,019	1,785	266,428	1,785	+409	-
Homeland Security, HUB Relo & Department	-	-	-	-	6	-	-	-	-6	-
H1N1	1,192	-	158	-	-	-	-	-	-	-
Refunds for equipment sold	2,398	-	2,792	-	-	-	-	-	-	-
Subtotal, Other Obligations	264,520	1,742	804,038	1,980	776,748	1,905	366,428	1,854	-410,320	-51
Total Obligations	1,688,392	7,605	2,296,221	7,643	2,428,464	8,449	2,005,825	8,334	-420,881	-115
Add back:										
Lapsing Balances	7,594	370	8,171	700	-	-	-	-	-	-
Balances Available, EOY:										
Discretionary										
Animal Health Technical Services	8,674	46	6,955	46	5,000	46	5,000	46	-	-
Avian Health	7,091	30	10,890	30	8,000	30	8,000	30	-	-
Cattle Health	1,441	-	2,408	-	1,500	-	1,500	-	-	-
Equine Cervid & Small Ruminant Health	500	-	500	-	500	-	500	-	-	-

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.
National Veterinary Stockpile	1,591	3	2,572	3	2,000	3	2,000	3	-	-
Veterinary Diagnostics	26,449	-	38,562	-	37,000	-	33,000	-	-4,000	-
Zoonotic Disease Management	6,347	-	7,167	-	5,000	-	4,000	-	-1,000	-
Emergency Preparedness & Response	16,004	15	16,875	15	15,000	15	11,744	15	-3,256	-
Cotton Pests	608	11	1,503	11	500	11	500	11	-	-
Field Crop & Rangeland Ecosystems Pests	3,138	34	2,061	34	3,000	34	3,340	34	+340	-
Specialty Crop Pests	24,436	58	31,550	129	27,000	131	25,000	131	-2,000	-
Tree & Wood Pests	3,541	82	3,651	82	5,000	82	5,000	82	-	-
Civilian Climate Corps	-	-	-	-	-	-	-	-	-	-
Wildlife Damage Management	3,865	-	4,586	-	3,500	-	3,000	-	-500	-
Wildlife Services Methods Development	794	-	480	-	500	-	500	-	-	-
Contingency Funds	2,893	20	3,386	25	3,900	30	4,443	35	+543	+5
APHIS Information Technology Infrastructure	209	-	348	-	500	-	500	-	-	-
HUB Relocation	6	-	6	-	-	-	-	-	-	-
Commodity Credit Corporation	586,286	466	790,699	504	279,977	384	179,977	315	-100,000	-69
General Provision 775 – Cogongrass	-	-	1,758	-	-	-	-	-	-	-
General Provision 739 - Citrus Greening	271	-	-	-	-	-	-	-	-	-
General Provision 797 – Cogongrass	1,708	-	-	-	-	-	-	-	-	-
USMCA Lacey Act	1,797	-	1,371	-	-	-	-	-	-	-
H1N1 Supplemental	158	-	-	-	-	-	-	-	-	-
Offsetting Collections	163,400	179	142,706	100	136,687	100	133,259	100	-3,428	-
Mandatory										
Agricultural Quarantine Inspection User Fees	176,910	202	317,147	378	298,993	376	296,314	376	-2,679	-
General Provision 799D - AQI User Fees	101,896	200	-	-	-	-	-	-	-	-
American Rescue Plan Act	300,000	335	256,714	312	192,714	262	107,714	173	-85,000	-89
Farm Bill Section 10202	20	-	20	-	-	-	-	-	-	-
Farm Bill Section 12101	49,787	20	15,631	14	2,221	-	2,000	-	-221	-
Farm Bill Section 2408	21,013	109	11,977	47	-	-	-	-	-	-

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.
Trust Funds	9,564	15	9,209	15	8,709	15	8,709	15	-	-
Total Balance Available, EOY	1,520,397	1,825	1,680,732	1,745	1,037,201	1,519	836,000	1,366	-201,201	-153
Total Available	3,216,383	9,800	3,985,123	10,087	3,465,664	9,968	2,841,825	9,700	-622,081	-268
Less:										
Rescission	2,312	-	-	-	-	-	-	-	-	-
Total Transfers In	-500,000	-300	-739,791	-154	-	-	-	-	-	-
Total Transfers Out	533,104	-	589,732	-	639,000	-	577,500	-	-61,500	-
Sequestration	75	-	75	-	75	-	75	-	-	-
Recoveries, Other	-35,358	-	-20,328	-	-	-	-	-	-	-
Balance Available, SOY	-496,867	-924	-1,520,397	-1,825	-1,680,732	-1,745	-1,037,201	-1,519	+643,531	+226
Total Appropriation	2,719,649	8,576	2,294,415	8,108	2,424,007	8,223	2,382,199	8,181	-40,050	-42

Note: The details associated with Supplemental appropriations provided to the Office of the Secretary, but implemented in this account, are found in the USDA Budget Summary and are not reflected above.

JUSTIFICATIONS

A large portion of APHIS' budget is in support of personnel compensation. The request includes a total of $28,820,000 to cover increases in pay for associated employees in 2024. These increases will support the annualization of the 4.6 percent Cost of Living pay increase in 2023, and the 5.2 percent Cost of Living pay increase in 2024.

This critical increase is needed for the Agency to fully meet its mission to safeguard the health, welfare, and value of American agriculture and natural resources. These rising costs would need to be absorbed by programs absent additional funding, impacting the level of activities and services provided to our stakeholders and partners. This would result in an estimated reduction in programmatic work equivalent to 222 FTEs. The budget request would allow APHIS to support and maintain staffing levels needed to meet the demands and statutory requirements imposed on APHIS, including the Agency's emergency response capabilities for pest and disease outbreaks. Without the pay cost increase APHIS would need to reduce a number of program activities, including reductions in Federal contributions to support States and other cooperators in combatting animal and plant pests and diseases, and addressing conflicts with wildlife.

An increase of $24,963,000 and 2 FTEs for Safeguarding and Emergency Preparedness/Response

An increase of $947,000 and 13 FTEs for Safeguarding and Emergency Preparedness/Response – Animal Health

(1) Animal Health Technical Services: An increase of $884,000 ($39,183,000 and 151 FTE available in 2023).

APHIS' Animal Health Technical Services (AHTS) program develops and enhances tools for acquiring and managing information vital for improving global market access for U.S. livestock and animal products. Incorporating national surveillance standards into data management applications allows the program to compile animal health information nationally, thus leveraging the work of animal health professionals nationwide to meet local, State, and national veterinary health objectives. The National Veterinary Accreditation Program (NVAP) trains private veterinarians to help producers meet export requirements and disease program standards, allowing U.S. animals and animal products to compete in the global economy.

The national animal disease traceability (ADT) framework allows Federal, State, local, Tribal, and private animal health professionals to work together to identify diseased animals, quickly trace their movements, and control disease spread to protect the livestock industry, whose production value was approximately $123 billion in 2021 (USDA National Agricultural Statistics Services). The framework enables animal health officials to trace an animal from the location of official identification to their last location, which is often the termination point or slaughter plant. Knowledge of the location of diseased and at-risk animals helps preserve animal health; enables a rapid response in case of an animal disease event; reduces animal illnesses and deaths during outbreaks; and decreases costs for producers, consumers, and the government. This system also assures our trading partners that States, and USDA can rapidly contain an animal disease event. Each year, APHIS provides cooperative agreement funds to States to help them establish and maintain support for State ADT activities. Currently all States receiving program funds have approved ADT strategic plans in place with APHIS. The ADT program continues to progress in maximizing flexibility while maintaining effectiveness and increasing the timeliness of retrieving traceability data.

In 2022, APHIS purchased official RFID tags to be provided to States as an optional alternative for the currently available metal tags. The tags are provided at no cost to States, and each State veterinarian distributes the tags in a way that best serves their industry. The tags are available as orange RFID official vaccination tags for use in heifers vaccinated for brucellosis, or white RFID tags for non-vaccinated heifers. Since RFID tag distribution began in 2020 through 2022, approximately 16 million tags have been distributed as free tag alternatives to visual metal ID tags. This accounts for about half of all USDA approved official identification tags distributed by USDA for cattle in that time.

The AHTS program evaluates data systems and applications to determine if they should enhance them or develop new systems and applications. APHIS makes these systems available to States and Tribal Nations to support their traceability plans and other animal health activities. In 2022, APHIS continued modernization efforts for the Animal Disease Traceability Information System (ADTIS). The ADTIS is an information management system that APHIS utilizes to maintain records of official identification devices and other information associated with official identification numbers of animals. The system contains several modules that maintain information to support APHIS' ability to respond to animal health events. The modernization

efforts focused on maintaining the components, features, and services of ADTIS into a central location without the need to use separate applications. Users of ADTIS were granted access to the modernized system at the beginning of 2022. APHIS also initiated modernization of the Animal Identification Management System (AIMS) in 2022. AIMS is used to administer official animal identification numbers and devices and other events associated with an official identification number. This modernization effort will be completed in 2023.

More than 71,000 highly trained, accredited veterinarians act as the first line of defense for reportable domestic and foreign animal diseases. The voluntary NVAP authorizes private veterinary practitioners to work cooperatively with Federal veterinarians and State animal health officials to report when they suspect these diseases to be present. This provides the first step in rapid diagnosis, quarantine, and other control measures to safeguard our nation's animal and human health. Accredited veterinarians also provide official animal, flock, and herd health certifications, disease testing, and traceability practices for billions of animals each year. Mandatory training and accreditation renewal provides increased knowledge of animal disease surveillance, prevention, zoonoses, judicious antimicrobial use, animal welfare, and disaster preparedness. APHIS currently hosts 37 web-based supplemental training modules for accredited veterinarians. Since 2011, accredited veterinarians have completed more than 1 million hours of online training modules, and more than 40,000 modules completed at veterinary conferences nationwide.

Overall, base funding for the AHTS program currently supports salaries and benefits of personnel, contracts and agreements, and other normal operating costs such as travel, supplies, rent, and utilities necessary to conduct program activities.

a) An increase of $884,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(2) Aquatic Animal Health: An increase of $1,461,000 ($5,000,000 and 18 FTE available in 2023).

The Aquatic Animal Health program protects the health and value of U.S. farm-raised aquatic animals and natural resources. The program supports commercial producers in domestic and international trade markets, valued at $1.5 billion in 2018 (National Agricultural Statistics Service, 2018 Census of Aquaculture). The National Aquaculture Health Plan & Standards (NAHPS), which replaced the National Aquatic Animal Health Plan in 2021, provides a framework for Federal policies and programs to address aquatic animal diseases for the benefit of aquaculture and aquatic animal resources. The NAHPS affirms USDA as the lead Federal authority for U.S. aquaculture health, which is consistent with other livestock health programs. As such, the Department will oversee the health and promotion of aquatic livestock to meet the growth of, and demand for, the domestic aquaculture industry. The NAHPS outlines the infrastructure measures needed to protect the health of farmed aquatic animals, which include disease reporting, standardized laboratory quality assurance and testing of high-consequence aquatic animal diseases, surveillance, data management, and health certification programs. These elements are fundamental for a robust, comprehensive system. The NAHPS program promotes industry growth by improving marketability through consumer confidence, as well as facilitating the interstate and international trade and movement of live aquatic animals and animal products.

The Aquatic Animal Health program is pursuing objectives consistent with the NAHPS, which includes a more comprehensive approach to aquatic livestock health management, monitoring, and certification to meet the growth and demand of the domestic aquaculture industry. The program is focused on farm-raised aquatic animal health and promotes industry growth by improving marketability through consumer confidence, as well as facilitating the interstate and international trade and movement of live animals and animal products.

APHIS and the National Aquaculture Association are working to develop the Commercial Aquaculture Health Program Standards (CAHPS), a voluntary national and uniform approach to aquaculture health standards. The goal of CAHPS is to support improved health management, protect and expand aquaculture business opportunities, promote and facilitate trade, and improve resource protection. CAHPS establishes site-specific plans for biosecurity, surveillance, and response related to animal health events. Well-managed surveillance planning is the foundation for animal health activities that include disease control and eradication programs, support of emergency preparedness and response, and international trade.

APHIS received funding in the 2023 appropriation to support the implementation of NAHPS and CAHPS. With these funds, APHIS will launch a CAHPS pilot project with up to 10 aquaculture production facilities/networks, while simultaneously pursuing rulemaking to establish CAHPS as an official USDA aquatic animal health certification program that supports health and protects/expands domestic and international markets. APHIS will release and support a field data collection tool for the pilot, develop and implement aquaculture risk assessments, and launch a national NAHPS and CAHPS outreach campaign. The Agency will fund up to 10 projects (at either APHIS' National Veterinary Services Laboratories or at a partner laboratory) focused on expanding diagnostic testing options, developing efficient surveillance sampling approaches, and investigating diseases of concern to the aquaculture industry. The Agency will provide initial NAHPS and CAHPS rollout and education information to internal and external stakeholders through webinars and stakeholder meetings. Finally, APHIS plans to fund several projects through cooperative agreements to clarify aquatic disease statuses, surveillance practices, and/or sector practices of the U.S. aquaculture industry.

Overall, base funding for the Aquatic Animal Health program currently supports salaries and benefits, and other program operating costs such as travel, supplies, rent, and utilities necessary to conduct program activities.

a) An increase of $1,385,000 to provide additional support for the implementation of the NAHPS and CAHPS.

   APHIS is requesting additional funds to continue building on efforts initiated in 2023. Specifically, the Agency will use the funds to support an additional 10 CAHPS pilot project participants; fund 1-3 additional aquatic animal entry pathways and/or domestic risk analyses to clarify the status of domestic aquaculture and help determine viability of appropriate import restrictions; and fund 5-10 additional projects evaluating and developing aquatic animal diagnostic assays and protocols to support international and domestic animal movement and farmed aquaculture health. Finally, APHIS plans to develop a data management pipeline for CAHPS data monitoring and reporting.

b) An increase of $76,000 for 2024 pay.

   This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(3) Avian Health program: An increase of $1,394,000 ($64,930,000 and 238 FTE available in 2023).

The Avian Health program protects the U.S. poultry industry, whose production value was $46.1 billion in 2021 (USDA, National Agricultural Statistics Service), while facilitating agricultural trade in poultry and poultry products. This program consists of the surveillance, prevention, and control of avian diseases; disease threat planning and response; and international avian health activities. APHIS' surveillance programs detect foreign, zoonotic, and domestic diseases that could substantially impact domestic production and the economy. Surveillance information facilitates trade and protects public health by demonstrating that certain diseases do not exist in poultry populations. Prevention and control programs minimize disease threats and protect the value of poultry markets. The Agency also maintains regulations and national program standards and guidelines that direct avian health activities at the Federal, State, and Tribal levels. Maintaining these standards supports interstate and international commerce by providing assurances about the health of avian species and products that are moved or traded. In addition, APHIS uses epidemiological and economic modeling to better understand historical events and inform policy decisions.

APHIS works to quickly detect and address endemic, emerging, and foreign disease threats to ensure that the U.S. poultry industry maintains worldwide competitiveness. To detect these threats, the Agency conducts surveillance in domestic poultry, the live bird marketing systems (LBMS), and wild birds. The LBMS is a voluntary network of U.S. live poultry markets and their production and distribution systems, which provides fresh poultry meat to consumers. Approximately 33 States have live bird markets that participate in the APHIS' H5/H7 avian influenza (AI) prevention and control program. State cooperators help conduct surveillance and diagnostic activities for the LBMS. When these tests yield presumptive positive results, the Agency confirms the presence and strain of AI. LBMS testing prevents and controls the disease in markets and among producers and distributors that supply those markets. In 2022, there was one H5N3 LPAI detection in the LBMS from more than 100,000 AI surveillance tests.

The National Poultry Improvement Plan (NPIP) is a cooperative Federal-State-industry program that helps participants guard against disease incursion and enhance the marketability of their poultry and poultry products. This program includes the testing and monitoring of *Salmonella Pullorum, Salmonella Enteritidis, Salmonella Gallinarum, Mycoplasma gallisepticum, Mycoplasma synoviae, Mycoplasma meleagridis,* and H5/H7 strains of AI. The NPIP H5/H7 prevention and control program involves all 50 States and Puerto Rico; more than 95 percent of commercial broiler, turkey, and egg industries; and the entire primary poultry breeding industry. Approximately 100 authorized and approved laboratories in 42 States provide diagnostic testing for the program. Surveillance, diagnostic, and biosecurity activities are funded through cooperative agreements with requesting States.

APHIS manages the NPIP U.S. Poultry Primary Breeder AI Compartmentalization program, which audits and certifies pedigree poultry stock breeding companies that practice high-level biosecurity measures to keep their flocks AI-free. Compartmentalization defines the health status of a subpopulation of animals by common biosecurity and management principles rather than a shared geographic boundary. The voluntary program supports the trade of poultry and poultry products if the United States encounters an AI outbreak. Participating breeders must meet extensive biosecurity, personnel training, disease monitoring, and laboratory infrastructure requirements. APHIS administers the program and serves as the regulatory authority that international trading partners can trust to verify that a participant meets the requirements.

APHIS conducts AI surveillance in commercial poultry under the National H5/H7 AI Prevention and Control program. Although most of the testing is performed locally, the Agency's National Veterinary Services Laboratories provides reagents for testing, and performs confirmation and identification testing of presumptive positive specimens. Each year, APHIS performs approximately 1 million AI surveillance tests through NPIP AI cooperative agreements. Based on tests results available as of September 30, 2022, the H5/H7 AI virus was found in 230 U.S. commercial poultry flocks in 2022 as a result of U.S. AI surveillance testing.

AI circulates in waterfowl and shorebirds causing little to no disease, which allows the viruses to move efficiently along migratory flyways in these birds. Occasionally, these viruses infect domestic land-based poultry such as chickens and turkeys. When poultry are infected with the H5 or H7 strains of AI virus, the virus can evolve into the more serious disease-causing form, highly pathogenic AI (HPAI). HPAI usually causes significant disease and mortality in domestic poultry and sometimes in wild birds. APHIS conducts wild bird surveillance to gain insight into AI viruses in wild populations, and to provide that data to poultry producers and others so they can make informed biosecurity and management decisions. In 2022, the Agency coordinated the collection and laboratory analysis of approximately 20,000 wild bird samples from wild waterfowl in priority watersheds in all four flyways.

Internationally, APHIS facilitates agricultural trade, works with agricultural officials, monitors agricultural health, and supports sanitary and phytosanitary standard-setting efforts. The Agency works with animal health counterparts to reduce the impact of AI in trade by promoting transparent communications; clarifying animal disease status; and - when markets close - providing relevant data to reopen them and minimizing trade disruption of these products. In addition, APHIS works with the USDA Foreign Agricultural Service and the Office of the U.S. Trade Representative to maintain a coordinated, strategic approach to resolving avian health issues that affect U.S. exports. Further, APHIS coordinates with the World Organisation for Animal Health and other international organizations to assist with disease prevention, management, and eradication activities in HPAI-affected regions. In addition, APHIS sponsors and staffs the Emergency Management Center at the Food and Agriculture Organization of the United Nations in Rome, Italy. This Center provides assessments, guidance, and resources to enable rapid response to animal disease outbreaks in countries where the United States would have difficulties placing personnel or responding bilaterally. This approach reduces the threat of disease outbreaks becoming widespread and evolving into pandemics. The Agency works closely with counterparts in Canada and Mexico to address avian disease threats affecting North America. APHIS also delivers capacity-building activities focused on biosecurity, poultry disease diagnostics, quality assurance in the laboratory, and poultry and wildlife surveillance.

Overall, base funding currently for the Avian Health program supports salaries and benefits, cooperative agreements and programmatic contracts, and other normal operating costs such as travel, supplies, rent, and utilities to conduct program activities.

a) An increase of $1,394,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(4) Cattle Health program: A decrease of $8,113,000 ($111,771,000 and 493 FTE available in 2023).

The Cattle Health program protects and improves the quality, productivity, and economic viability of the U.S. cattle and dairy industries, valued at $94 billion (National Agricultural Statistics Service, 2021). The Cattle Health program has two major goals: to rapidly detect and respond to diseases that could significantly affect the U.S. cattle and bison population and prevent the spread of any newly detected disease in the United States as well as endemic domestic cattle and bison diseases of concern. The Cattle Health program conducts activities related to surveillance and monitoring, disease prevention, disease investigation, and outbreak response actions. In addition, the program maintains regulations, national program standards, and guidelines that direct cattle health activities at Federal, State, Tribal, and local levels. Establishing and maintaining these standards is critical to supporting interstate and international commerce by providing assurances about the health of cattle or bison being moved or traded.

In 2022, APHIS continued to conduct surveillance for foreign, emerging, and endemic diseases, including bovine tuberculosis (TB), brucellosis, and bovine spongiform encephalopathy (BSE) as well as disease vectors, such as the cattle fever tick (CFT), and new world screwworm (NWS). The Agency conducts surveillance through cattle testing at slaughter facilities, livestock markets, shows, sales, buying stations (first-point testing), on-farm, and rendering facilities (operations that collect dead, dying, disabled, and diseased animals). APHIS also works with Canada and Mexico to exclude foot-and-mouth disease, new world screwworm, and other cattle diseases.

APHIS surveillance activities for Bovine TB includes testing live cattle and using slaughter surveillance data from the USDA's Food Safety and Inspection Service. Since the bovine TB program began in 1917, it has significantly decreased the prevalence of the disease in U.S. livestock. Today, the prevalence rate in cattle herds is less than 0.001 percent. APHIS addresses affected herds with a mix of depopulation and test-and-removal strategies that consider herd size, potential indemnity costs, State and owner preferences, genetics, and the probability of removing infection. In 2021, approximately 136 Federally inspected slaughter establishments submitted 5,602 samples to APHIS for TB testing.

Bovine brucellosis is an infectious disease that can negatively impact the livelihood of cattle producers and the supply of meat and dairy products. Federal and State eradication efforts have resulted in all 50 States, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands being Class-Free since July 2009. APHIS works with States to implement brucellosis management plans to mitigate the risks imposed by brucellosis found in wildlife populations. Although the United States is Class-Free of brucellosis, the disease remains in free-ranging bison and wild elk in the Greater Yellowstone Area. To help manage brucellosis in this area, APHIS provides expertise to land and wildlife management agencies in Idaho, Montana, and Wyoming. Under the market cattle identification national slaughter surveillance program, APHIS partners with States to tests cattle and domestic bison on farms and ranches before movement, sale, and herd certification issuance for show and exhibition purposes.

BSE is a progressive, fatal neurologic cattle disease which is primarily spread through contaminated feed. The World Organisation for Animal Health evaluates countries that submit disease freedom requests and established official recognition of sanitary risk status through a transparent, science-based and impartial procedure. This system uses points to ensure the BSE surveillance programs obtain quality samples from targeted populations rather than the entire adult cattle population. The system also incorporates a country's BSE history, cattle feed regulations, and surveillance practices. APHIS samples approximately 25,000 animals each year and targets cattle populations where the disease is most likely to be found. The targeted population for ongoing surveillance focuses on cattle exhibiting signs of central nervous disorders or any other signs that may be associated with BSE, including cattle that cannot walk, are low weight, injured, or dead. No cases of BSE were detected in 2022.

APHIS partners with the Texas Animal Health Commission (TAHC) to carry out the Federal-State CFT Eradication Program. CFT spreads the disease babesiosis, also known as cattle fever. The Agency controls the spread of tick species that transmit the infectious agent by inspecting livestock before they leave quarantined areas, conducting surveillance at local markets, inspecting hunter-killed white-tailed deer and other exotic ungulates, and conducting horseback river trail patrols to capture stray and smuggled Mexican livestock who may carry ticks into the United States. APHIS, with cooperation from the TAHC, maintains a permanent

quarantine zone between Texas and Mexico to prevent CFT from spreading into the United States. Bordering Mexican states harbor tick species, which carry the disease, and tick-infested wildlife or livestock near the border can bring the ticks into the United States. Tick eradication activities consist of identifying and quarantining infested premises and treating livestock and wildlife. Approved treatment methods include dipping or spraying cattle with coumaphos, feeding ivermectin-treated corn to deer found in wildlife; and injecting cattle with Doramectin. To release a quarantine area, every infested premise must have all cattle treated for nine months, including inspections and treatments every two weeks.

APHIS began efforts along the border to control Carrizo Cane in 2020. Carrizo Cane is an invasive species grass that grows along the Rio Grande River in Texas. The cane makes for a particularly favorable habitat for CFT which reside in the vegetation waiting for animals to brush by so they can attach. In 2022, APHIS worked with contractors to aid in the eradication of the invasive cane and increase river visibility by successfully topping approximately 115 miles of land area, primarily alongside river trails used by CFT inspectors.

APHIS and cooperators have eradicated screwworm from the United States, Mexico, Belize, portions of the Caribbean, and down through Central America to the southern-most portion of Panama. APHIS prevents the reestablishment of screwworm in the United States by collaborating with Panama and Colombia to maintain a biological barrier zone in the Darien Gap, along the Colombia/Panama border. The program relies on a sterile insect technique, a process where APHIS and cooperators produce and sterilize insects at a jointly managed facility in Panama and release them in the barrier zone to mate with wild insects, thereby preventing reproduction. The United States also has access to the sterile flies in the event of an outbreak in U.S. territory. APHIS produces approximately 20 million sterile flies per week at its Panama rearing facility.

Overall, base funding for the Cattle Health Program currently supports salaries and benefits, cooperative and programmatic contracts, and other normal operating costs such as travel, supplies, rent, and utilities to conduct program activities.

a) A decrease of $11,000,000 to eliminate management of Carrizo cane from the banks of the Rio Grande River and reducing Cattle Fever Tick (CFT) activities.

   APHIS is proposing a total decrease of $11 million to eliminate Carrizo cane management and reduce cattle fever tick program activities in 2024. Of the requested decrease, $5 million is for mechanical control activities that reduce non-native Carrizo cane from the banks of the Rio Grande River. Carrizo cane is a tall, perennial grass that provides a favorable habitat to harbor CFT. The standard approach for keeping Carrizo cane under control is to cut it down to three feet twice a year using a mechanical cutter bar mounted on a tractor, a process referred to as “topping”. The elimination of Federal funding for this activity will lead to the continued growth of the cane along the riverbank and could potentially lead to more wildlife spreading CFT to areas in the permanent quarantine zone if the State cooperators do not continue the activity.

   The remaining $6 million decrease will partially reduce Federal contributions for maintaining game fencing on private lands designed to prevent wildlife from spreading cattle fever tick. High game fencing serves as a deterrent to the unrestricted movement of wildlife that carry CFT from one premise to another. Additionally, high game fencing assists with quarantine efforts, reduces the need for chemical treatment of tick-infested animals, and decreases animal production costs. APHIS will use the remaining funding to continue work with State cooperators and landowners to maintain sections of existing fencing; however, cooperators will be responsible for the construction costs of any new fencing. At the proposed funding level, APHIS will focus on effective CFT mitigation activities that reduce spread from within the permanent quarantine zone. These activities include employing mounted patrol inspectors to survey and apprehend stray and unauthorized animals crossing the southern border; increasing the number of individual animal inspections; treating cattle with coumaphos to reduce CFT from livestock populations; and treating wildlife with an anti-parasitic drug to reduce CFT spread from infested premises.

b) An increase of $2,887,000 for 2024 pay.

   This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(5) Equine, Cervid and Small Ruminant Health program: A decrease of $2,821,000 ($35,319,000 and 116 FTE available in 2023).

The Equine, Cervid, and Small Ruminant Health (ECSRH) program protects the health and improves the quality, productivity, and economic viability of the equine, cervid, sheep, and goat industries. APHIS activities include monitoring, surveillance, investigation, response, and disease prevention and preparedness to address animal health issues. The Agency's monitoring and surveillance activities detect foreign, emerging, zoonotic, and domestic diseases that could substantially impact the economy. APHIS also works with domestic and international trading partners to facilitate safe trade in equine, cervids, and small ruminants and their products, and ensure that diseases of trade concern are reported to the World Organisation for Animal Health when detected. This program conducts disease surveillance and monitoring activities for the following diseases: bovine tuberculosis (TB), chronic wasting disease (CWD), vesicular stomatitis virus, contagious equine metritis, equine infectious anemia, equine piroplasmosis, Eastern equine encephalitis, West Nile virus, and scrapie.

The National Scrapie Eradication Program focuses on improving the health of domestic sheep and goats, reducing scrapie-associated economic losses, and increasing international marketing opportunities. Scrapie is a fatal, degenerative disease that affects the central nervous system of sheep and goats. Regulatory scrapie slaughter surveillance efforts, which began in 2003, were designed to identify scrapie-infected flocks and herds by sampling animals at slaughter. Since the surveillance program began, the program has collected 718,000 samples at slaughter.

APHIS' voluntary national CWD Herd Certification Plan (HCP) helps States, Tribes, and the cervid industry control CWD in farmed cervids by allowing the interstate movement only from certified herds. Currently, 28 States participate in the national CWD HCP. APHIS determines the use of Federal indemnity payments within the CWD program on a case-by-case basis. APHIS also coordinates a voluntary cervid TB herd accreditation program.

In 2022, APHIS made cooperative agreement funding available to further develop and implement CWD surveillance, testing, management, and response activities, including the further development and evaluation of techniques and strategies to prevent or control CWD in farmed and wild cervid populations. APHIS funded 27 State Departments of Wildlife and Agriculture, 5 Tribes, 1 Tribal Organizations, and 1 State university to conduct wild cervid surveillance on Tribal Lands.

APHIS collaborates with Federal, State, and industry partners to protect the equine industry from disease, improve the health of our domestic herd, and protect human health. These activities improve trade and facilitate equine movement, which are vital to maintaining the industry's economic value. APHIS also provides veterinary support and consultation to the U.S. Department of the Interior's Bureau of Land Management Wild Horse and Burro Program through an interagency cooperative agreement. APHIS coordinates with States and industry to develop national disease control strategies, and provide oversight, coordination, and implementation of appropriate policies to mitigate the risks posed by equine diseases of concern. APHIS provides expertise and helps develop the equine industry's National Equine Health Plan. This plan functions as a roadmap for owners, veterinarians, and industry organizations to coordinate with State and Federal animal health officials to recognize, prevent, control, and respond to equine diseases.

Overall, base funding for the ECSRH program currently supports salaries and benefits, contracts and agreements, equipment, and other normal operating costs such as supplies, rent, and travel to conduct program activities.

a) A decrease of $3,500,000 for chronic wasting disease.

APHIS and the U.S. Department of the Interior meet annually with representatives from State agriculture and wildlife agencies, Tribal Nations, conservation and hunting groups, and the cervid industry to identify and discuss stakeholder CWD management needs and information gaps that need to be addressed to effectively control CWD. APHIS offers cooperative agreement funding for proposals in support of the priorities established largely based on these discussions. The budget proposes a decrease of $3,500,000 in available cooperative agreement funding for CWD proposals. APHIS will continue to evaluate proposals that align with the established priorities with a focus on new CWD proposals submitted in 2024, at this lower funding level.

b) An increase of $679,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(6) National Veterinary Stockpile: A decrease of $687,000 ($6,500,000 and 6 FTE available in 2023).

The National Veterinary Stockpile (NVS), overseen by APHIS' Field Operations Logistics Center, serves as the primary source of materials, supplies, and equipment for the response to, control of, and containment of significant animal disease outbreaks. The NVS has two primary objectives: to deploy countermeasures, within 24 hours of approval, against the most damaging animal diseases including highly pathogenic avian influenza, foot-and-mouth disease (FMD), virulent Newcastle disease, African swine fever, and classical swine fever; and, to assist States, Tribes, and Territories with planning, training, and exercises for the rapid request, receipt, processing, and distribution of NVS countermeasures during an event.

NVS continuously evaluates its inventory of supplies and replaces expired inventory. To maximize cost-efficiency and response capabilities, NVS personnel work with industry modelers and academic institutions to develop a scientifically estimated quantity of supplies to stockpile for each disease on APHIS' high-consequence diseases list. These personnel gather input from Federal agencies on strategies such as commercially available countermeasures including vaccines, criteria for deploying countermeasures, and ways to leverage stockpiles. The program continues to maintain its capabilities to address high consequence animal diseases, manage inventories, and develop ways to best address the Agency's response capabilities by quickly deploying animal health response resources. The NVS also acquires equipment to assist in animal disposal and makes necessary upgrades to existing equipment for animal depopulation efforts during an event.

APHIS uses a portion of the NVS funding to maintain the North American FMD Vaccine Bank (NAFMDVB) as part of the animal health readiness initiative. The NAFMDVB is a vaccine stockpile that APHIS and Canada support cooperatively. Each country contributes funding to acquire vaccine and maintain a vaccine concentrate stockpile, from which FMD vaccine is derived. The United States and Canada will continue to ensure that the Bank maintains adequate stocks of vaccine concentrate and conducts necessary quality assurance testing. Without NVS' efforts, disease outbreak response efforts would quickly deplete State resources and overwhelm industry, leading to larger and more serious animal disease outbreaks.

Overall, base funding for the NVS program currently supports salaries and benefits, supplies, and contracts and agreements, as well as other normal operating costs like rent, travel, and equipment to conduct program activities.

a) A decrease of $722,000 for the National Veterinary Stockpile.

APHIS is proposing a reduction of $722,000 to the National Veterinary Stockpile. Congress provided additional funds in recent years that allowed the Agency to update existing countermeasures, including updates to the North American Foot-and-Mouth Disease Vaccine Bank. Additionally, funding supplied by the 2018 Farm Bill is available to support the National Animal Vaccine and Veterinary Countermeasures Bank. At the proposed funding level, APHIS will maximize resources available to continue focusing on maintaining stockpiles of the highest priority countermeasures.

b) An increase of $35,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(7) Swine Health program: An increase of $5,580,000 and 5 FTE ($26,044,000 and 142 FTE available in 2023).

APHIS' Swine Health program protects the health and improves the quality, productivity, and economic viability of the swine industry. The 2021 production value of the swine industry was approximately $29 billion (USDA, National Agricultural Statistics Service). In addition, the program facilitates trade in swine and pork products, and addresses swine health issues at the human-swine interface and between wildlife and domestic swine. APHIS activities include comprehensive and integrated swine surveillance, emergency preparedness and response planning, disease investigation and control activities, zoonotic disease prevention and response, swine health studies and special projects, collaborations on emerging issues, and communication with stakeholders. In

addition, the Agency maintains regulatory and programmatic guidelines that direct activities at the Federal, State, and Tribal levels. Establishing and maintaining national standards support interstate and international commerce by ensuring the health of animals and products being moved or traded.

APHIS collects swine samples from various surveillance streams as part of a comprehensive integrated surveillance approach to detect swine diseases that could substantially affect domestic producers and the national economy. Comprehensive integrated surveillance includes field work and epidemiological investigations, designated surveillance streams, a veterinary diagnostic laboratory infrastructure, data management systems, and methodologies for data analysis and reporting. APHIS collects samples and data from veterinary diagnostic laboratories, slaughter plants, high-risk producer premises, livestock markets, and feral swine during population elimination projects. Surveillance testing supports the swine industry by assuring trading partners and other stakeholders of the status of swine diseases. Comprehensive surveillance enables APHIS to maintain effective surveillance using a risk-based approach that targets high-risk samples and reduces costs.

For several years, APHIS has closely followed African swine fever (ASF), a highly contagious and deadly viral disease of domestic and wild pigs, as it spread across Asia and Europe. Currently, the only effective control strategy is to depopulate all affected or exposed swine herds. Early detection is the key to controlling, containing, and eliminating ASF. While ASF has never been found in the United States and does not threaten public health, an introduction would devastate U.S. pork producers, their communities, and the economy. APHIS has instituted a series of interlocking safeguards to prevent ASF from entering the United States and is working with States and industry to develop and refine plans in case of an outbreak. If ASF enters the U.S swine population, enhanced surveillance and diagnostic testing strategies will be critical to facilitate progressive response and eradication. In 2022, APHIS successfully evaluated ASF diagnosis using aggregate oral fluid samples through experimental studies at the Agency's Foreign Animal Disease Diagnostic Laboratory (FADDL). Oral fluid collection for active surveillance is a non-invasive alternative that is less resource and time-intensive than individual animal sampling. The results from the evaluation suggest that oral fluid samples may be used to supplement the use of traditional samples for rapid detection of ASF virus.

Since 2021, APHIS has sponsored and supported a pilot project with Iowa State University entitled "Development and Demonstration of a U.S. Swine Health Improvement Plan" (SHIP) modelled after the National Poultry Improvement Plan (NPIP)". Its objective is to develop a certification program for high-consequence swine diseases. The pilot provides a framework to further safeguard the swine industry by ensuring active and effective nationwide surveillance and the ability to quickly regionalize and quarantine infected areas. The framework enables APHIS to assure trading partners and consumers about the status of these diseases and the health of unaffected areas. U.S. pork producers and packing facilities in participating States that meet specified requirements can voluntarily enroll in the program. In 2022, APHIS oversaw the second phase implementation of the project which included: increasing membership in the pilot's House of Delegates (a forum of industry stakeholders); standing up Official State Agencies and beginning enrollment of swine premises; continuing technical working groups drafting program standards and resolutions in areas such as sampling and diagnostics, traceability, and biosecurity; and hosting the second annual House of Delegates meeting in September 2022. The pilot project team has developed a system of enrolled farm sites and packing facilities that meet well-defined biosecurity standards. The team also developed traceability testing requirements for participating States.

APHIS tests for pseudorabies virus (PRV) and swine brucellosis (SBR). Testing continues to confirm that all commercial swine herds are free from PRV and SBR, although these diseases continue to be found in non-commercial herds after exposure to feral swine. In all test-positive cases, APHIS and States investigate and quarantine infected herds, conduct outbreak testing to determine herd disease levels, and depopulate or remove infected animals through a test-and-removal strategy to eliminate disease risk from these herds. These efforts protect commercial herds that may be exposed to infected backyard herds.

APHIS also performs foreign animal disease (FAD) investigations in swine. Approximately 90 percent of these investigations in recent years have been for vesicular diseases, such as foot-and-mouth disease (FMD). Investigations for swine hemorrhagic FADs continue to increase significantly, particularly in Puerto Rico, due to the ASF outbreak in the Dominican Republic and Haiti. The Agency also conducts an ASF/CSF combined hemorrhagic fever surveillance program. CSF remains eradicated from the United States.

Swine can harbor several zoonotic disease agents, such as swine influenza (IAV-S), and SBR. In such cases, State public health and animal health officials conduct investigations and request support from APHIS and the Centers for Disease Control and Prevention (CDC) when warranted. Joint animal health and public health

investigations support the One Health concept and strengthen APHIS' ability to respond when both animal and human health might be compromised.

APHIS has the responsibility under the Swine Health Protection Act (SHPA) to license and inspect swine production facilities that feed cooked garbage to swine, and to conduct searches for unlicensed facilities that may illegally feed raw garbage to swine. In addition, the SHPA authorizes States to have primary enforcement responsibility, which provides authority to regulate the feeding of garbage to swine. APHIS may assume the responsibility in the State. Feeding untreated or improperly treated garbage could transmit infectious diseases such as ASF, FMD, or CSF to swine. By ensuring that food waste fed to swine does not threaten domestic swine, APHIS protects the commerce, health, and welfare of U.S. citizens.

The program has the expertise and infrastructure to work with the swine industry, universities, and Federal and State partners to collect, analyze, and disseminate vital swine health information to those who might take action. The program continues to develop and maintain swine surveillance protocols to assure the availability of safe and plentiful swine and swine products.

Overall, base funding for the Swine Health program currently supports salaries and benefits, contracts, and agreements, as well as other normal operating costs such as travel, supplies, and rent, and utilities.

a) An increase of $4,750,000 and 5 FTE to establish the official Swine Health Improvement Plan program.

APHIS requests funding to begin establishing a Swine Health Improvement Plan (SHIP) program. The SHIP will be a collaborative effort involving State and Federal partners and provide standards for certifying the health status of swine across participating farm sites, supply chains, States, and regions. The program will be modelled after the Agency's National Poultry Improvement Plan (NPIP), a collaborative effort involving industry, State, and Federal partners providing standards for certifying the health status of greater than 99 percent of commercial scale poultry and egg operations across the United States. A 2018 case study funded by the Swine Health Information Center indicated that this approach could yield similar benefits for the swine industry as the poultry industry has garnered from NPIP. These benefits include the potential to reduce trade impacting disease-related market risks, establish an officially recognized program for monitoring for foreign diseases that can support and sustain interstate and export commerce in an outbreak, facilitate larger-scale efforts to mitigate the impact of recurring endemic diseases of high consequence, and garner feedback in an officially recognized forum to inform Federal and State programs, planning, and activities. This program will support the health assurance needs of the U.S. pork industry.

APHIS' establishment of the SHIP program will follow an Agency-sponsored pilot project to develop a certification program for high-consequence swine diseases. The pilot provides a framework to further safeguard the swine industry by ensuring active and effective nationwide surveillance and the ability to quickly regionalize and quarantine infected areas. It enables the Agency to assure trading partners and consumers about the status of these diseases and the health of unaffected areas. U.S. pork producers and packing facilities in participating States that meet specified requirements can voluntarily enroll in the program. The pilot project team developed a system of enrolled farm sites and packing facilities that meet well-defined biosecurity standards. The team also developed traceability testing requirements for participating States. The operations established through the pilot will serve as the foundation for a sustainable SHIP program. With the additional funding, APHIS will participate in SHIP technical advisory committees, and provide guidance and resources to transition to an officially-recognized USDA Swine Health Program to safeguard, certify, and improve the health of U.S. swine and the long-term competitiveness of the U.S. pork industry.

b) An increase of $830,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(8) Veterinary Biologics program: An increase of $738,000 ($21,479,000 and 126 FTE available in 2023).

APHIS' Center for Veterinary Biologics (CVB) regulates veterinary biological products under the Virus-Serum-Toxin Act to ensure that these products are pure, safe, potent, and effective. Organizations develop these products, which include vaccines, bacterins, antisera, diagnostic test kits, and analogous products to prevent, diagnose, and treat animal diseases in a wide variety of animal species. The CVB develops regulations concerning the production and licensing of veterinary biologics, evaluates pre-licensing dossiers and issuance of licenses and permits, tests products submitted for licensure, inspects facilities and products, approves product certifications, investigates non-compliance, and conducts post-marketing surveillance to ensure that manufacturers comply with regulations and policies. This comprehensive regulatory approach is the most effective way to ensure that only quality, federally licensed, veterinary biological products are available to U.S. consumers, available for U.S. export markets, and play an essential role in protecting animal health and agriculture.

APHIS licenses and inspects facilities to ensure that all veterinary biological products produced and distributed within, imported into, or exported from, the United States are of the highest quality, and are not worthless, contaminated, dangerous, or harmful. Before the Agency began regulating these products, farmers and animal health officials found products to be ineffective or contaminated with harmful diseases, including foreign animal diseases (FAD). While most of the time required in the licensing process is in the control of the potential licensee in developing manufacturing processes and conducting required studies, the CVB analyzes data and conducts confirmatory testing before issuing licenses. To reduce the burden on the regulated industry, CVB has expedited turnaround times, streamlined required information collection under specific circumstances, and implemented electronic submissions for most required regulatory submissions.

All countries require import and export certificates to certify that products are prepared in accordance with the Virus-Serum-Toxin Act. In 2022, APHIS reviewed/processed all export certificates within 4 days (the 2022 average was 1.5 days), and all certificates of licensing and inspection within 28 days (the 2022 average was 17 days). Timely processing helps ensure that markets are accessible for manufacturers who export their product. APHIS also helped ensure that there were no FAD events related to the importation of more than 428 million doses of biologic products, a 3 percent decrease in the number of doses imported in 2021.

APHIS' National Centers for Animal Health (NCAH) Portal allows real-time communication and data exchange between APHIS and biologics manufacturers, reducing the time and costs for application review. By the end of 2022, 94 percent of licensed firms and permittees were using the Portal. This resulted in CVB receiving 99 percent of marketing documents, 98 percent of biographical summaries, 91 percent of licensing correspondence, and 68 percent of inspection and compliance correspondence through the Portal. In 2022, the Portal received 87 percent of export certificates and 94 percent of facility documents. Import permits submitted electronically represented 99 percent of Research and Evaluation Permits, 100 percent of Transit Permits, and 54 percent of Sales and Distribution Permits. Overall, 92 percent of 2022 CVB submissions were received through the Portal.

Each year, APHIS inspects an average of 50 biologics facilities to assure regulatory compliance. Despite COVID-19 travel restrictions, this number increased in 2022. In addition to the innovative ways in which the CVB has been conducting inspections virtually to allow for timely oversight and approval of new and remodeled biologics manufacturing facilities due to COVID-19, the Center also resumed on-site inspections.

APHIS continues implementing the single-tier labeling rule, which changes the efficacy descriptions for veterinary biologics to a single, uniform label claim. This simpler format better communicates product performance, saves time and money for the manufacturer, and aligns U.S. labeling with international markets. In addition, APHIS clearly defined policy to allow the use of platform and prescription vaccines. These policies allow stakeholders the flexibility to quickly change vaccines to match emerging and changing pathogen threats with very limited risk to people, animals, or the environment.

APHIS promotes U.S. policy for the oversight of biologics as a regulatory model for established and developing markets, and it improves the worldwide marketability of USDA-licensed biologics. The Agency participated in harmonization efforts with major trading partners including Japan and the European Union through the International Cooperation on Harmonization of Technical Requirements for Registration of Veterinary Medicinal Products. Additionally, CVB participates in the Veterinary International Conference on Harmonization's (VICH) Outreach Forum. This forum promotes the use of VICH harmonized guidelines in countries with developing regulatory systems for veterinary medicinal products. To further improve the marketability of USDA-licensed

biologics in overseas markets, CVB worked with the industry to create and issue an Inspection Certificate program which provides Good Manufacturing Practices certificates that align with regulatory authorities and facilitate the marketing of U.S. prepared products in the international arena.

Overall, base funding for the Veterinary Biologics program currently supports salaries and benefits of personnel, and contracts and agreements, as well as normal operating costs such as supplies, travel, rent, and utilities to conduct program activities.

a) An increase of $738,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(9) Veterinary Diagnostics: A decrease of $352,000 ($63,777,000 and 196 FTE available in 2023).

Laboratory and diagnostic services are essential components of the U.S. animal health infrastructure. The Veterinary Diagnostics line item provides partial funding for the National Veterinary Services Laboratories (NVSL), which consists of laboratories in Ames, Iowa, and Plum Island, New York. The NVSL is recognized by the World Organisation for Animal Health (WOAH) and the Food and Agriculture Organization as an international reference laboratory for significant animal diseases such as highly pathogenic avian influenza, foot-and-mouth disease (FMD), and rinderpest. NVSL currently maintains WOAH reference laboratory status for 14 diseases of veterinary significance. It provides diagnostic test services ranging from a single laboratory test to comprehensive laboratory services covering many pathogens for suspected outbreaks of domestic and foreign animal diseases (FADs). The line item also supports the National Animal Health Laboratory Network (NAHLN), which is an animal disease surveillance and monitoring system that interconnects Federal and State laboratory resources to improve the security of the nation's livestock by providing disease diagnostics both daily and at increased levels during outbreaks. This line item also supports efforts to stand up the National Bio and Agro-Defense Facility (NBAF) in Kansas which will help protect the nation's agriculture, farmers, and citizens against the threat and potential impact of serious FADs. NBAF will replace the Plum Island Animal Disease Center (PIADC) in New York. The diagnostic testing funded by this line item can rapidly confirm the presence or absence of a particular animal disease and promptly provide decision makers with vital information that could have significant trade impacts and prevent or mitigate the spread of devastating animal diseases.

Diagnostic testing and confirmation of surveillance samples improves the security of the nation's livestock. NVSL is often on the forefront of emerging and re-emerging diseases of concern including African swine fever (ASF), virulent Newcastle disease virus, tilapia lake virus, infectious hypodermal and hematopoietic necrosis virus, Senecavirus A (SVA), bluetongue, vesicular stomatitis virus, and rabbit hemorrhagic virus. NVSL maintains a web-based portal for entering sample information to minimize the manual re-entry of this information. The laboratories produced and shipped approximately 100,000 reagent order items in 2022, representing approximately 552 types of products. Many of these products are only available to stakeholders through APHIS.

APHIS conducts proficiency testing of Federal, State, and university-sponsored laboratories when these laboratories perform authorized diagnostic testing as part of APHIS-approved surveillance and/or response programs. This is done to ensure that they use standardized, rapid diagnostic techniques and to maintain the credibility of U.S. diagnostic test results in the international marketplace. In FY 2022, APHIS made 32 types of proficiency panels available to international, Federal, State, and private laboratories within and outside the NAHLN network. APHIS made the necessary controls and reference strains available for approximately 200 diseases to help other laboratories develop and validate diagnostic tests. User fees cover the cost of some reagents and proficiency panels.

The Veterinary Diagnostics program also provides support for the NAHLN, which serves as a vital early warning system for foreign and emerging animal diseases. The NAHLN consists of approximately 60 Federal, State, and university veterinary diagnostic laboratories in 42 States. These laboratories work with NVSL reference laboratories to test for 14 economically devastating and/or FADs and potentially zoonotic diseases. These include FMD, influenza in avian and swine species, bovine spongiform encephalopathy, and classical swine fever. Each year, network laboratories perform approximately 300,000 diagnostic tests to support APHIS' animal health surveillance and response programs for NAHLN scope diseases, including the NAHLN ASF/classical swine fever active surveillance. NAHLN program staff conduct exercises to prepare participating laboratories for

animal disease outbreak scenarios and enable them to remain proficient in animal disease testing. It also enables them to generate a rapid, local preliminary diagnostic result while NVSL performs confirmatory testing.

APHIS continues to expand its ASF rapid detection capability to maintain a timely, effective response and build surge capacity in case of an outbreak. In addition, the Agency is engaging in collaborative efforts at FADDL and across the NAHLN to strengthen ASF diagnostic preparedness. To enhance capacity in the NAHLN, APHIS provided proficiency testing to NAHLN laboratories, expanding its ASF testing capacity in 2022, from 48 to 49 approved laboratories. The Agency continues to develop strategies to use oral fluids to achieve early and rapid detection of positive cases.

APHIS continues to work with the U.S. Department of Homeland Security (DHS) and USDA's Agricultural Research Service (ARS) to plan for the move from the PIADC to the NBAF. In addition, USDA and DHS continue planning to transfer NBAF management and oversight from DHS to USDA. The PIADC, home to APHIS' Foreign Animal Disease Diagnostic Laboratory (FADDL), is the only U.S. laboratory permitted to work with virulent FMD virus and hold rinderpest virus. In addition, FADDL is the custodian of the North American FMD Vaccine Bank and also manages the U.S. National Animal Vaccine and Veterinary Countermeasures Bank. NBAF will be a key national asset to protect the U.S. animal agriculture industry and will be the first and only U.S. facility with large animal Biosafety Level-4 (BSL-4) containment capability. The NBAF steady-state operations are assumed to begin in 2025, once the BSL-4 laboratories are fully operational. After the transfer, ARS will own the buildings, and ARS and APHIS will have leadership responsibilities on operational aspects of the facility and for their own science programs. In 2023, NBAF ownership will transfer to ARS, with both ARS and APHIS having responsibilities on operational aspects of the facility and for their own science programs. Each agency will transition their programs in a phased approach. The mission transfer from PIADC is planned to be completed in 2025.

APHIS and ARS continue to develop a workforce of subject matter experts in foreign, emerging, and zoonotic diseases to conduct diagnostics in preparation for the NBAF transition. Workforce development is critical, given the significant loss of expertise expected during the transition and the need to transfer the FAD diagnostic institutional knowledge to NBAF. While USDA can train diagnosticians to perform specific tests, interpreting unclear results and troubleshooting diagnostic assays when they do not perform properly requires a high level of experience. Additionally, APHIS anticipates a potentially significant expertise gap, particularly during the first 5 to 10 years of operations, based on the time required to develop expertise in this area. To address this possible workforce gap, APHIS operates the NBAF Scientist Training Program (NSTP) to meet the needs for subject matter experts in foreign animal and zoonotic diseases. Through this program, USDA is developing personnel to fill NBAF positions through continued service agreements. This program is critical because subject matter expertise and international recognition in FAD diagnostics take years to develop, yet APHIS does not expect the entire FADDL workforce with that expertise to relocate to NBAF. This development program will help preserve and transfer the U.S. FAD diagnostic institutional knowledge to NBAF.

a) A decrease of $1,500,000 for the NAHLN.

The NAHLN serves as a vital early warning system for foreign and emerging animal diseases. APHIS' support for the NAHLN includes infrastructure in NAHLN laboratories; NAHLN program staff; the APHIS Laboratory Portal, which provides a secure means of communication for the laboratories and proficiency test management for NAHLN and non-NAHLN APHIS-approved laboratories; information management personnel to support electronic messaging; and quality management training used by NAHLN laboratories to maintain qualifications for participating in the network. At the proposed funding level, APHIS would continue working with the NAHLN-participating laboratories on the highest-priority animal health issues but would reduce the funding the Agency provides to support infrastructure needs through this line item, primarily related to quality management and electronic messaging systems. Congress provided additional funds to support the NAHLN in recent years, primarily through the 2018 Farm Bill. The Agency will leverage remaining funding from all sources in the most effective manner.

b) An increase of $1,148,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(10) Zoonotic Disease Management: An increase of $2,863,000 and 8 FTE ($21,567,000 and 62 FTE available in 2023).

The Zoonotic Disease Management (ZDM) Program enhances State, national, and international collaborative efforts to promote healthy animals, people, and ecosystems by addressing zoonotic diseases and relevant One Health issues, including antimicrobial resistance (AMR). "One Health" is a collaborative, multisectoral, and trans-disciplinary approach with the goal to achieve optimal health outcomes while recognizing the interconnection between people, animals, plants, and their shared environment. According to the U.S. Centers for Disease Control and Prevention (CDC) and the World Organisation for Animal Health, 60 percent of human pathogens are zoonotic, and 75 percent of emerging diseases are zoonotic (including Ebola, Zika, MERS, and SARS). Most of these zoonotic diseases originate from animal reservoirs. The Agency collaborates with industry and State partners to develop strategies, policies, and trainings to help stakeholders effectively engage with public health counterparts, provide guidance, facilitate information exchange, and enhance responses to One Health issues. By enhancing APHIS' efforts to address the animal health component of One Health, the ZDM program protects public health and improves animal health and marketability.

AMR is the ability of a microbe to resist the effects of antimicrobials previously used to treat them. The Agency works with State, Federal, and industry partners, to promote the judicious use of antimicrobials, which supports a strong, healthy, and thriving U.S. animal agriculture system, as well as public health. In addition, APHIS works with other USDA agencies to develop practical mitigation strategies to reduce AMR prevalence in human and animal health. These strategies cover various efforts including AMR monitoring at the farm level, collection of antimicrobial drug use data, and efforts to promote stewardship of antimicrobial drugs by animal owners and veterinarians. Additionally, APHIS works with State Departments of Agriculture, diagnostic laboratories, and public health officials to address AMR infections in humans found to have an animal component.

APHIS coordinates with cross sector partners to develop and implement national and international One Health strategies and strengthen our emergency response capacities to ensure a quick response to zoonotic diseases. APHIS participates in multisectoral groups that emphasize the mission of One Health, including the Interagency Foodborne Outbreak Response Collaboration. APHIS also uses its position as a coordination leader on the national effort to address the animal health component of One Health for SAR-COV-2. APHIS subject matter experts provide consultation and guidance to State animal and public health agencies on decisions and testing of animals for SARS-CoV-2.

Overall, base funding for the ZDM program currently supports salaries and benefits, as well as other normal operating expenses such as travel, supplies, equipment, and rent, and utilities to conduct program activities.

a) An increase of $2,500,000 and 8 FTE for antimicrobial resistance activities.

The National Animal Health Monitoring System (NAHMS) Program conducts national studies on the health and health management of United States domestic livestock and poultry populations. Current funding levels for APHIS' work around antimicrobial resistance has limited the number of species, and number of animals, the Agency is able to survey as part of NAHMS. AMR is a threat to both agricultural productivity and human health, and additional funds are needed for APHIS to support this work at the level needed to protect both. The Agency will expand data collection efforts on antibiotic use in swine, poultry, and cattle operations, three commodities of high concern for AMR prevalence, as well as other livestock species of interest. This work will be done in partnership with producer groups, academia, Federal partners, and other stakeholders. APHIS will expand efforts around data analysis to better inform on-farm antibiotic use decision-making and expand our education and outreach efforts around antibiotic stewardship with our livestock stakeholders, other Federal agencies, and traditional and non-traditional stakeholders.

The current National Animal Health Laboratory Network (NAHLN) pilot project monitors antimicrobial resistance profiles and trends in animal pathogens. APHIS is using the information gathered from this pilot to establish a long-term AMR surveillance program. There is a gap in understanding AMR patterns in bacteria that cause disease in animals and having national-level information on AMR in animal health pathogens is an important component of addressing AMR at the Federal level. These additional funds will help make this pilot permanent and further increase the capacity and resilience of APHIS' ability to monitor and report on AMR in animals and on farm. Specifically, APHIS will: 1) increase the number of laboratory submissions to improve the usefulness of the data to veterinarians and the general public; 2) increase the capacity and expertise at NVSL to act as the technical reference laboratory for antimicrobial resistant bacteria, and expand proficiency testing and laboratory training; 3) develop improved characterization

methods for detecting AMR resistance using both genomic and proteomic approaches; and, 4) continue to expand APHIS participation in AMR interagency collaborations.

b) An increase of $363,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

An increase of $11,593,000 and 5 FTE for Safeguarding and Emergency Preparedness/Response – Plant Health

(11) Agricultural Quarantine Inspection: An increase of $2,149,000 ($35,541,000 and 367 FTE available in 2023).

APHIS conducts predeparture agricultural quarantine inspections of passengers and cargo traveling from Hawaii and Puerto Rico to the continental United States to prevent the introduction of non-native agricultural pests and diseases into the mainland. Hawaii and Puerto Rico have pests and diseases harmful to agriculture that are not established in the continental United States. For example, a variety of economically devastating fruit flies – particularly the Mediterranean fruit fly (Medfly) and Oriental fruit fly – and scale pests are present in Hawaii. In 2015, Puerto Rico experienced its first Medfly outbreak, along with an outbreak of the old-world bollworm. Plant and plant products, such as fruits and other commodities, easily carry pests that would cause significant economic damage to the mainland United States. In addition to the citrus industry that may be at risk (with a production value of more than $3 billion in 2021, according to USDA's National Agricultural Statistics Service), cut flower and nursery stock production is also at risk from the pests and diseases present in Hawaii and Puerto Rico. Two significant cotton pests, pink bollworm and the cottonseed bug, are present in Puerto Rico and could be brought into the United States on cargo shipments without an effective inspection program. Additionally, the presence of African swine fever (ASF) in the Dominican Republic and Haiti poses a risk to Puerto Rico and to the U.S. mainland because of proximity and trade and travel patterns. As part of the ASF emergency program, APHIS enhanced predeparture inspection operations for passenger baggage from Puerto Rico as an emergency preparedness measure and will continue the enhanced focus on animal products to prevent high-risk products from entering the continental United States. The predeparture inspection program facilitates tourism and agricultural trade between Hawaii and Puerto Rico and the mainland United States, while protecting farmers and producers in the continental United States from the entry of various plant pests and diseases.

Because of the significant risks associated with numerous fruits, vegetables, and other plant products from Hawaii and Puerto Rico, as well as animal products capable of transmitting ASF, APHIS inspects all baggage of passengers leaving these islands. While the COVID-19 pandemic continued to impact international travel in 2022, travel from Hawaii and Puerto Rico to the continental United States was higher in 2022 than in 2019, the last full year before the pandemic. In 2022, APHIS inspected the baggage of 14.4 million passengers, compared to just over 13 million in 2019. APHIS conducts these activities as the national plant health regulatory authority in the United States charged with protecting the health and value of agricultural resources. For commercial cargo, the program oversees treatments and conducts inspections in Puerto Rico for mangoes, cotton, tomatoes, cut flowers, and a variety of other commodities to allow them to be transported and sold in the continental United States. In Hawaii, the program oversees treatments for and inspects a variety of commodities destined for the continental United States, including papayas, bananas, sweet potatoes, herbs such as basil, cut flowers, and ginger root. APHIS inspectors continued critical work facilitating the movement of cargo, conducting treatments, and inspecting containment facilities and first-class mail. In 2022, the program conducted 48,548 inspections of regulated agricultural commodities shipped from Hawaii and Puerto Rico. In addition, the program oversaw or conducted 6,779 cargo treatments in Hawaii and Puerto Rico. Treatments allow farmers in Hawaii and Puerto Rico to expand the types of high-value, perishable products that they can ship to the continental United States, including sweet potatoes and tropical fruits such as litchi and longan.

The Agricultural Quarantine Inspection (AQI) program keeps interstate trade flowing smoothly and safely and allows for efficient processing of tourists, protecting both the economies of Hawaii and Puerto Rico and the agricultural health of the continental United States. The Hawaii Department of Transportation is modernizing its airport infrastructure and adding a new concourse, which will affect two locations, the Ellison Onizuka Kona International Airport located on the island of Hawaii and the Daniel K. Inouye International Airport located in Honolulu on the island of Oahu. The Honolulu expansion is complete, and APHIS added new x-ray machines in each of the six new gatehouses and adjusted staffing to cover the new gates. The Kona airport, expected to be complete in winter of calendar year 2023, will include a new centralized checkpoint led by the Transportation Security Administration and have two new gates that will allow the airport to accommodate 10 additional flights per day. APHIS will adjust operations, including the purchase of additional x-ray machines and adjustments to

staffing levels when it is complete. The program's inspections reduce the impact of agricultural pests and diseases on farmers in the continental United States, minimizing production losses and pest control costs and preserving export markets for U.S. agricultural products. Without this program, the risk of pest or disease introduction from Hawaii and Puerto Rico to the mainland United States would greatly increase. Additionally, many commodities would not be allowed entry to the continental United States without the inspections and treatments provided by the program, impacting Hawaiian and Puerto Rican producers. Maintaining the safeguards this program provides is essential, especially considering the increasing U.S. consumer demand for year-round fruits and vegetables.

Overall, base funding for the AQI program currently supports salaries and benefits of inspectors and other staff, as well as normal operating expenses such as rent, utilities, travel, and supplies to conduct program activities.

a) An increase of $2,149,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(12) Cotton Pests program: An increase of $287,000 ($15,450,000 and 49 FTE available in 2023).

The Cotton Pests program, in cooperation with States, the cotton industry, and Mexico, works to eradicate the boll weevil (BW) from all cotton-producing areas of the United States and northern Mexico. For decades, these pests have cost cotton growers' tens of millions of dollars each year in control costs and crop losses, according to the National Cotton Council.

APHIS' Cotton Pests program also partners with States and industry to address pink bollworm (PBW). On October 19, 2018, USDA and industry partners officially announced the successful eradication of PBW from all commercial cotton-producing areas in the continental United States. In 2018, Florida added a PBW quarantine for an area in the Everglades where a wild PBW population has persisted for the last 80 years and appears to only be active in wild cotton. As a result, APHIS, along with the Florida Department of Agriculture and Consumer Services and the Florida cotton industry, began surveying the perimeter of the commercial cotton area in the northern part of the State and the adjacent okra fields in the city of Homestead to ensure that PBW has not spread. APHIS continues to survey these areas in Florida to ensure that isolated PBW populations in southern Florida do not move into the commercial cotton production areas north of the Everglades.

APHIS provides national coordination, operational oversight, technology development and a portion of funding through cost-share programs with States. APHIS' partners have provided more than two-thirds of the funding for the BW eradication effort and most of the operational funds to eradicate PBW. The program also maintains capabilities to address other cotton pests that could enter the United States.

APHIS provides technical advice on trapping and treatment protocols to our partners in Mexico to aid in their efforts to eradicate BW. Without continued Federal funding, support, and technical expertise for the final phase of the program, eradication would not be possible and previously eradicated cotton acreage would be vulnerable to reinfestation. Additionally, U.S. cotton production is at risk of new pest introductions, as well as re-infestation of cotton-producing areas where boll weevil and PBW have already been eradicated.

APHIS and our State and cotton industry partners have eradicated BW from 99 percent of the 11.1 million acres of U.S. cotton production (National Agricultural Statistics Service, 2021). The Lower Rio Grande Valley (LRGV) in Texas is the last zone within the United States where active BW eradication efforts continue due to the neighboring Mexican cotton producing state of Tamaulipas. In 2024, APHIS will continue to reduce the BW population in the LRGV and partner with the U.S. cotton industry on BW surveillance efforts for all U.S. cotton production. In addition, APHIS will continue to partner with the Mexican BW eradication program to provide technical assistance and funding through the North American Plant Protection Organization agreement for their parallel program to the LRGV program.

According to the National Cotton Council of America, where BW has been eradicated, the combined annual direct economic benefits from increased yields, reduced insect damage and lower insect control costs are more than $80 million.

Overall, base funding for the Cotton Pests program currently supports salaries and benefits, cooperative

agreements, and programmatic contracts, as well as other normal operating expenses such as travel, rent, and utilities to conduct program activities.

a) An increase of $287,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(13) Field Crop and Rangeland Ecosystem Pests program: An increase of $439,000 ($14,986,000 and 77 FTE available in 2023).

The Field Crop and Rangeland Ecosystem Pests (FCREP) program protects U.S. agricultural crops and rangelands from the establishment or spread of invasive or economically significant pests. In doing so, it facilitates safe international trade and domestic commerce, preserves economic opportunities for U.S. farmers and ranchers, and fosters healthy ecosystems in rangelands and other areas. APHIS conducts survey and suppression activities in western States to reduce grasshopper and Mormon cricket (GMC) infestations that could cause significant economic losses for livestock producers by requiring them to buy supplemental feed or sell their livestock at reduced prices. APHIS develops treatments for land managers to remove imported fire ant (IFA) from their products and prevent re-infestation; conducts regulatory activities to prevent Karnal bunt (KB) and IFA from "hitchhiking" on regulated articles (i.e., nursery stock and farm equipment) to uninfested areas of the United States and foreign countries through trade; and, conducts survey, treatment, and regulatory activities for witchweed infestations in North Carolina and South Carolina to protect U.S. corn production. This program directly protects more than 230,000 acres of wheat and corn (based on APHIS analysis). It indirectly protects all U.S. wheat and corn production, valued at more than $84 billion in calendar year 2021 (National Agricultural Statistics Service, Crop Values 2021 Summary), from the spread of KB and witchweed.

When grasshopper populations reach outbreak levels, they can decimate grasslands. APHIS' GMC program monitors and protects 661 million acres of rangeland each year. A 2012 University of Wyoming study found that healthy rangeland provides forage value worth $6.7 billion and overall benefits ranging from $10.7 to $21.2 billion. Each year, APHIS conducts surveys in western States for GMC, collecting data at 30,685 survey points in 2022, to determine where potential outbreaks could occur and where treatments might be necessary. The program also addresses witchweed, a parasitic plant that can significantly damage corn, sorghum, and sugarcane. If witchweed were to spread throughout the Corn Belt, crop yields for corn and sorghum could decrease by 10 percent and trade in commodities from these areas could be negatively impacted.

APHIS' IFA program works to prevent human-assisted spread of this pest by requiring treatment of materials capable of harboring IFA, such as nursery stock and hay, are treated before leaving infested areas. Based on studies of areas with climate suitable for IFA (Korzukhin et. al, Environmental Ecology, 2001), APHIS estimates that preventing human-assisted spread is protecting up to 10 States from potential infestations. APHIS will continue conducting annual surveys and other activities to manage these pests in 2024.

APHIS coordinates an annual voluntary survey of the grain delivered to elevators to check for KB across the country and conducts regulatory activities to prevent the spread of the disease from the remaining infested area in Arizona. Based on the program's quarantine and survey data, APHIS issues export certificates that are required by countries importing U.S. wheat. These certificates demonstrate to trading partners the safety of U.S. wheat exports, retaining export markets and facilitating wheat movement into international markets. If KB funding was eliminated, the disease could enter the grain market system and directly impact almost every State. Many trading partners will not accept U.S. wheat exports unless the commodity is certified to be from areas where KB is not known to occur. Working with cooperators, APHIS has reduced the wheat production areas regulated for KB from all or portions of 4 States to 106,738 acres in Arizona since 1996 (with more than 20,000 acres removed from quarantine in 2022). APHIS will continue survey and regulatory activities aimed at keeping KB from causing damage and/or trade disruptions in 2024.

The FCREP program is also working to address pests and other stressors that impact roseau cane, an important grass species in wetland areas of the lower Mississippi Delta, Louisiana. The plant's root system provides wildlife habitat, protects the interior from storm surges, and protects riverbanks from erosion, which impacts the Mississippi River navigation channel. Since 2017, researchers from Louisiana State University (LSU) and ARS have investigated multiple potential stressors causing dieback of roseau cane in the Mississippi River Delta. These stressors include high water levels, salinity intrusion, scale insects, plant pathogens, and soil chemistry. The work to date by the roseau cane die-back team has improved our understanding of plant stressors on roseau

cane and the biology, distribution, feeding ecology, and impact of the scale insect attacking the cane at the Mississippi River Delta. APHIS will continue this effort in 2024, with LSU and ARS.

APHIS will also continue working with States to address cogongrass, an invasive perennial weed that is a prolific seed producer and forms an extensive rhizome network underground. The wind-dispersed seeds are easily spread along rights of way encouraging population expansion. Cogongrass invades pine plantations and is believed to create chemical interference that decreases pine production. Controlling this weed is difficult because its rhizomes are drought, fire, and herbicide tolerant. APHIS estimates that cogongrass has the potential to spread across 82 percent of the United States. APHIS provided funds to Alabama, Georgia, Mississippi, and South Carolina to address cogongrass in 2022, and will continue providing funds to these States in 2023 and 2024 to combat cogongrass.

Overall, base funding for the FCREP program currently supports salaries and benefits, cooperative agreements, and programmatic contracts. Other funding supports normal operating expenses such as rent, utilities, travel, supplies, and equipment to conduct program activities.

a) An increase of $439,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(14) Pest Detection program: An increase of $1,089,000 ($29,075,000 and 186 FTE available in 2023).

The Pest Detection program serves as the early warning system for the detection of plant pests of economic and environmental significance in the United States. The program helps farmers and producers by documenting the status (or absence) of plant pests and diseases that could impact trade opportunities, both interstate and international. It also helps APHIS' State-level partners by providing funding and infrastructure to conduct surveys for high-risk pests that may affect their State. The information the program collects provides the basis for APHIS' emergency response and regulatory efforts that preserve economic opportunities for farmers and safeguard U.S. agricultural and natural resources. Specifically, the program identifies and prioritizes plant pest and disease threats; develops scientifically sound pest survey protocols; procures essential survey materials (traps, lures, etc.); cooperates with State partners to conduct the pest surveys; and shares data with States about significant pest detections.

APHIS provides national coordination for the program and develops policies and procedures for commodity-based and resource-based pest surveys. These surveys enable APHIS and cooperators to target high-risk hosts and commodities, gather data about pests specific to a commodity, and provide accurate assessments of pest distribution, including pest-free areas. Negative data from program surveys supports U.S. market access for several important commodities by demonstrating that the pests are not present. Examples include data showing that the Khapra beetle, a serious pest of wheat and grain, and the European grapevine moth, a pest of grapes, are not present in the United States. Additionally, while many entities are involved in protecting crops and resources, APHIS' role is to verify that U.S. exported products do not pose risks to other countries. For example, when a survey first detected the pale cyst nematode in Idaho, the program had data demonstrating negative survey results in other potato-producing States that kept export markets open for U.S. potatoes. The value of the markets that remain open was more than $276 million in calendar year 2021 (Foreign Agricultural Service Global Agricultural Trade System). As a result of this program, highly skilled, national cadres of surveyors are in the field on a daily basis looking for high-risk pests. In 2022, the program and its cooperators conducted a total of 326 surveys in 50 States and 5 territories targeting more than 97 percent of the high-risk pests and diseases identified for the year's surveys. APHIS and State cooperators conduct surveys for multiple pests at each location for efficiency and economy of survey.

Early pest detection is important to avert economic and environmental damage; once a pest becomes established or spreads significantly the mitigation costs can reach millions of dollars, in addition to lost farm revenues and damage to ecosystems. The Pest Detection program communicates and develops partnerships through cooperative agreements with state departments of agriculture and natural resources, universities, industry partners, tribal and local governments and communities, non-profit organizations, and individuals in all 50 States.

Overall, base funding for the Pest Detection program currently supports salaries and benefits, and cooperative agreements, as well as other normal operating expenses such as travel, rent, utilities, and supplies to conduct program activities.

a) An increase of $1,089,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(15) Plant Protection Methods Development program: A decrease of $1,000 ($22,557,000 and 130 FTE available in 2023).

The goal of the Plant Protection Methods Development (PPMD) program is to develop scientifically viable and practical tools for exotic plant pest exclusion, detection, and management. The program plays an essential role in APHIS' mission by developing tools for the detection of exotic plant pests in survey programs; molecular diagnostic tests and identification tools for pest identification; integrated pest management methods, including biological control, to help eradicate or manage invasive pests; and treatments to support interstate and international trade.

APHIS' nationwide pest detection surveys and pest management programs depend on accurate and effective tools. The PPMD program supports development of pest trapping, identification, and survey technologies. Digital pest identification tools and molecular diagnostics developed through PPMD funding supports both domestic programs and import pest identification responsibilities. APHIS uses these tools to conclusively identify exotic species introductions in order to take appropriate regulatory actions. The program also develops pest management techniques that APHIS national programs use to manage or eradicate invasive pest threats.

The PPMD program aims to develop new, or improve existing, tools each year to enhance APHIS' safeguarding capabilities. For pest identification, the program continues to design, develop, and deliver digital, media-rich, identification tools for APHIS to support trade and domestic, port, and offshore pest identification responsibilities.

The PPMD program also maintains its own quarantine and rearing facilities for biological control agents in Arizona, California, Colorado, Massachusetts, Michigan, Texas, and Guatemala. APHIS partners with USDA's Agricultural Research Service (ARS), the U.S. Fish and Wildlife Service, State departments of agriculture, universities in 30 States and Territories, and two Native American Tribes to evaluate and establish biological control agents for invasive plants, pests, and diseases. The biological control program has been responsive in developing biological control agents to address invasive pests and weeds such as Asian longhorned beetle, emerald ash borer (EAB), roseau cane scale, air potato, and spotted lanternfly. The biological control portfolio in 2022, included 38 cooperative agreements with States and Tribal Nations that collectively attack 25 weeds and three arthropod pests.

The PPMD program also supports research related to invasive honey bee pests, specifically Varroa mites. A Varroa mite feeds on the honey bee's fat body tissue (an organ similar to the human liver), in turn weakening and shortening the bee's life. The Varroa mite is considered the greatest single driver of the global honey bee colony losses (Proceedings of the National Academy of Sciences, Jan 2019: "Varroa destructor feeds primarily on honey bee fat body tissue and not hemolymph."). In 2022, the program funded priority projects with other Federal and State agencies, as well as the public, to support managing, suppressing, and eradicating Varroa mites, as well as small hive beetles and other pests and diseases contributing to a decline in honey bee health.

In 2024, the program will continue working to develop new management tools and pest detection methods for the highest priority pests and diseases.

Overall, base funding for the PPMD program currently supports salaries and benefits, cooperative agreements, and programmatic contracts, as well as other normal operating expenses such as travel, rent, and supplies to conduct program activities.

a) A decrease of $750,000 for activities related to the northern giant hornet.
The northern giant hornet is a pest of honey bees, wasps, and other related insects. APHIS confirmed the first detection of the northern giant hornet in the United States in Washington State in December 2019. The Agency has used funds from its Plant Protection Act 7721 program to support development of methods to detect and eradicate the hornet and support Washington State's eradication activities. Congress provided funding in 2023 to continue this work, including continuing work on lures to improve detection capabilities and understanding the pest's population genetics, among other things. The 2024 Budget proposes to eliminate this funding in support of cost savings. Cooperators would be responsible for funding these activities or requesting funding through the Agency's Plant Protection Act 7721 program.

b) An increase of $749,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(16) Specialty Crop Pests: An increase of $5,920,000 and 5 FTE ($216,117,000 and 796 FTE available in 2023).

The Specialty Crop Pests (SCP) program protects U.S. farmers and producers of fruits and vegetables, tree nuts, horticulture, and nursery crops from adverse impacts associated with invasive pests, such as crop damage or threats to international trade and interstate commerce. APHIS works in coordination with State, Tribal, university, and industry partners to prevent or mitigate impacts from invasive pests of Federal regulatory significance. These efforts promote the ability of U.S. farmers and producers to export their products, prevent damage to specialty crop production, and protect natural resources, including forests and residential landscapes. Specialty crops are of high value and are grown in all 50 States. APHIS' SCP program directly protected specialty crop production worth more than $11 million in calendar year 2021, and indirectly protected additional specialty crop production valued at nearly $7 billion by preventing the spread of these damaging pests and diseases to new areas (APHIS internal analysis based on National Agricultural Statistics Service data). APHIS is currently using SCP resources to address the following pests and diseases: exotic fruit flies, a variety of citrus pests and diseases, pale cyst nematode (PCN), navel orangeworm (NOW), light brown apple moth, European grapevine moth (EGVM), glassy-winged sharpshooter (GWSS), Phytophtora ramorum, and spotted lanternfly (SLF), among others.

The SCP program partners with affected industries, States, Tribes, academic institutions, and other Federal agencies to deliver domestic programs. Additionally, the program works with its counterparts in foreign countries to address pest risks offshore. For example, the SCP program works with Mexico, Guatemala, and Belize to mitigate the risk of exotic fruit flies entering the United States. The program has kept the United States free of Mediterranean fruit fly (Medfly) and Mexican fruit fly (Mexfly) for many years by conducting preventive releases of sterile insects to disrupt normal population growth in at-risk areas; detecting and responding to outbreaks when they occur; maintaining a barrier against the natural spread of the Medfly in Mexico and Central America; and developing advanced methods for survey and control. Medfly has a host list that includes 300 cultivated and wild fruits. The Mexfly also has a wide-ranging host list and presents a particular threat to the Texas citrus industry due to its proximity to infested areas in Mexico. Increasingly, tephritid fruit flies of the genus Bactrocera pose a threat. There have been several outbreaks in California and Florida in the past decade. APHIS and cooperators maintain 160,000 fruit fly traps in vulnerable areas of the United States to ensure that any introductions of exotic fruit flies are quickly detected. In 2022, APHIS continued addressing Mexfly outbreaks in Texas with increased sterile fly releases and worked with growers to remove host material from quarantined areas. With these enhanced activities, the program completed the response effort and removed the last remaining quarantined area in November 2022 after two and a half years. The program also addressed several exotic fruit fly outbreaks in California. Without the program's efforts to detect and eradicate these outbreaks when they occur, many important crops would become impossible to grow due to fruit fly infestations. To reduce ongoing risks related to Mexfly infestations in Texas, the program shifted to a strain of sterile Mexflies that enable male and female flies to be separated and only the males released, for more efficient targeting of wild flies. The program is evaluating options for upgrading its outdated sterile Mexfly facility in Texas to ensure the program's success on an ongoing basis. APHIS will continue activities to prevent, detect and respond to any outbreaks that occur in 2024.

APHIS also works with citrus producing States and industry groups to support industry's ability to grow and market U.S. citrus despite the presence of devastating diseases such as citrus greening, also known as Huanglongbing (HLB). Through the Citrus Health Response Program, APHIS supports cooperators in citrus-producing States with on-the-ground operations, such as surveys, regulatory inspections, and outreach to affected growers and the public, as well as methods development activities. APHIS conducts inspections of Florida citrus shipments destined for export to the European Union and other countries, allowing citrus producers to take advantage of export opportunities. APHIS also conducts survey and treatment activities for citrus pests and diseases in Mexico, working to coordinate the timing of treatments for pests such as Asian citrus psyllid along both sides of the U.S. border to maximize the effectiveness of pest suppression activities. Because of the ongoing threat that HLB poses, APHIS, other Federal agencies, State partners, and the citrus industry have worked together on the HLB Multi-Agency Coordination (MAC) group since 2013, to identify and implement tools to combat the disease. By funding work to bridge the gap between research and field deployment, the HLB MAC Group speeds implementation of practical tools that can aid the citrus industry to combat HLB. Since 2019, the HLB MAC group has initiated a grower-collaborative approach that brings researchers and growers together to generate data that will serve as the foundation for grower-specific guidance on best management practices for HLB. The solutions found through this effort will continue to help citrus growers manage the disease while research into long-term solutions for HLB continues. APHIS will continue to address HLB and other citrus diseases in 2024.

Federal response activities take place in concentrated areas where the infestations occur (e.g., PCN in Idaho or exotic fruit fly outbreaks in areas of California, Florida, or Texas), but also work to protect all at-risk States producing specialty crops. For example, while the SCP program works to address the PCN in Idaho, it also conducts nationwide surveys for the pest to demonstrate to trading partners that potato-producing areas outside of the quarantined area are not affected by PCN, protecting fresh potato export markets worth $276 million in 2021 (Foreign Agricultural Service Global Agricultural Trade System Database). The program also addressed plum pox virus (PPV), a devastating viral disease of stone fruit, in New York, Michigan, and Pennsylvania. USDA declared the United States free of PPV in October 2019. APHIS has completed surveys for PPV and will maintain PPV-preparedness by ensuring that the United States has certified laboratories and diagnosticians for rapid response activities, protecting more than 1 million acres of stone fruit across the United States. Without the SCP program, trading partners might not accept a variety of U.S. fruits and vegetables. The value of trade in specialty crops that could potentially be disrupted without the SCP program was $4.2 billion in 2021, according to an internal APHIS report using data from the Foreign Agricultural Service's Global Agricultural Trade System.

Through the SCP program, APHIS also addresses SLF, a serious pest of grapes, apples, hops, walnut trees, and other hardwood trees. APHIS and cooperators are using an area-wide strategy that includes expanded surveillance, control, and outreach activities for this pest. Agricultural producers across the country are concerned about the pest's spread. There is a strong correlation between new SLF populations and major transportation pathways, such as railroads and interstate corridors. APHIS conducts targeted treatments and, in some areas, removes SLF's preferred host plant, tree of heaven, from transportation hubs with the aim of reducing the risk of SLF spread to new areas. APHIS and cooperators also continue to conduct treatments on the leading edge of the infestation and to eradicate isolated infestations. SLF is particularly damaging in vineyards and preventing it from spreading to new areas and continuing to develop new treatment methods will protect grape production across the country. APHIS and the National Plant Board and the National Association of State Departments of Agriculture developed a strategic plan to guide the program over the next five years with three goals, including limiting advancement of SLF spread, identifying new tools and options for SLF control and management, and developing a national and state outreach and educational campaign for the public and industries at risk due to long-range dispersal of SLF. The strategic plan working group is developing options for the best use of resources to accomplish the goals. U.S grape production was worth approximately $5.5 billion in calendar year 2021 (NASS Noncitrus Fruits and Nuts Summary, May 2022).

APHIS partnered with the State of California and grape growers to eradicate EGVM and continues to prevent the spread of GWSS into other grape-producing areas. APHIS declared the eradication of EGVM in 2016, after an intensive, 7-year cooperative effort. The program conducted three additional years of post-eradication surveys, ending in 2019. With EGVM eradicated, APHIS is planning to expand the surveys in 2024 using a multi-lure

trap that targets four grape pests in addition to EGVM as well as monitor California grape-growing areas for SLF, to ensure the pest would be detected early if it is introduced. The GWSS program began in 2000, to limit the spread of GWSS, a vector of Pierce's disease, which is deadly to grapevines and costly to growers and the industry. Through survey, treatment, and inspection, the program has restricted GWSS to southern California, protecting over half of the grape growing acreage in California. APHIS will continue working with partners in California to prevent the spread of GWSS in 2024 and is expanding EGVM surveys to include additional pests in California.

APHIS partnered with tree nut industries, as well as Arizona and California State cooperators, to develop sterile insect technology to address NOW, a serious pest of pistachios, almonds, and walnuts. In 2022, APHIS produced and released 202 million sterile NOW over pistachio and almond orchards participating in an area-wide program targeting NOW. APHIS and its partners' goal is to integrate and expand SIT with other integrated pest management strategies available to producers. In 2024, APHIS will continue working with cooperators and producers to manage NOW and help protect nut production worth nearly $9 billion for the 2021/2022 season (ERS Fruit and Tree Nut Yearbook Tables).

Overall, base program funding supports salaries and benefits, cooperative agreements, as well as other normal operating expenses such as supplies, equipment, and rent, to support program activities.

a) An increase of $3,383,000 and 5 FTE for fruit fly exclusion and detection activities.

APHIS mitigates the risk of exotic fruit flies through a combination of early detection, rapid response to outbreaks, and prevention of fruit fly establishment through the release of sterile insects that mate with wild flies and prevent normal population growth as well as international activities in Mexico and Central America aimed at stopping the natural, northward spread of Mediterranean fruit fly and Mexican fruit fly. The program has domestic operations in Florida, Texas, California, and New York, detection networks in other States with climate and host material suitable for fruit flies, and international operations in Mexico, Guatemala, and Belize. APHIS suppresses fruit fly populations in these countries to reduce pressure on the United States and has sterile fruit fly production facilities that provide sterile insects for U.S. operations. Costs associated with the Agency's fruit fly program facilities, supplies, staff, and equipment have continued to increase substantially. APHIS used the additional funds provided in 2023 to offset a portion of the rising operating costs, but this large program continues to face needs across all areas. Examples of areas where costs have increased include diet materials for sterile insect production, contracts for aerial release of sterile insects in Florida and California, and the traps and lures used in the detection efforts across the country and internationally. The program's overseas operations incur costs specific to international programs, and these costs continue to rise as well. These include increases in International Cooperative Administrative Support Services costs charged by the U.S. State Department to provide shared administrative services at overseas locations as well as increases to locally employed staff salaries and benefits, which are tied to local laws in other countries, and increased costs associated with sterile fly production. Additionally, APHIS addressed an unusually large and long outbreak in Texas over the last two and a half years through increasing the number of sterile fruit flies released and switching to a different strain of fruit fly, among other enhanced measures. California has also experienced several fruit fly outbreaks over the same period. To prevent these exotic fruit fly outbreaks from threatening U.S. agricultural production and export opportunities, APHIS must continue sterile fruit fly production and release at current levels and maintain its detection networks. The requested increase of $3,383,000 will allow the program to continue activities to exclude exotic fruit flies from the United States and detect and respond to introductions that occur by covering the increased costs associated with sterile fly production and traps, lures, and other equipment necessary to detect and eradicate flies, and filling of vacancies in the domestic and international program. Without the additional funding, the program's ability to maintain its trapping network and sterile insect release programs at current levels will be eroded.

b) A decrease of $1,596,000 for activities to address the light brown apple moth (LBAM).

Effective December 17, 2021, APHIS removed the LBAM quarantine in California and Hawaii. APHIS reclassified LBAM as a non-quarantine pest, removed all areas under quarantine, and removed movement restrictions on LBAM host material. Standard pest management practices implemented by producers for other routine pests have proven to also be effective against LBAM. When APHIS first confirmed detections

of LBAM in the United States in 2007, the best science available indicated that this moth would be a pest of economic significance. Over time, however, it became clear that the moth does not cause as much crop damage as APHIS initially anticipated. APHIS proposes to eliminate Federal funding for LBAM and will shift staff working on this program to other activities.

c) A decrease of $500,000 related to the apple snail.

The apple snail is an invasive snail from South America that has been found in Alabama, Georgia, Florida, Louisiana, Mississippi, South Carolina, and Texas. It has a negative impact on rice and crawfish production in affected areas. The 2022 and 2023 Appropriations Acts, Consolidated, provided funds for APHIS to develop an integrated pest management approach to control the pest. In 2022, APHIS worked with ARS to develop a multi-year project aimed at identifying methods to control the snail. ARS will conduct the work with cooperators from Louisiana State University and Mississippi State University. APHIS will also provide funds to ARS in 2023 to continue and expand the methods development work. Following these projects, the 2024 Budget proposes to eliminate the funding.

d) An increase of $4,633,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living increase.

(17) Tree and Wood Pests program: An increase of $1,710,000 ($62,562,000 and 292 FTE available in the 2023).

America's forests are valuable resources that provide jobs and recreation opportunities and create habitat for wildlife. Through the Tree and Wood Pests (TWP) program, APHIS addresses devastating pests such as the Asian longhorned beetle (ALB), emerald ash borer (EAB), spongy moth, formerly referred to as European gypsy moth (EGM) and flighted spongy moth complex formerly referred to as Asian gypsy moth (AGM). [The Entomological Society of America selected new common names for EGM, and Asian gypsy moth complex. APHIS plans to incorporate the new common names across all of APHIS documents, including its regulations, program manuals, and outreach materials, over the next fiscal year]. Numerous native hardwood tree species that are common throughout U.S. forests and urban landscapes are hosts to these pests. When forest pests like ALB kill large numbers of trees in urban and suburban areas, they can cause tremendous, wide-ranging impacts to communities, landscapes, and commerce. In addition, exports of forest products such as logs and timber could be at risk due to trade restrictions put in place by other countries.

Nationwide, APHIS programs protect 596 million acres of forested land by preventing the spread of damaging pests. Without Federal funding, forest pests would spread more rapidly throughout the United States, and responding to newly introduced pests would become increasingly difficult. The value of forest products that APHIS protects is nearly $300 billion (American Forest and Paper Association).

APHIS cooperates with State and local agencies and organizations in 48 States to conduct various activities to manage and, when feasible, eradicate forest pests. These activities include conducting surveys, implementing control measures, developing methods and processes to combat pests, and conducting outreach efforts to prevent pest spread. APHIS' role in the TWP program is to oversee the regulatory framework to prevent the human-assisted movement of these pests and to provide national oversight and coordination for program activities to detect and eradicate or manage the pests.

In 2023, APHIS will continue addressing ALB outbreaks in Massachusetts, New York, Ohio, and South Carolina, and continue pursuing biological control options as a long-term EAB management strategy. In addition, APHIS, alongside the Forest Service and the EGM Slow-the-Spread Foundation, continues its work to slow the spread of EGM and eradicate isolated populations, keeping this pest from becoming a larger issue.

Overall, base funding for the TWP program currently support salary and benefits, contracts, and cooperative agreements, as well as other normal operating expenses such as rent, supplies, travel, and equipment to conduct program activities.

a) An increase of $1,710,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

An increase of $354,000 and a decrease of 38 FTE for Safeguarding and Emergency Preparedness/Response – Wildlife Services

(18) Wildlife Damage Management program: An increase of $940,000 and a decrease 36 FTE ($121,957,000 and 623 FTE available in the 2023).

The Wildlife Damage Management (WDM) program resolves human/wildlife conflicts and protects agriculture, human health and safety, personal property, and natural resources from wildlife damage and wildlife-borne diseases in the United States. This program protects livestock from predators, manages damage from invasive species, such as feral swine and brown tree snakes; conducts a national rabies management program; and manages damage, conflicts, and diseases caused by various wildlife species, such as beavers, double-crested cormorants, and other migratory birds. APHIS conducts these activities under the authority of the Animal Damage Control Act, which allows the Agency to control mammals and birds that are a nuisance or serve as reservoirs for zoonotic diseases. These activities benefit farmers, ranchers, other private landowners, businesses, and Federal, State, county, and city government offices. APHIS carries these activities out with appropriated funding the Agency receives as well as funding from Federal, State and local cooperators.

APHIS protects resources and safeguards human health and safety from wildlife damage by providing both technical and direct control assistance upon request. For example, the Agency will provide assistance if a rancher is experiencing predators killing their cattle and sheep, or if a farmer is having trouble with fish-eating birds damaging their catfish and other aquaculture crops. This assistance could include providing advice, information, recommendations, and materials (and in some cases the necessary equipment) to the producer, farmer, or rancher to resolve the wildlife-caused damage themselves. APHIS maintains specially trained staff around the nation to provide direct control assistance, which can be necessary when the problem cannot be resolved through technical assistance alone. APHIS implements integrated approaches, consisting of multiple and varied methods, to protect resources from wildlife damage.

APHIS' wildlife disease biologists provide technical assistance, conduct surveillance, and actively assist in the monitoring of 30 wildlife diseases, pathogens, and syndromes, as well as collaborate with domestic and international academic and research institutions regarding wildlife disease surveillance. Ongoing surveillance of avian influenza in wild bird populations and diseases in feral swine is critical to manage and determine threats to the U.S. poultry and swine industries. Wildlife disease biologists also serve as multi-hazard first responders, providing support on foreign animal disease introductions (e.g., virulent Newcastle disease, avian influenza) and natural disasters (e.g., floods, hurricanes, wildfires). These specialized biologists are an integral part of the APHIS One Health approach in protecting agricultural animals and preventing future pandemics.

Overall, base funding for the WDM program currently supports salary and benefits, supplies, and equipment, as well as other normal operating expenses such, ren, security, and travel, to conduct program activities.

a) A decrease of $2,497,000 and 36 FTE for certain wildlife damage management activities.

APHIS conducts activities with appropriated funding as well as funding from Federal, State, and local cooperators. APHIS responds to requests for assistance from individuals, companies, and other government agencies when wildlife causes or threatens damage to human health/safety, agriculture, natural resources and property. A decrease in available funding in 2024 will allow the Agency to continue to provide similar levels of service, only if cooperators assume a greater share of program costs. Examples of the activities where cooperators would need to increase their level of financial contribution could include but is not limited to predation management for livestock such as sheep and cattle from the major predators including coyotes, cougars, and black bears; blackbird depredation; addressing damage caused by cormorants, pelican, and other birds; and removal and damage prevention caused by feral swine. APHIS is committed to working with affected States and localities to provide these services should funding be provided. APHIS would continue funding for non-lethal livestock-predator conflict deterrence activities at the level provided by Congress in 2023.

b) An increase of $3,437,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(19) Wildlife Services Methods Development program: A decrease of $586,000 and 2 FTE ($26,244,000 and 126 FTE available in 2023).

The Wildlife Services Methods Development (WSMD) program conducts research to develop methods to assess, prevent, and mitigate damage caused by wildlife, including invasive species, on agricultural production and to detect and prevent wildlife diseases that may impact animal health and agricultural biosecurity. APHIS provides the only dedicated Federal leadership in developing methods to manage wildlife-related damage programs and to resolve human-wildlife-agricultural conflicts. As the research unit of WS, the National Wildlife Research Center (NWRC) is tasked with developing new wildlife damage management methods for WS' Operational employees and others to use. Annually, the NWRC collaborates with hundreds of different agencies, universities, private companies, and non-governmental organizations.

Many methods that Federal, State, and private sector wildlife professionals use today stem from APHIS' research on integrated wildlife damage control approaches. Examples of methods developed include a potential new toxicant and delivery system for managing feral swine populations; a repellent application for blackbirds that cause extensive crop damage and lower yields at harvest for sunflower growers; and adaptation of effective methods for managing wolf and coyote predation. Each of these methods has enabled APHIS to reduce damage to property, livestock, agriculture, human health and safety, and/or native wildlife and ecosystems.

Additionally, the WSMD program registers products that enable the private sector to further manage human-wildlife conflicts. For example, the program recently patented a new vehicle-based lighting system to reduce deer-vehicle collisions during low light conditions. In partnership with the private sector, this technology will reduce wildlife deaths and increase driver safety on roads. The program also explores ways to reduce the spread and transmission of zoonotic diseases and develops disease surveillance and diagnostic methods.

These methods are essential to cooperators and preserve businesses and regional employment opportunities. In 2024, the WSMD program will continue to serve as an international leader in research to reduce wildlife damage, including the development of non-lethal control methods.

Overall, base funding for the WSMD program currently supports salary and benefits, contracts, and cooperative agreements, as well as other normal operating expenses such as, supplies, equipment, travel, and rent to conduct program activities.

a) A decrease of $1,300,000 and 2 FTE for one-time aircraft improvements.

In 2023, APHIS received six helicopters through the GSA Exchange/Sale Program that were deemed no longer suitable for their original intended purpose, however, remain functional for other uses. The Exchange/Sale Program allowed the U.S. Government to divest the fleet efficiently and eliminate unnecessary storage and divestment costs. The available fleet were demilitarized, civil certified commercial aircraft, with noted significant battle damage repair required. In 2023, Congress provided additional funding to support costs associated with repairs and specific Agency modifications to the helicopters. The Agency continues to review the safety of all remaining aircraft. APHIS routinely operates in high mountainous areas which require specific aircraft and training to ensure the safety of the pilot and other on-board operators. As the remaining aircraft fleet ages, APHIS will explore additional needs to ensure appropriate fleet management and the safety of Agency employees.

b) An increase of $714,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

An increase of $4,893,000 and 17 FTE for Safeguarding and Emergency Preparedness/Response – Regulatory Services

(20) Animal and Plant Health Regulatory Enforcement program: An increase of $668,000 ($18,722,000 and 120 FTE available in 2023).

The Animal and Plant Health Regulatory Enforcement (APHRE) program provides investigative, enforcement, and regulatory support services to the Agency's four regulatory programs and Agricultural Quarantine Inspection activities carried out through the Department of Homeland Security's Customs and Border Protection. APHRE investigates alleged violations of Federal laws under its jurisdiction and pursues appropriate enforcement actions through administrative, civil, or criminal procedures.

The APHRE program ensures compliance through comprehensive investigations, sound enforcement actions, and strong educational efforts. The program uses monetary penalties and alternative enforcement actions, including non-monetary settlement agreements, and works with USDA's Office of Inspector General and Office of the General Counsel, and/or the U.S. Department of Justice to pursue administrative, civil, or criminal action, as appropriate, in response to alleged violations of APHIS-administered laws. Program activities serve to deter individuals and companies from engaging in acts to cause extensive economic damage and/or excessive expenses related to eradication or mitigation efforts designed to protect the American agriculture system.

Overall, base funding for the APHRE program supports salaries and benefits, equipment, contracts, as well as other normal operating expenses including travel, supplies, printing, rent, and utilities to conduct program activities.

a) An increase of $668,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(21) Biotechnology Regulatory Services: An increase of $4,225,000 and 17 FTE ($19,691,000 and 93 FTE available in 2023).

Innovative biotechnology products can help promote more efficient use of resources, mitigate and adapt to climate change, and address growing environmental and food security challenges facing the United States and the world. Developers are using genetic engineering to produce new plants and organisms that help ameliorate direct effects of climate change (like heat, drought, and salt tolerance) and indirect effects resulting from spread and damage by plant pests and pathogens and reduce the use of pesticides and insecticides. Crops developed using genetic engineering can also improve food security and nutrition with improved yields and healthier oils, among others. Before any of these products can be brought to market, it is essential to demonstrate, through rigorous, scientific review, that they are safe for American agricultural and our natural resources.

APHIS ensures certain organisms developed using genetic engineering will not pose a pest risk to plants when released into the environment. APHIS' reviews and regulatory determinations support producers of new and innovative products in their efforts to enter commerce and the worldwide marketplace. These controls instill confidence in the public and in our trading partners that organisms developed using genetic engineering and produced in the United States are safe and of the highest quality. APHIS ensures that developers, growers, and others take important steps to prevent unauthorized release and movement of organisms developed using genetic engineering. APHIS inspects fields, equipment, and other facilities to ensure developers meet the permit conditions outlined in authorizations allowing field trials and movement of organisms developed using genetic engineering.

APHIS takes a coordinated and collaborative approach to ensure the safe development of products produced using genetic engineering. This includes working with the Environmental Protection Agency and the Food and Drug Administration, consistent with the principles of the Coordinated Framework for the Regulation of Biotechnology; and partnering with the National Plant Board to allow States to participate in the review of permit conditions for authorized field trails and movement. APHIS also shares information with international partners to enhance the harmonization of regulatory approaches for the safe use of organisms developed using genetic engineering; and to provide capacity building assistance to developing countries for the regulation of organisms developed using genetic engineering. For example, while implementing the revised plant regulations, APHIS engaged in discussions with Canada, Korea, and the United Kingdom to promote risk and science-based oversight for agriculture biotechnology products, with a goal of advancing global harmonization in product reviews and, ultimately, facilitating market access for U.S. developers and producers. APHIS also shared

scientific risk assessment approaches with countries contemplating legislation and regulatory changes in economies in South America, Asia, and Africa, building cohesion for trade and ensuring safety of plant products.

Overall, base funding for the Biotechnology Regulatory Services (BRS) program currently supports salaries and benefits, contracts, and agreements, as well as other normal operating costs, such as travel, equipment, and supplies to conduct program activities.

a) An increase of $3,680,000 and 17 FTE for the Biotechnology Regulatory Services.

Over the past decade, U.S. livestock and poultry industries have seen significant advances in biotechnologies — including genome editing — used to improve agricultural animals. Existing regulations, however, have limited provisions for addressing animals or livestock pests that have been modified or developed using genetic engineering, or the food or other products derived from such animals. In 2024, USDA seeks to establish technical and scientific services to support the oversight of certain animals intended for agricultural purposes that are modified or developed using genetic engineering. The Agency would work to develop a risk- science-based framework to support the review of modified, farm-raised animals to evaluate animal and herd health, which would include a safety review that covers molecular characterization, animal health (including noninfectious, infectious, and zoonotic diseases), evaluation of animal health claims or modifications that could adversely impact animal health, environmental factors, food safety evaluation of any expressed substance (including allergenicity and compositional analyses of key components), and food storage and processing.

In 2024, APHIS would use available funding to hire the technical and scientific staff necessary to support the oversight of certain animals intended for agricultural purposes that are modified or developed using genetic engineering. The Agency will seek to hire individuals with livestock, wildlife, and aquaculture expertise, as well as individuals at the forefront of biotechnology innovation. APHIS will continue to work collaboratively with other entities, as needed, to support the USDA's mission to protect plant, animal and public health.

b) An increase of $545,000 for 2024 Pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

An increase of $7,176,000 and 5 FTE for Safeguarding and Emergency Preparedness/Response – Emergency Management

(22) Civilian Climate Corps: An increase of $6,016,000 and 5 FTE ($0 and 0 FTE available in 2023).

Climate change has allowed invasive plants, pests, and diseases to move around the world and become established in new areas more easily. The speed at which pests and disease spread to new areas that previously may not have been hospitable to them is unprecedented in human history. Effects have included increased wildfires caused by establishment of invasive plants that are more fire-prone, as well as crop losses caused by insects arriving in the United States and becoming established further north than believed possible because of higher-than-average temperatures. Additionally, some methods to fight invasive species compound the impacts because they themselves—such as pesticides—may have their own impacts on climate.

Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad,* signed on January 27, 2021, calls for the establishment of a Civilian Climate Corps Initiative to put a new generation of Americans to work conserving and restoring public lands and waters, increasing reforestation, increasing carbon sequestration in the agricultural sector, protecting biodiversity, improving access to recreation, and addressing the changing climate.

a) An increase of $6,016,000 and 5 FTE for the Civilian Climate Corps.

APHIS will lead coordination between Federal agencies and the Civilian Climate Corps on issues related to invasive species control and climate change. APHIS will work with the Corps and engage in identifying emerging invasive species threats, such as pests and diseases that climate change has made more likely to arrive and become established in the United States or regional areas, and which could have deleterious effects. APHIS will continue to expand efforts to develop and implement new surveillance methods to more

quickly detect incursions of invasive pests as well as develop new mitigation methods to address those already present and causing economic and environmental damages.

(23) Contingency Fund: An increase of $29,000 ($514,000 and 5 FTE available in 2023).

The APHIS Contingency Fund is the Agency's resource to immediately implement short-term, coordinated, emergency activities that are relatively small in scale and not otherwise supported by the Agency's other appropriated commodity line items. APHIS uses this fund to respond to small, isolated pest and disease outbreaks before they can spread and cause significant economic and financial damage to producers across the United States. Specific examples include addressing outbreaks of the European grapevine moth in California, rabies in the Eastern United States and Texas, contagious equine metritis in Kentucky and other States, giant African land snail in Florida, feral swine in New Mexico, cattle fever ticks in Texas, and grasshopper and Mormon crickets in the Western United States.

By allowing APHIS programs to promptly address small-scale outbreaks, the Agency decreases the likelihood of pest and disease spread that could cripple otherwise healthy agricultural production systems and export markets.

Overall, base funding for the program supports salaries and benefits, equipment, contracts, and agreements, as well as other normal operating costs, such as travel and supplies to conduct program activities.

a) An increase of $29,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(24) Emergency Preparedness and Response program: An increase of $1,131,000 ($44,067,000 and 197 FTE available in 2023).

The Emergency Preparedness and Response (EPR) program improves APHIS' capability to prevent, prepare for, respond to, and recover from animal health emergencies. This program's goal is to respond to animal health events within 24 hours from the time APHIS determines that a Federal emergency response is needed to manage an agricultural outbreak. It develops strategies, policies, and procedures for incident management and response coordination that meet national and international standards. The program participates in joint Federal, State, and local animal health and all-hazards exercises to improve response capabilities. In addition, this program works with major commodity groups to ensure the continuous movement of livestock products during animal health emergencies. The EPR program funds activities that enable APHIS to achieve a high state of readiness and be able to respond rapidly and effectively to emergencies, thus lessening the impact of those events on producers, consumers, taxpayers, and the economy. Also, through this program, APHIS and the Centers for Disease Control and Prevention (CDC) jointly manage the Federal Select Agent Program (FSAP), which oversees the possession, use, and transfer of biological select agents and toxins that have the potential to pose a severe threat to public, animal, or plant health, or to animal or plant products.

The EPR program provides national leadership and regional coordinators in the 10 Federal Emergency Management Agency (FEMA) regions for Emergency Support Function #11: Agriculture and Natural Resources (ESF #11). These coordinators work with local, State, Tribal, Territorial, Insular Area Governments, and other Federal agencies to prepare for and respond to emergency incidents and disasters. In addition, APHIS provides support to FEMA for the care of pets and service animals during disasters. The EPR program also maintains Emergency Qualifications System dispatchers, who coordinate the delivery of emergency resources, as well as the APHIS security coordinator program and the Voluntary Emergency Ready Response Corps program, continuity planning, and Geographic Information System capability during incidents. The program also participates in Agency response efforts for animal diseases, natural disasters, hazardous spills, and wildfires.

APHIS' National Preparedness and Incident Coordination Center (NPIC) develops animal health emergency management guidelines to protect U.S. animal agriculture through collaborative, science- and risk-based strategies. These guidelines are based on the National Incident Management System and National Response Framework. The NPIC National Training and Exercise Program (NTEP) improves preparedness, mitigation, and response to animal disease emergencies and is informed by national priorities of APHIS' stakeholders. It creates dynamic, real-world learning scenarios to build response capabilities of emergency responders and maintain the Agency's response readiness. In 2022, the NTEP relied on more than 200 volunteers working more than 5,000

support hours on 49 simulated animal disease events. APHIS sustains its animal health readiness capacity by maintaining 5 Incident Management Teams of approximately 30 volunteer first-responders per team. One of these teams is ready to deploy anywhere, at any time, to respond rapidly to animal health disease events in support of incident management.

APHIS and the CDC jointly administer the select agents and toxins regulations as the FSAP. Any individual or entity possessing, using, or transferring select agents or toxins must register with APHIS if the agent affects plant or animal health or the CDC if it affects human health. Facilities must meet biosafety requirements to ensure the safety and security of select agents. APHIS and CDC inspect facilities that possess, use, or transfer select agents to ensure regulatory compliance. APHIS' Division of Agricultural Select Agents and Toxins (DASAT) ensures that registered facilities promptly address non-compliances, and DSAT takes corrective actions if necessary. DASAT also works with the Federal Bureau of Investigation, which conducts Security Risk Assessments for the program, to evaluate individuals requesting access to select agents and toxins. In addition, FSAP is coordinating with representatives from APHIS and the Agricultural Research Service overseeing the stand-up of the National Bio and Agro-Defense Facility in Kansas to provide guidance on the select agent registration process. DASAT also supports entities during hazardous events to ensure the safety and security of select agents and toxins.

a) An increase of $1,131,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

An increase of $1,878,000 and a decrease of 3 FTE for Safe Trade and International Technical Assistance

(25) Agriculture Import/Export: A decrease of $1,526,000 and 3 FTE ($19,292,000 and 84 FTE available in 2023).

APHIS works with other Federal agencies, States, foreign governments, industry, and academia to protect U.S. agriculture while facilitating the safe trade of animals and animal products. APHIS' animal health experts ensure that U.S. import requirements safeguard U.S. livestock health, and they negotiate requirements for the worldwide export of U.S. animals and animal products. These requirements are based on international standards, sound scientific principles, and fair-trading practices for animals and animal products. In addition, APHIS sets quarantine, testing, and other requirements under which animals and animal products can be imported or exported. The requirements help ensure that global markets can be accessed, expanded, or maintained with little or no risk to U.S. animal production and human health. APHIS also outlines activities to support aquatic livestock imports and exports through the development of the Aquaculture Business Plan and the National Aquaculture Health Protection and Inspection Act.

In addition, APHIS conducts activities related to the Lacey Act, which prohibits the importation of any plants, with limited exceptions, that are taken or traded in violation of domestic or international laws. The Act requires a declaration for imported shipments of most plants or plant products. A 2016 study by the United Nations Environmental Programme and Interpol estimated the value of illegal logging, including processing, to be between $50 to $152 billion dollars, or 10 to 30 percent of the global wood trade. The Lacey Act, as amended, is designed to help combat illegal logging by encouraging importers to research their supply chains and be aware of the laws governing products they purchase in other countries. APHIS' role is to evaluate and implement regulations, provide guidance to importers regarding the declaration, perform compliance checks, provide enforcement agencies with declaration information to assist their investigations, and maintain declaration records.

Imports

APHIS evaluates the animal health status of regions that wish to export animals and/or animal products to the United States. This evaluation process minimizes the risk of introducing animal diseases through importation and aligns with international trade requirements. In 2022, APHIS completed several evaluations and published regulatory actions based on those evaluations in the Federal Register. These include notices to recognize Bolivia and Ireland as negligible risk for bovine spongiform encephalopathy (BSE).

APHIS also conducts site visits to confirm that a regions' surveillance, prevention, and control measures are sufficient to minimize the likelihood of an introduction of foreign animal diseases into the United States. APHIS resumed site visits in 2022 that were delayed or halted in the previous 2 years due to COVID-19 travel

restrictions. These included Mexico for tuberculosis, Costa Rica for classical swine fever, Colombia for foot and mouth disease, and Panama and Brazil for Newcastle disease. The Agency continues to ensure that import regulations are effective and science-based and works with U.S. businesses and importers to facilitate safe trade.

Exports

To open, re-open, and maintain U.S. access to worldwide export markets, APHIS negotiates science-based conditions with trading partners for various commodities to facilitate trade. In 2022, APHIS negotiated 17 export protocols for animal products (7 new or reopened markets, 4 retained markets, 5 expanded markets, and 1 re-opened market). Additionally, APHIS opened, expanded retained, or re-opened 118 live animal export markets.

APHIS endorses export certificates for live animals and inedible animal-origin products, documenting the animal health status and facilitating export to all markets. In 2022, the Agency endorsed more than 329,344 export health certificates for animal products, livestock, poultry, germplasm, and pets. APHIS continued to increase the number of animal health export certificates issued electronically by expanding the system capabilities for the Agency's online Veterinary Export Health Certification System (VEHCS). VEHCS capabilities include digital signature capabilities, multiple user roles, a certificate upload feature, certificate re-issuance, and inclusion of supporting documents and payment information. APHIS continued to expand the number of countries and commodities for which electronic certification is available. APHIS digital endorsement for live animal export certificates is now accepted by 39 countries.

Lacey Act

In 2022, APHIS received nearly 1.2 million Lacey Act declarations electronically or on paper (the vast majority were received electronically through the Department of Homeland Security's Customs and Border Protection's Automated Cargo Environment system). Since implementing the 2008 amendments to the Lacey Act, APHIS has added products to the declaration requirement/enforcement schedule in phases. On October 1, 2021, APHIS implemented phase six, which expanded the Lacey Act declaration requirement to items such as new wooden pallets and containers, essential oils, and certain musical instruments made of wood, among other items. APHIS is beginning outreach for the next implementation phase (phase seven), which will cover all remaining non-composite wood products for which declarations are not already required. APHIS works with CBP's Regulatory Audit and Office of Trade to implement compliance surveys for Lacey Act declarations and requirements. In 2022, APHIS and its Federal partners (including other USDA agencies, CBP, U.S. Department of Justice, and the U.S. Fish and Wildlife Service) continued to expand and improve Lacey Act compliance programs by developing plans for and conducting documentation reviews of importers, continuing development of wood identification technologies and considering alternatives to seizing and forfeiting shipments due to the time and cost involved.

Overall, base funding for the Agriculture Import/Export program currently supports salaries and benefits of personnel, contracts, and agreements, as well as other normal operating costs such as travel, supplies, rent, and utilities to support program activities.

a) A decrease of $1,000,000 and 3 FTE for Lacey Act activities.

APHIS continues to enforce the Lacey Act to ensure imported plants and plant products comply with domestic and international laws. The Act requires a declaration for imported shipments of most plants or plant products. APHIS established the declaration requirement through rulemaking and began phasing it in for products covered by specific harmonized tariff schedule (HTS) codes over time, starting with raw wood and progressing to further refined products. The Agency is preparing to expand the declaration requirement to additional products and will conduct outreach to affected industries to allow them to prepare. The 2023 Appropriations Act, Consolidated, provided an increase for Lacey Act activities. APHIS will use the funding to support the expansion of the declaration requirement and prepare for the significant increase in declarations that it will receive. APHIS proposes a decrease of $1 million following the completion of the expanded outreach and system enhancements.

b) A decrease of $1 million for live dog import oversight.

The 2023 Appropriations Act, Consolidated, provided $1 million in funding for the oversight of live dog imports. APHIS is using the funding received in 2023 to evaluate interagency coordination efforts and protocols when screening dogs imported to the United States. The 2024 President's Budget proposes a decrease following the completion of these efforts.

c) An increase of $474,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(26) Overseas Technical and Trade Operations program: An increase of $3,404,000 ($25,572,000 and 57 FTE available in 2023).

APHIS helps U.S. farmers, ranchers, and producers export their products to other countries by resolving concerns over animal and plant health issues that affect trade in agricultural products. Exports are crucial to economic viability of U.S. farmers, ranchers, and producers. According to USDA's Economic Research Service, the United States exports 20 percent of its agricultural production. However, agricultural trade is subject to costly disruptions related to animal and plant health issues. APHIS works to continually support economic opportunities by keeping markets open for U.S. agricultural products. Working with other Federal partners, such as the U.S. Trade Representative's Office and USDA's Foreign Agricultural Service, APHIS provides the technical expertise to successfully address animal and plant health regulatory issues associated with trade negotiations for new markets and to reopen markets when they are closed or threatened due to pest or disease issues. Highlights of 2022 successes include: bovine meat and bone meal to Peru worth an estimated $5 million per year; wheat to Fiji worth an estimated $3 million per year; and live sheep and goats to Senegal worth an estimated $800,000 per year (values based on industry and APHIS analysis).

In addressing animal and plant health trade issues, APHIS uses its strong scientific base and team of technical experts located in the United States and abroad to advocate on behalf of U.S. agriculture. This line item supports APHIS' overseas presence in 28 countries, through which APHIS develops and fosters working relationships with its animal and plant health counterparts. These relationships allow APHIS to advance trade priorities and provide in-country support to resolve issues with shipments of U.S. agricultural goods held up in foreign ports of entry. Even for markets that are open to U.S. agricultural products, APHIS must continually address issues to keep trade flowing smoothly. APHIS works with foreign counterparts to clarify or streamline certification requirements, making it easier and less costly for U.S. exporters to move their products overseas. When shipments are held up at foreign ports, APHIS works with its counterparts to resolve the issues and secure the release of the shipments. In 2022, APHIS successfully secured the release of 261 shipments worth approximately $94 million.

APHIS overseas officials are veterinarians and plant scientists who are knowledgeable about the strengths and weakness of countries' animal and plant health programs and can aid to identify and develop programs that build technical and regulatory capacity in countries and the region. APHIS offers a range of sophisticated technical courses such as basic epidemiology, risk assessment, risk based sampling, and transboundary animal diseases, often in partnership with other Federal agencies including USDA's Foreign Agricultural Service, the U.S. Department of Defense, and the U.S. Department of State. These programs are useful in enhancing our bilateral relationships, encouraging regional dialogue, and promoting a coordinated regional response to pest or disease outbreaks. APHIS also fosters a successful trading environment for U.S. exports by working to ensure that the same rules apply to countries around the world through international standard setting. APHIS emphasizes the use of scientific principles as a basis for international trade decisions and works with international standard setting bodies such as the World Organisation for Animal Health and the International Plant Protection Convention. By supporting scientific decision making internationally and following international standards when considering what can be imported into the United States, APHIS encourages trading partners to do so as well, helping provide a level playing field for U.S. agricultural exports.

Agricultural trade is essential for U.S. farmers, ranchers, and producers, and APHIS' technical and regulatory trade activities support their export opportunities. In 2024, APHIS will continue to support international trade opportunities for America's animal and plant products while ensuring that U.S. agriculture is safe from pests and diseases.

Overall, base funding for the Overseas Technical and Trade Operations program currently supports salaries and benefits of personnel, contracts, and agreements, and travel, as well as other normal operating costs such as supplies, rent, and utilities to support program activities.

a) An increase of $3,100,000 for costs at overseas posts.

APHIS is requesting funding to cover the anticipated increases in International Cooperative Administrative Support Services (ICASS) costs charged by the U.S. State Department to provide shared administrative services at overseas locations. Under ICASS regulations, participating agencies are required to pay their portion of costs provided for continuous administrative support services for overseas offices. These projected costs are based on the State Department's global analysis which estimates growth in overseas wage increases, overseas price inflation and cost relocation of strategic activities into the ICASS platform. The platform includes the Foreign Service National Separation Liability Trust Fund, enhancements to the myServices software platform and conversion of the Information Management positions to ICASS.

This request also supports the increases for locally employed staff salaries and benefits, which are tied to local laws in other countries. The Department of State continues to adjust its compensation plans for overseas staff, and APHIS must support these increased compensation costs for all locally employed staff in 2024.

Finally, this request supports the necessary updates to the APHIS Mexico security and HR to help mitigate the increasing levels of danger posed to APHIS field personnel by criminal elements in Mexico.

b) An increase of $304,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

A decrease of $2,795,000 and 41 FTE for Animal Welfare

(27) Animal Welfare program: A decrease of $1,865,000 and 32 FTE ($37,506,000 and 260 FTE available in 2023).

The Animal Welfare Act (AWA) requires animals bred for commercial sale, used in research, transported commercially, or exhibited to the public receive Federal standards of care and treatment. APHIS' Animal Welfare Program ensures the humane care and treatment of animals covered by the AWA through inspection, learning opportunities, and enforcement actions. Since the AWA became law in 1966, APHIS has protected millions of regulated animals used in research, exhibition, and the pet trade as well as those transported in commerce.

Before issuing a license, APHIS works closely with potential licensees to ensure they understand the requirements of the AWA regulations and standards and will be able to maintain compliance after obtaining a license from the Agency. After obtaining a license or registration, the Agency determines on-going compliance by conducting unannounced inspections. During these inspections, APHIS officials examine and inspect all areas of animal care and treatment covered under the AWA. The Agency reviews the animals, premises, facilities, husbandry practices, program of veterinary care, records, and animal handling procedures. APHIS confirms that the animals receive adequate housing, transport, veterinary care, and meet husbandry standards as described in the AWA.

Whenever possible, APHIS takes a coordinated and collaborative approach to improve the welfare of animals. Using non-regulatory methods such as education, training, and outreach to stakeholders to convey critical and current animal welfare information, APHIS has been able to reduce inspection frequencies (while staying within legal requirements) for facilities that have implemented strong animal welfare programs and routinely demonstrate substantial compliance during unannounced inspections. This allows the Agency to remain focused on addressing the egregious alleged violators of the AWA, representing approximately four percent of all licensees/registrants.

When APHIS inspectors discover conditions or records that are noncompliant with AWA regulations, the Agency may establish a deadline for corrective action and increase frequency of unannounced inspections to determine whether the facility made the necessary modifications. Continued, serious noncompliance may

warrant an investigation that can result in sanctions ranging from monetary penalties to suspension or revocation of the facility's license, after notice and an opportunity for a hearing. The welfare of animals nationwide is subject to significant media attention and passionate public engagement. The American public holds APHIS accountable for ensuring all regulated animals are healthy and treated humanely. Without this program, the Agency would be unable to enforce the AWA, and the health and welfare of millions of animals would be severely compromised.

Overall, base funding for the Animal Welfare program currently supports salaries and benefits of personnel and travel, as well as other normal operating costs such as contracts, supplies, and equipment to support program activities.

a) A decrease of $3,200,000 and 32 FTE for inspection of regulated facilities.

In 2024, APHIS proposes to reduce available funding for the Animal Welfare program to support cost savings efforts. A significant portion of the program's operating costs are associated with salaries, benefits, and travel. Therefore, the program will fill only the highest priority vacancies. APHIS will reduce 26 FTEs through the elimination of unfilled positions and attrition.

Licensed and registered facilities continue to maintain a high compliance with the AWA. For example, in 2022, 90 percent of all licensed facilities inspected were found to be in substantial compliance with the AWA. At the proposed funding level, APHIS would conduct between 3 to 5 percent fewer inspections than the prior year. The Agency will continue to prioritize inspection through risk-based determination and seek opportunities to gain efficiencies. We assume that regulated entities would continue to maintain high levels of compliance, with the possibility of approximately 2-3 percent of facilities falling out to compliance due to decreased inspection and oversight activities.

b) An increase of $1,335,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(28) Horse Protection program: A decrease of $930,000 and 9 FTE ($4,096,000 and 21 FTE available in 2023).

APHIS' Horse Protection program strives to eliminate the cruel and inhumane practice of soring, which involves applying caustic chemicals and/or mechanical devices to a horse's pasterns, causing the horse to experience pain or distress while walking or moving. Soring changes the gait of a horse so that the animal steps higher, allowing its rider to gain a competitive edge at horse events. APHIS has the Federal responsibility to uphold the Horse Protection Act (HPA), which prohibits sore horses from being shown, sold, or transported.

There are an estimated 200,000 Tennessee Walking and Racking Horses in the United States, with potential show winnings reaching as high as $2.5 million. The management of horse shows, exhibitions, sales, and auctions have statutory responsibility under the HPA to prevent unfair competition and must identify and disqualify sored horses prior to participating in HPA-covered events. USDA-certified horse industry organizations train and license third party inspectors, known as Designated Qualified Persons (DQPs). DQPs conduct horse inspections at horse shows, exhibitions, sales, and auctions affiliated with these organizations. APHIS attends a select number of HPA-covered events each year to observe DQP performance and inspect horses for HPA compliance. APHIS' presence at horse show events serves as a deterrent; without this program, the Agency would expect to see an increase in the abusive practice of soring. In 2022, APHIS expanded the available technology support services by adding additional thermography and iris scanning devices. Thermographic pictures of an animal can reveal areas that are excessively warm or cool—both indicating abnormalities and the need for closer evaluation. Iris scanning allows inspectors to verify the identity of a horse, similar to a fingerprint. The Agency will continue to incorporate this technology during the inspection process in 2024.

Overall, base funding for the Horse Protection program currently supports salaries and benefits of personnel, and travel, as well as other normal operating expenses such as necessary contracts, agreements, and equipment for completing programmatic functions.

a) A decrease of $1,000,000 and 9 FTE for enforcement of the Horse Protection Act (HPA).

APHIS' Horse Protection program strives to eliminate the cruel and inhumane practice of soring, which involves applying caustic chemicals and/or mechanical devices to a horse's pasterns, causing the horse to experience pain or distress while walking or moving. Soring changes the gait of a horse so that the animal steps higher, allowing its rider to gain a competitive edge at horse events. The increase in funding provided in 2023 has allowed the Agency to significantly enhance attendance at HPA regulated shows, an estimated 30 percent increase from 2022. Further, APHIS used the additional funding to invest in critical equipment that allows the Agency to implement science-based inspection tools and to better enforce the HPA. The proposed decrease in funding for 2024 will support cost-saving efforts, while allowing the Agency to maintain oversight at regulated horse events similar to the 2022 level.

b) An increase of $70,000 for 2024 pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

An increase of $3,223,000 for Agency Wide Programs

(29) APHIS Information Technology Infrastructure: An increase of $3,200,000 ($4,251,000 available in 2023).

The APHIS Information Technology Infrastructure (AITI) program provides funding for the hardware, software (including licensing and support costs), and telecommunications infrastructure that gives the agency automation tools, secure Internet access, and access to mission-critical programs and applications. Funding for this program supports the stable and secure information infrastructure for those mission-critical requirements and the day-to-day business of APHIS, to include interactions with the public, emergency services, and scientific operations. The AITI priorities are to continually improve sharing of information across the Agency and Federal partners; improve coordination and accessibility of information by the public and other stakeholders; sustain automated processes and electronic resources available to enable APHIS employees to provide day-to-day services; support automation and data needed to meet emergency response requirements; and improve APHIS' cyber-security posture.

APHIS works with USDA's Office of the Chief Information Officer to support the program goals and manage information technology in a manner consistent with both USDA and Federal requirements. APHIS also works with other Federal partners, including the Department of Homeland Security's Customs and Border Protection and the Department of Health and Human Services' Centers for Disease Control and Prevention to ensure that AITI provides interoperability and required availability for partner agencies, as needed for program delivery.

In support of the Federal Information Technology Acquisition Reform Act (FITARA) and the USDA Data Center Optimization Initiative, APHIS completed migration of all business applications from on-site data centers to remote cloud services as of April 2019. This migration decreased the Agency's carbon footprint by using a more energy efficient infrastructure, improved data management, increased the speed of application development, and improved cost control measures.

APHIS continues to review the security posture for the APHIS Enterprise Infrastructure workstations, servers, network components, and major applications on an annual basis to ensure all systems are kept current with the latest security patches and system security configurations. In 2022 and 2023, the AITI program maintained the current version of National Institute of Standards and Technology and Federal Information Security Management Act testing standards and supported audits and inspections on all High Value Assets (HVA) that dramatically improved the agency's security posture by reducing vulnerabilities. In addition, the APHIS IT security monitoring system continues to track and mitigate malicious attempt of intrusion by foreign actors as well as the improper use of personally identifiable information data stored on APHIS systems, helping to protect confidential information that could potentially identify a specific individual. In addition to protecting our systems from malicious access, accessibility to IT tools is vital to the operations of the Agency, thus the AITI program helps to sustain important identity management services.

In 2024, AITI will continue to maintain its 99.99 percent availability for its key computing systems ensuring increased access to the public and other stakeholders. In addition, AITI will continue to improve its cybersecurity posture, enhance the customer experience by supporting modernization of critical systems, and support data management standards that improve our ability to more rapidly detect and respond to animal and plant emergencies working together with other Federal and Industry partners.

Overall, AITI expenditures fund day-to-day operations for the Agency's IT infrastructure, including software license renewals and support, as well as other normal operating costs, such as supplies and equipment.

a) An increase of $1,200,000, to cover costs to maintain remote cloud storage.

In 2019, the Agency migrated to remote cloud services to maintain compliance with FITARA and the USDA Data Center Optimization Initiative. The costs associated with the cloud services are anticipated to increase and will need to be covered. The additional funding is needed to ensure the Agency's continued use of remote cloud storage, which supports APHIS' operational and program data systems, and helps reduce the Agency's cybersecurity vulnerabilities. This line item has not received an increase in more than a decade, and the additional funds would ensure operations can continue without further impact to mission critical programs.

b) An increase of $2,000,000, to cover necessary security monitoring, tools, and services.

In 2020, a serious vulnerability in a tool known as SolarWinds impacted the entire Federal Government. 90 percent of our infrastructure utilized SolarWinds to monitor and sustain infrastructure components. In phasing out SolarWinds, the AITI Program invested in more advanced security tools and services that were less susceptible to the exploit that many Federal Agencies were already experiencing. A success story for the agency, the AITI program was able to stave off security incidents through pro-active monitoring, enhanced application controls and access management, and increased level of expertise protecting critical assets that among its many needs is used to sustain national animal and plant emergencies as well as one-health initiatives. This increased funding will ensure the program's ability to continue to secure its infrastructure, deploy controlled data sharing tools to facilitate electronic exchange with Federal partners, and improve access management compliant with two-factor authentication for the public and stakeholders.

(30) Physical Operational Security program: An increase of $23,000 ($5,182,000 and 4 FTE available in 2023).

APHIS oversees and implements precautionary measures to ensure continued, efficient mission operations, and protection from disruption, degradation, or destruction of its facilities through the Physical and Operational Security (POS) program. The program provides year-round security measures, such as physical security upgrades, alarms, badging and identification systems, guard services, security assessments, safety and risk assessments, workplace violence training, and investigations of both internal and external threats. These measures protect APHIS employees, as well as visitors and stakeholders from harm, acts of terrorism, and violence. In addition, this program supports part of USDA's contribution to the U.S. Department of State's continuing implementation of the Capital Security Cost Sharing program, which provides safe and secure workplaces for all government employees located overseas.

APHIS provides numerous types of security training, using a variety of formats. This includes providing training to more than 1,650 agency employees annually, including seminars relating to active shooter response, situational awareness, scenario-based role playing, illegal drugs, self-defense, terrorism, local crime trends, and travel safety. In addition, the program also provides workplace violence training seminars and multiple security briefings for employees who work along the border or in foreign countries. To enhance preparedness and response, APHIS continues its required on-line and classroom based active shooter training for all employees and live active shooter training exercises at Agency offices across the United States. This scenario-based training provides a dynamic, interactive exercise for APHIS personnel, and utilizes the participation of local law enforcement, fire, and emergency medical service personnel. The APHIS active shooter training plan and materials are evaluated by 40 law enforcement agencies, as well as one of the nation's leading active shooter private consulting firms.

APHIS investigates and assesses all reported internal and external threats directed at Agency facilities, programs, and personnel. These threats include, but are not limited to, death threats, terrorist threats, and assaults. APHIS also works to ensure employee safety in the same manner, at or near the Mexican border, and at APHIS offices in Mexico, Panama, and Guatemala. Specifically, near the Mexican border, the program investigates threats and responds to requests for protection for APHIS employees, such as veterinarians and inspectors, who enforce regulations in challenging environments.

Additionally, APHIS ensures the safety of its employees who enforce the Animal Welfare Act (AWA) and Horse Protection Act (HPA). APHIS security specialists investigate threats and respond to requests for protection throughout the country for APHIS veterinarians and inspectors who are enforcing regulations in difficult situations. Program personnel also worked across the Agency to develop standard operating procedures for security support for AWA and HPA inspections and investigations.

The Homeland Security Presidential Directive-12 and Interagency Security Committee (ISC) directives create the standard for secure and reliable forms of identification for facility and network access and compliance regarding physical security at Federal facilities. In support of this standard, APHIS completes physical security assessments and reevaluates previous facility assessments using the updated ISC criteria and USDA reporting format. In addition, the program is responsible for issuing, activating, or updating new or renewed personal identification verification cards to approximately 8,900 APHIS, USDA and other federal personnel and contractors annually.

APHIS also works with other USDA agencies, the U.S. Department of Justice, U.S. Department of Homeland Security, the U.S. Department of State, and local law enforcement agencies to ensure that the appropriate organization takes the lead, contributes to program costs, and integrates security where employees are co-located overseas. APHIS maintains a presence overseas to facilitate agricultural trade and monitor pest and disease threats. The Security Embassy Construction Counterterrorism Act's Capital Security Cost Sharing Program requires the Agency to help fund the construction of new Embassy compounds based on the number of authorized positions. In 2023, the program will continue to work with the U.S. Department of State to establish a security baseline for APHIS facilities overseas and ensure that mission operations are protected from disruption and degradation.

Overall, base funding for the POS program currently supports contracts, programmatic agreements, and personnel costs, as well as other normal operating expenses such as travel and supplies. In addition, this program supports the mandatory cost share with the Department of State for the Capital Security Cost-Sharing program.

a) An increase of $23,000 for 2024 Pay.

This increase will support the annualization of the 2023 4.6 percent Cost of Living pay increase and the 2024 5.2 percent Cost of Living pay increase.

(31) Rent and Department of Homeland Security (DHS) Security Payments: No change ($45,067,000 available in 2023).

APHIS personnel are in every State working to carry out our mission and the Rent and DHS Security Payments program assists the Agency in strategically managing the payment portfolio of approximately 220 General Services Administration (GSA) leases and DHS security payments, as well as other leased, owned, and agreement funded facilities. For example, the funding for this program ensures that APHIS employees can effectively and efficiently carry out all mission-related activities, including surveillance for animal and plant pests and diseases, pest and disease eradication programs, diagnostic and methods development work at laboratories, animal welfare inspections, and wildlife damage management activities. APHIS continually identifies opportunities to consolidate, reduce, and/or transform spaces to manage space as effectively and efficiently as possible. Without funding for rent and security payments, APHIS would have to cover these costs by reducing program activities, decreasing levels of service, and diverting fiscal resources from other appropriated line items.

In 2023, the program will continue to ensure mission operations while effectively managing its space portfolio.

Overall, base funding for the program currently maintains rent payments and security agreements in support of program activities.

(32) Congressionally Directed Spending: A decrease of $9,552,000 ($9,552,000 available in 2023).

The 2023 Appropriations Act, Consolidated, provided APHIS with funding to support nine Congressionally Directed Spending projects across seven States. Specifically, these projects include monitoring ticks and tick-borne pathogens in Connecticut; invasive pest management for nursery exports in Hawaii; West Nile virus research in Louisiana; tick-borne disease prevention in Maine; One Health surveillance, fish-eating bird control, and wild hog control efforts in Mississippi; enhancing the capacity at the New Hampshire Veterinary Diagnostic Laboratory; and wild horse management in Nevada.

PROPOSED LEGISLATION

Agricultural Quarantine Inspection

Current legislative authority to be amended: The Food, Agriculture, Conservation, and Trade (FACT) Act of 1990 (21 U.S. Code § 136a).
This proposal requests a legislative change in the Appropriation language to provide temporary authority to APHIS to maintain its Agricultural Quarantine Inspection (AQI) user fee account balance in light of recent litigation. This change will have no new impacts on AQI user fee collection levels; rather, it would allow APHIS to continue managing the program as it has been before its current authorities were challenged in recent litigation. Long-term authority will also be requested through other legislation.

Legislative Language Requested:

SEC. XYZ. Notwithstanding 21 U.S.C. § 136a(a)(1)(C) or any other provision of law, the Secretary of Agriculture is authorized to maintain a reasonable balance in the accounts that incur the costs associated with the provision of agricultural quarantine and inspection services as provided in the Food, Agriculture, Conservation, and Trade (FACT) Act of 1990, and may prescribe and collect fees to maintain such a balance for all user fee types in fiscal year 2024 and thereafter.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND FTE

Table APHIS-16. Discretionary Geographic Breakdown of Obligations and FTE (thousands of dollars, FTE)

State/Territory/Country	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Alabama	$6,768	27	$7,344	28	$7,618	29	$7,702	29
Alaska	643	2	992	3	915	4	1,299	4
Arizona	10,657	70	9,631	72	10,472	80	11,005	82
Arkansas	4,109	25	5,130	26	4,695	26	4,544	24
California	57,667	104	77,344	112	82,505	129	72,368	128
Colorado	69,818	304	103,884	354	108,774	428	95,808	423
Connecticut	1,223	6	2,154	6	2,476	7	2,416	7
Delaware	920	5	21,431	12	21,671	12	1,942	6
Florida	37,940	213	42,932	213	46,345	238	48,045	244
Georgia	6,434	36	10,008	42	10,427	43	10,389	43
Hawaii	23,318	258	26,578	291	28,568	312	30,791	313
Idaho	7,595	59	8,574	57	9,349	62	9,473	61
Illinois	3,653	27	4,240	27	4,296	27	4,425	27
Indiana	4,273	25	10,914	26	11,282	28	5,689	28
Iowa	73,145	320	158,429	324	161,087	331	87,736	320
Kansas	3,914	22	6,553	26	6,912	27	6,226	27
Kentucky	4,689	26	10,310	30	10,562	31	6,516	28
Louisiana	5,419	26	6,389	29	7,238	32	7,284	31
Maine	1,188	8	1,959	9	4,536	9	4,321	9
Maryland	274,300	1,026	267,642	718	276,890	884	260,609	899
Massachusetts	19,729	97	15,544	86	16,117	93	16,539	93
Michigan	6,870	47	8,745	48	9,207	52	8,854	52
Minnesota	47,886	188	139,493	188	141,385	224	49,390	194
Mississippi	9,028	40	9,248	41	13,398	48	13,193	44
Missouri	9,533	50	21,163	58	22,114	62	14,167	57
Montana	6,514	39	11,855	39	12,609	43	12,149	41
Nebraska	3,308	20	23,001	19	23,451	21	3,655	20
Nevada	2,743	22	3,774	19	4,110	21	4,158	22
New Hampshire	16,403	18	17,215	20	18,751	23	19,034	23
New Jersey	4,190	31	4,777	33	5,128	38	5,464	38
New Mexico	4,972	33	5,520	30	5,990	35	6,029	34
New York	33,400	126	33,167	132	34,179	152	33,439	152
North Carolina	44,436	173	47,176	176	49,080	242	45,647	245
North Dakota	2,627	15	7,317	16	7,629	19	3,675	16
Ohio	17,562	80	24,649	74	25,396	82	19,740	81
Oklahoma	6,187	39	6,646	41	6,593	45	6,685	44
Oregon	5,186	22	5,713	24	6,165	27	6,348	28
Pennsylvania	12,841	78	55,900	87	57,401	100	18,442	80
Rhode Island	424	1	1,746	8	1,808	9	1,866	9

State/Territory/Country	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
South Carolina	12,558	31	15,547	38	15,904	40	15,827	40
South Dakota	2,133	15	53,049	17	53,580	19	4,770	18
Tennessee	7,410	36	9,355	43	9,871	50	10,029	50
Texas	69,075	372	66,176	375	70,156	430	63,509	425
Utah	7,784	42	18,322	55	20,162	61	9,185	48
Vermont	1,056	9	1,528	10	1,590	11	1,687	11
Virginia	4,997	29	11,693	48	12,234	53	12,355	51
Washington	5,648	26	6,314	27	6,717	31	6,304	31
West Virginia	2,685	17	3,041	17	3,213	20	3,240	19
Wisconsin	4,604	23	36,341	27	36,931	30	6,503	27
Wyoming	4,254	29	5,684	30	6,201	34	6,192	32
U.S. TERRITORIES:								
District of Columbia	22,564	69	17,880	71	18,587	81	20,050	86
Guam	316	1	614	3	666	3	684	3
Puerto Rico	12,084	104	23,438	147	24,843	168	25,990	168
Virgin Islands	510	1	1,600	4	1,624	5	1,650	5
INTERNATIONAL REGIONS								
AFRICA:								
Egypt	709	1	906	2	909	2	909	2
South Africa	825	2	574	1	576	1	610	1
Senegal	362	-	289	-	290	-	615	-
ASIA/PACIFIC:								
China	1,801	3	1,183	2	1,187	2	1,245	2
Japan	1,757	3	1,622	3	1,627	3	1,692	3
South Korea	480	-	503	-	506	-	537	-
Other	3,955	7	4,070	7	4,083	7	4,276	7
CARIBBEAN:								
Dominican Republic	1,710	1	70,391	4	70,739	4	70,774	4
Haiti	-	-	4,850	-	4,874	-	4,874	-
Other	74	-	211	-	212	-	224	-
CENTRAL AMERICA:								
Guatemala	21,740	5	24,840	4	24,960	4	24,978	4
Panama	14,731	4	15,824	5	15,898	5	16,196	5
Other	648	-	496	-	498	-	504	-
EUROPE/NEAR EAST:								
Austria	365	-	351	-	353	-	415	-
Belgium	1,718	2	1,701	2	1,708	2	2,125	2

State/Territory/Country	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Other	986	3	1,438	3	1,442	3	1,528	3
NORTH AMERICA:								
Mexico	7,683	3	8,491	3	8,530	3	9,254	3
SOUTH AMERICA:								
Brazil	548	1	657	1	659	1	694	1
Chile	348	-	473	-	475	-	488	-
Other	1,523	2	1,583	2	1,589	2	1,683	2
Obligations	1,071,153	4,548	1,636,121	4,495	1,700,522	5,150	1,298,661	5,057
Lapsing Balances	335	370	835	536	-	-	-	-
Balance Available, EOY	697,806	1,034	927,328	879	397,877	766	288,004	702
Total, Available	1,769,294	5,952	2,564,284	5,910	2,098,399	5,916	1,586,665	5,759

Table APHIS-17. Mandatory Geographic Breakdown of Obligations and FTE (thousands of dollars, FTE)

State/Territory/Country	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Alabama	$1,771	16	$2,194	15	$2,701	17	$653	16
Alaska	165	-	120	-	120	-	120	-
Arizona	2,277	17	2,560	13	2,998	15	2,729	14
Arkansas	1,832	8	1,899	10	2,183	10	1,022	8
California	47,811	102	38,876	86	42,542	90	40,292	88
Colorado	10,992	40	7,315	40	9,890	60	8,620	45
Connecticut	591	4	433	2	446	2	438	2
Delaware	1,023	6	1,571	5	1,596	5	1,581	5
Florida	20,612	163	18,794	132	21,375	145	19,458	137
Georgia	11,064	73	10,960	58	13,026	65	11,147	62
Hawaii	6,427	30	6,621	30	7,116	32	6,637	31
Idaho	1,649	3	1,053	3	1,069	3	1,060	3
Illinois	1,573	12	2,353	14	2,787	15	2,521	15
Indiana	619	2	931	2	944	2	936	2
Iowa	7,960	2	9,701	2	11,766	4	8,147	2
Kansas	436	1	392	1	397	1	394	1
Kentucky	599	2	1,004	4	1,018	4	1,009	4
Louisiana	1,271	10	1,512	9	1,666	9	1,101	9
Maine	394	1	477	1	486	1	481	1
Maryland	90,934	332	79,652	302	94,347	375	87,921	366
Massachusetts	2,562	15	1,551	8	1,743	8	1,625	8
Michigan	1,877	12	2,330	11	2,596	12	2,433	12
Minnesota	12,183	5	5,989	38	9,801	55	9,786	55
Mississippi	1,334	4	1,266	6	1,364	7	1,001	7
Missouri	737	6	3,883	7	5,014	7	3,220	7
Montana	520	2	360	2	368	2	363	2
Nebraska	241	2	810	4	833	4	819	4
Nevada	458	1	750	1	771	1	758	1
New Hampshire	224	-	332	-	332	-	332	-
New Jersey	4,767	24	5,851	23	6,518	25	6,109	25
New Mexico	252	2	398	2	417	2	397	2
New York	29,352	42	26,484	44	30,270	48	24,433	44
North Carolina	28,098	116	22,431	94	26,265	114	24,713	111
North Dakota	318	2	296	1	302	1	298	1
Ohio	854	6	1,235	6	1,266	6	1,247	6
Oklahoma	1,326	6	1,940	8	2,379	8	576	8
Oregon	1,739	5	1,700	3	1,709	3	1,704	3
Pennsylvania	6,954	17	5,672	23	6,143	25	5,854	24
Rhode Island	99	-	148	-	148	-	148	-
South Carolina	1,747	14	2,098	14	2,324	16	1,472	14
South Dakota	44	-	176	-	178	-	177	-

State/Territory/Country	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Tennessee	849	3	1,687	-	2,077	-	443	-
Texas	15,113	83	13,222	70	14,794	72	13,051	70
Utah	280	1	154	-	156	-	155	-
Vermont	243	1	604	1	621	1	610	1
Virginia	7,892	5	22,888	18	26,636	24	24,590	22
Washington	6,547	25	7,630	26	8,132	28	7,824	26
West Virginia	335	1	1,205	5	1,239	5	1,218	5
Wisconsin	723	2	1,250	3	1,269	3	1,257	3
Wyoming	39	-	147	1	152	1	149	1
U.S. TERRITORIES:							-	
District of Columbia	5,880	4	5,315	20	5,766	20	5,673	20
Guam	651	3	824	3	842	3	831	3
Puerto Rico	3,845	50	4,328	55	4,838	55	4,525	55
ASIA/PACIFIC:								
China	234	-	-	-	-	-	-	-
Japan	30	-	179	-	179	-	179	-
Other	2	-	-	-	-	-	-	-
CARIBBEAN:								
Dominican Republic	25	-	147	-	147	-	147	-
Other	97	-	17	-	17	-	17	-
CENTRAL AMERICA:								
Other	250	-	310	-	310	-	310	-
EUROPE/NEAR EAST:								
Other	222	-	155	-	155	-	155	-
NORTH AMERICA:								
Canada	-	-	75	-	75	-	75	-
Mexico	1,660	1	1,665	-	1,665	-	1,665	-
SOUTH AMERICA:								
Brazil	-	-	44	-	44	-	44	-
Other	109	-	88	-	88	-	88	-
Obligations	350,713	1,283	336,052	1,230	388,423	1,414	346,736	1,353
Lapsing Balances	498	5	793	15	-	-	-	-
Balance Available, EOY	247,730	531	344,775	439	301,214	376	298,314	376
Total, Available	598,941	1,819	681,619	1,684	689,637	1,790	645,050	1,729

Table APHIS-18. Mandatory Geographic Breakdown of Obligations and FTE – American Rescue Plan Act (thousands of dollars, FTE)

State/Territory/Country	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Alabama	-	-	$38	-	$500	-	$500	-
Alaska	-	-	-	-	500	-	500	-
Arizona	-	-	5	-	500	-	500	1
Arkansas	-	-	3	-	500	-	500	1
California	-	-	107	1	500	1	500	5
Colorado	-	-	10,974	4	10,000	8	9,000	8
Connecticut	-	-	23	-	500	-	500	-
Delaware	-	-	2	-	500	-	500	-
Florida	-	-	-	-	500	-	500	-
Georgia	-	-	-	-	500	-	500	-
Hawaii	-	-	-	-	500	-	500	-
Idaho	-	-	2	-	500	-	500	-
Illinois	-	-	70	-	800	-	800	1
Indiana	-	-	36	-	500	-	500	1
Iowa	-	-	1,236	2	5,000	2	7,000	2
Kansas	-	-	63	1	2,000	1	10,000	4
Kentucky	-	-	-	-	500	-	500	-
Louisiana	-	-	52	-	500	-	500	1
Maine	-	-	28	-	1,000	-	1,000	1
Maryland	-	-	295	3	1,000	8	5,000	11
Massachusetts	-	-	190	1	200	1	200	1
Michigan	-	-	13	-	1,000	-	1,000	-
Minnesota	-	-	650	2	3,000	10	3,000	10
Mississippi	-	-	-	-	500	-	500	-
Missouri	-	-	24,106	1	500	1	500	3
Montana	-	-	1	-	1,000	-	1,000	2
Nebraska	-	-	-	-	500	-	500	-
Nevada	-	-	-	-	500	-	500	-
New Hampshire	-	-	14	-	500	-	500	-
New Jersey	-	-	28	-	500	-	500	-
New Mexico	-	-	-	-	500	-	500	-
New York	-	-	73	1	1,000	1	1,000	4
North Carolina	-	-	40	-	3,000	1	3,000	1
North Dakota	-	-	4	-	500	-	500	-
Ohio	-	-	29	-	2,000	2	2,000	4
Oklahoma	-	-	0	-	1,000	-	1,000	1
Oregon	-	-	23	-	3,000	-	3,000	-
Pennsylvania	-	-	42	-	500	-	500	1
Rhode Island	-	-	-	-	500	-	500	-
South Carolina	-	-	-	-	500	-	500	-
South Dakota	-	-	9	-	500	-	500	-
Tennessee	-	-	25	-	1,000	-	1,000	-

Texas	-	-	141	1	1,000	3	1,000	5
Utah	-	-	4	-	500	-	500	-
Vermont	-	-	64	-	500	-	500	1
Virginia	-	-	9	-	500	-	500	-
Washington	-	-	-	-	1,000	-	1,000	1
West Virginia	-	-	25	-	500	-	500	-
Wisconsin	-	-	118	1	500	2	500	2
Wyoming	-	-	-	-	500	-	500	-
U.S. TERRITORIES:								
District of Columbia	-	-	4,675	5	5,000	5	5,000	5
Puerto Rico	-	-	79	-	-	-	-	-
INTERNATIONAL REGIONS								
AFRICA:								
Senegal	-	-	-	-	-	-	4,000	4
ASIA/PACIFIC:								
Other	-	-	-	-	-	-	4,000	4
EUROPE/NEAR EAST:								
Other	-	-	-	-	5,000	4	5,000	4
Obligations	-	-	43,296	22	64,000	50	85,000	89
Balance Available, EOY	$300,000	335	256,704	313	192,714	263	107,714	174
Total, Available	300,000	335	300,010	335	256,714	313	192,714	263

CLASSIFICATION BY OBJECTS

Table APHIS-19. Discretionary Classification by Objects (thousands of dollars)

Item No.	Item	2021 Actual	2022 Actual	2023 Estimated	2024 Estimated
	Personnel Compensation:				
	Washington D.C.	$87,646	$90,336	$92,415	$95,215
	Personnel Compensation, Field	293,424	302,428	309,389	324,898
11	Total personnel compensation	381,070	392,764	401,803	420,113
12	Personal benefits	139,968	150,370	154,753	162,732
13.0	Benefits for former personnel	893	1,068	1,124	1,130
	Total, personnel comp. and benefits	521,931	544,202	557,680	583,975
	Other Objects:				
21.0	Travel and transportation of persons	14,613	21,702	22,202	22,030
22.0	Transportation of things	2,729	2,900	3,000	3,104
23.1	Rental payments to GSA	38,431	39,659	40,059	40,059
23.2	Rental payments to others	9,688	7,865	8,065	8,165
23.3	Communications, utilities, and misc. charges	11,298	9,521	9,596	9,596
24.0	Printing and reproduction	401	580	630	645
25	Other contractual services	-	-	-	-
25.1	Advisory and assistance services	228,617	327,570	331,570	271,746
25.2	Other services from non-Federal sources	43,808	103,714	105,714	110,593
25.3	Other goods and services from Federal sources	102,956	124,078	124,928	124,382
25.4	Operation and maintenance of facilities	221	54	60	60
25.5	Research and development contracts	1,285	2,452	2,752	2,752
25.6	Medical Care	60	58	60	60
25.7	Operation and maintenance of equipment	29,658	29,063	30,563	30,992
26.0	Supplies and materials	41,957	50,308	52,308	53,698
31.0	Equipment	18,446	27,765	32,765	31,234
32.0	Lands and Structures	12	16	16	16
41.0	Grants, subsidies, and contributions	128	68	73	73
42.0	Insurance Claims and Indemnities	4,912	344,541	378,476	5,476
43.0	Interest and Dividends	2	5	5	5
	Total, Other Objects	549,222	1,091,919	1,142,842	714,686
99.9	Total, new obligations	1,071,153	1,636,121	1,700,522	1,298,661
	DHS Building Security Payments (included in 25.3)	$5,649	$6,566	$6,730	$6,898
	Information Technology Investments:				
	Major Investment 1				
	Animal Disease Traceability Information System (ADTIS)				
11	External Labor (Contractors)	4,204	3,030	2,750	30
25.2	Outside Services (Consulting)	150	-	3,001	120
	Total Major Investment 1	4,354	3,030	5,751	150
	Major Investment 2				
	Certif, Accred, Reg, Permitting & Other Licenses (CARPOL)				
11	Internal Labor	-	12,545	32	-
	External Labor (Contractors)	12,470	-	12,938	2,491
25.2	Outside Services (Consulting)	2,030	-	40	19
	Total Major Investment 2	14,500	12,545	13,010	2,510
	Major Investment 3				
	National Bio- and Agro- Defense Facility (NBAF)				
11	Internal Labor	617	-	-	-
	External Labor (Contractors)	4,223	4,869	-	-

Item No.	Item	2021 Actual	2022 Actual	2023 Estimated	2024 Estimated
25.2	Outside Services (Consulting)	9,810	10,133	3,229	4,104
	Total Major Investment 3	14,650	15,002	3,229	4,104
	Mission Area Non-Major Investment Totals	49,889	49,945	50,444	33,209
	Mission Area Standard Investment Totals	63,077	56,065	70,383	75,018
25.3	Mission Area WCF Transfers	63,811	54,615	56,313	61,766
	Total Non-Major Investment	176,777	160,625	177,140	169,993
	Total IT Investments	210,281	191,202	199,130	176,757
	Position Data:				
	Average Salary (dollars), ES Position	$188,612	$191,744	$193,661	$195,598
	Average Salary (dollars), GS Position	$89,270	$93,410	$94,344	$95,288
	Average Grade, GS Position	10.9	10.9	10.9	10.9

Table APHIS-20. Mandatory Classification by Objects (thousands of dollars)

Item No.	Item	2021 Actual	2022 Actual	2023 Estimated	2024 Estimated
	Personnel Compensation:				
	Washington D.C.	$25,714	$26,079	$26,679	$27,293
	Personnel Compensation, Field	86,087	87,306	89,316	91,873
11	Total personnel compensation	111,801	113,385	115,995	119,165
12	Personal benefits	55,021	49,160	50,291	51,447
13.0	Benefits for former personnel	167	200	208	215
	Total, personnel comp. and benefits	166,989	162,745	166,494	170,828
	Other Objects:				
21.0	Travel and transportation of persons	2,207	2,336	2,412	2,836
22.0	Transportation of things	314	323	343	363
23.1	Rental payments to GSA	3,602	4,351	4,351	4,551
23.2	Rental payments to others	10,189	9,482	9,482	9,882
23.3	Communications, utilities, and misc. charges	3,922	3,114	3,114	3,314
24.0	Printing and reproduction	61	61	61	61
25	Other contractual services	-	-	-	-
25.1	Advisory and assistance services	105,416	108,907	158,887	133,867
25.2	Other services from non-Federal sources	17,835	15,102	21,102	21,102
25.3	Other goods and services from Federal sources	25,090	56,092	63,092	62,092
25.4	Operation and maintenance of facilities	8	3	3	3
25.5	Research and development contracts	40	86	86	86
25.6	Medical Care	19	35	35	35
25.7	Operation and maintenance of equipment	1,251	6,999	7,749	8,724
26.0	Supplies and materials	11,290	4,905	9,905	8,405
31.0	Equipment	2,479	4,797	5,297	5,577
32.0	Lands and Structures	-	9	9	9
41.0	Grants, subsidies, and contributions	-	0	0	0
42.0	Insurance Claims and Indemnities	-	1	1	1
43.0	Interest and Dividends	1	-	-	-
	Total, Other Objects	183,724	216,603	285,929	260,908
99.9	Total, new obligations	350,713	379,348	452,423	431,736
	DHS Building Security Payments (included in 25.3)	$576	$1,002	$1,450	$1,675

STATUS OF PROGRAMS

SAFEGUARDING AND EMERGENCY PREPAREDNESS/RESPONSE

Current Activities

American agriculture faces many threats from foreign and domestic pests and diseases which have the potential to negatively impact animal and plant agricultural production, trade, and the economy. APHIS monitors and responds to potential diseases of livestock and wildlife, invasive species, and conflicts between humans and wildlife as it strives to assure its stakeholders that it is on guard against the introduction or re-emergence of animal and plant pests and diseases that could limit agricultural production.

When a pest or disease is detected in the United States, APHIS works cooperatively with Federal, State, Tribal and industry partners to conduct animal and plant health monitoring programs to rapidly diagnose them and determine if there is a need to establish new pest or disease management programs. APHIS, in conjunction with States, Tribes, industry, and other stakeholders, protects American agriculture by eradicating harmful pests and diseases or, where eradication is not feasible, by minimizing their economic impact. The Agency monitors endemic pests and diseases through surveys to detect their location and through inspection to prevent their spread into non-infested parts of the country. APHIS conducts diagnostic laboratory activities that support the Agency's veterinary disease prevention, detection, control, and eradication programs. The Agency also provides and directs technology development to support plant protection programs and cooperators at the State, national, and international levels. APHIS also develops methods to control animals and pests that are detrimental to agriculture, wildlife, and public safety.

The Agency maintains a cadre of trained professionals prepared to respond immediately to potential animal and plant health emergencies. Program personnel investigate reports of suspected exotic pests and diseases and take emergency action if necessary. To facilitate these efforts, APHIS develops pathway studies and thoroughly investigates the progression of outbreaks to determine the origin of animal and plant pests and diseases. APHIS also actively engages State, Tribal, and local governments, and industries to advance their emergency preparedness and response capabilities.

APHIS conducts operations to ensure the humane care and treatment of vulnerable animals covered under the Animal Welfare Act and the Horse Protection Act. The Agency also balances a regulatory system that safeguards agriculture while fostering innovative research and development in the field of biotechnology.

Selected Examples of Recent Progress - Animal Health:

1. Animal Health Technical Services

APHIS' Animal Health Technical Services develops and enhances tools for acquiring and managing information vital for improving global market access for U.S. livestock and animal products. Incorporating national surveillance standards into data management applications allows the program to compile animal health information nationally, thus leveraging the work of animal health professionals nationwide to meet local, State, and national veterinary health objectives. The National Veterinary Accreditation Program (NVAP) trains private veterinarians to help producers meet export requirements and disease program standards. Ultimately, this allows U.S. animals and animal products to compete in the global economy.

Animal Disease Traceability (ADT)

The national ADT framework allows Federal, State, Tribal, and private animal health professionals to work together to identify diseased animals, quickly trace their movements, and control disease spread to protect the livestock industry, whose production value was approximately $123 billion in 2021 (National Agricultural Statistics Service, USDA). The ADT framework enables animal health officials to trace an animal from the location of official identification to the animal's last location, which is often the termination point or slaughter plant. Knowledge of the location of diseased and at-risk animals helps preserve animal health; enables a rapid response in case of an animal disease event; reduces animal illnesses and deaths during outbreaks; and decreases the cost to producers, consumers, and the government. This system also assures our trading partners that States, and USDA can rapidly contain an animal disease event. Each year, APHIS provides cooperative agreement funds to States, tribes, and territories to help them establish and maintain support for ADT activities. Currently all cooperators receiving program funds have approved ADT strategic plans in place with APHIS.

The ADT program continues to progress in maximizing flexibility while maintaining effectiveness and increasing the timeliness of retrieving traceability data. APHIS measures the success of the ADT program by conducting trace exercises that document a cooperator's ability to properly record and retrieve documents pertaining to official livestock identification and interstate movement. In 2022, APHIS continued to conduct national priority trace exercises where cooperators prioritize the traces as national emergencies. Cooperators completed 378 national priority trace exercises and demonstrated improvement in the national median and average elapsed times. Most cooperators were able to complete each trace exercise in less than or equal to one hour. The ADT program will continue to conduct national priority trace exercises in 2023, as part of its performance-based program to evaluate cooperators' abilities to successfully complete trace investigations.

One of the most significant opportunities to strengthen the ADT system is to improve the accessibility for electronic identification tags in adult beef and all dairy cattle, as well as in bison. The electronic tags use radio frequency identification (RFID), which speeds information capture and sharing. In 2022, APHIS purchased official RFID tags to be provided to States as an optional alternative for the currently available metal tags. The tags are provided at no cost, and each State veterinarian distributes the tags in a way that best serves their industry. The tags are available as orange RFID official vaccination tags for use in heifers vaccinated for brucellosis, or white RFID tags for non-vaccinated heifers. Since RFID tag distribution began in 2020 through October 2022, approximately 16 million tags were distributed as free tag alternatives to visual metal ID tags. This accounts for about half of all USDA approved official identification tags distributed by USDA for cattle in that time.

Information Management

Many of the APHIS information management systems are available to States and Tribal Nations to support their traceability plans and other animal health activities. APHIS conducts evaluations of existing data systems and applications to determine if they should modify and enhance them or if they should develop new systems and applications. In 2022, APHIS continued modernization efforts for the Animal Disease Traceability Information System (ADTIS). The ADTIS is an information management system that APHIS utilizes to maintain records of official identification devices and other information associated with official identification numbers of animals. The system contains several modules or components that maintain information to support APHIS' ability to respond to animal health events. The modernization effort combined three separate premises registration applications into a comprehensive premises management system, released in November 2021. APHIS also initiated modernization of the Animal Identification Management System (AIMS) in 2022. AIMS is used to administer official animal identification numbers and devices and other events associated with an official identification number. This modernization effort will be completed in 2023.

To further strengthen the nation's animal disease traceability capabilities, APHIS developed an electronic reporting tool for highly pathogenic avian influenza (HPAI) test results to streamline data collection and reporting activities for HPAI response efforts in 2022. Additionally, in response to the recent African Swine Fever (ASF) outbreak, APHIS developed a pipeline to integrate ASF surveillance data from the Agency's Emergency Management Response System for Puerto Rico and the U.S. Virgin Islands with the national surveillance program's Data Integration System. This integrated surveillance data enhanced the ASF operational dashboards as well as the public facing dashboard to provide a comprehensive picture of ASF response efforts in the Dominican Republic and Haiti.

National Veterinary Accreditation Program (NVAP)

More than 71,000 highly trained accredited veterinarians voluntarily participate in NVAP. Accreditation by USDA allows private practice, academic, industry, military, and other veterinarians to serve as the first line of defense for reportable domestic and foreign animal diseases. Once symptoms of a suspected foreign animal disease are reported, further diagnostics can be conducted or facilitated by Federal veterinarians and State animal health officials to provide rapid diagnosis, quarantine, and other control measures to safeguard animal and human health. Accredited veterinarians also provide official animal, flock, and herd health certifications, disease testing, and traceability measures which are needed for the intrastate, interstate, and international movement of animals each year. Mandatory training for participants and renewal of accreditation every three years provides current information of animal disease surveillance, prevention, zoonoses, judicious use of antimicrobials, animal welfare, and disaster preparedness. APHIS currently hosts 37 web-based supplemental training modules for accredited veterinarians and veterinary students. Since 2011, accredited veterinarians have completed nearly 1,000,000 hours of online training modules, and more than 40,000 modules completed at veterinary conferences nationwide.

2. Aquatic Animal Health

The Aquatic Animal Health program protects the health and value of U.S. farm-raised aquatic animals and natural resources. The program supports commercial producers in domestic and international trade markets, valued at $1.5 billion in 2018 (National Agricultural Statistics Service, 2018 Census of Aquaculture). The National Aquaculture Health Plan and Standards (NAHPS), which replaced the 2008 National Aquatic Animal Health Plan in 2021, provides a framework for Federal policies and programs to address aquatic animal diseases for the benefit of aquaculture and aquatic animal resources. The NAHPS affirms USDA as the lead Federal authority for U.S. aquaculture health, which is consistent with other livestock health programs. As such, the Department will oversee the health and promotion of aquatic livestock to meet the growth and demand of the domestic aquaculture industry. The NAHPS outlines the infrastructure measures needed to protect the health of farmed aquatic animals, which include disease reporting, standardized laboratory quality assurance and testing of high-consequence aquatic animal diseases, surveillance, data management, and health certification programs. These elements are fundamental for a robust, comprehensive system. The NAHPS program promotes industry growth by improving marketability through consumer confidence, as well as facilitating the interstate and international trade and movement of live animals and animal products.

In 2022, APHIS continued working with the National Aquaculture Association to develop the Commercial Aquaculture Health Program Standards (CAHPS), a voluntary national and uniform approach to aquaculture health standards. The goal of CAHPS is to support improved health management, protect and expand aquaculture business opportunities, promote and facilitate trade, and improve resource protection. CAHPS establishes site-specific plans for biosecurity, surveillance, and response related to animal health events. Well-managed surveillance planning is the foundation for animal health activities that include disease control and eradication programs, support of emergency preparedness and response, and international trade. In 2022, APHIS used the CAHPS framework as a template for achieving disease freedom status for 6 commercial shrimp companies. Under the framework, farms wanting to be recognized as “free” from specific pathogens are required to meet health requirements for trade/movement with 95 percent confidence that a pathogen exists at a 2 percent or less prevalence.
On December 15, 2021, APHIS released a risk assessment which evaluated potential entry and exposure pathways of virulent Aeromonas hydrophila (vAh), an aquatic pathogen, in the United States. APHIS performed this assessment in response to concerns raised by the U.S. catfish industry about the potential risk of vAh introduction to catfish farms via imported live food fish, raw food fish, and consumable fish food products. vAh is not an OIE-listed aquatic animal pathogen, nor is it a USDA notifiable disease that must be reported immediately to State and Federal officials, and there are no Federal import requirements specific to vAh. The assessment found that while some imports may serve as entry pathways for vAh into the United States, they are unlikely to result in pathogen exposure to the commercial catfish industry. The most likely exposure pathways identified in this assessment include the domestic movement of catfish, contaminated water, wildlife and birds, and fomites. On February 25, 2022, the Agency held a briefing with the catfish industry to address the results of the assessment.

3. Avian Health

The Avian Health program protects the U.S. poultry industry, whose production value was $46.1 billion in 2021 (USDA, National Agricultural Statistics Service), while facilitating agricultural trade in poultry and poultry products. This program consists of the surveillance, prevention, and control of avian diseases; disease threat planning and response; and international avian health activities. APHIS’ surveillance programs detect foreign, zoonotic, and domestic diseases that could substantially impact domestic production and the economy. Surveillance information facilitates trade and protects public health by demonstrating that certain diseases do not exist in poultry populations. Prevention and control programs minimize the disease threat and protect the value of poultry markets. The Agency also maintains regulations and national program standards and guidelines that direct avian health activities at the Federal, State, and Tribal levels. Maintaining these standards supports interstate and international commerce by providing assurances about the health of avian species and products that are moved or traded. In addition, APHIS uses epidemiological and economic modeling to better understand historical events and inform policy decisions.

APHIS works to quickly detect and address endemic, emerging, and foreign disease threats to ensure that the U.S. poultry industry maintains worldwide competitiveness. To detect these threats, the Agency conducts surveillance in domestic poultry, the live bird marketing system (LBMS), and wild birds. The LBMS is a voluntary network of U.S. live poultry markets and their production and distribution systems, which provides fresh poultry meat to consumers. As of September 30, 2022, 33 States had live bird market components that participated in APHIS’ H5/H7 AI prevention and control program. State cooperators help conduct surveillance and diagnostic activities for the LBMS. When these tests yield presumptive positive results, the Agency confirms the presence and strain of AI. LBMS

testing prevents and controls AI in markets and among producers and distributors that supply those markets. In 2022, there was one H5N3 LPAI detection in the LBMS. The program conducted 122,524 AI surveillance tests in the LBMS in 2021 and approximately 56,000 tests in the first two quarters of 2022. Complete 2022 data will be available after the agreements with States conclude on March 31, 2023. Several years ago, APHIS initiated a plan to eliminate the H2N2 AI virus from the LBMS in Connecticut, New Jersey, New York, and Pennsylvania. The virus had been circulating in these areas since 2014. In 2022 was the first year in which all four of these States instituted a control program. As a result, LBM H2N2 detections decreased by 68 percent (from 272 in 2021 to 86 in 2022). In addition, no reassortment (the process in which related segmented viruses create novel viruses that may be more pathogenic than their parental viruses) has been detected since mid-July 2021.

The National Poultry Improvement Plan (NPIP) is a cooperative Federal-State-industry program that helps participants guard against disease incursion and enhance the marketability of poultry and poultry products. The program includes the testing and monitoring of *Salmonella* Pullorum, *Salmonella* Enteritidis, *Salmonella* Gallinarum, *Mycoplasma gallisepticum*, *Mycoplasma synoviae, Mycoplasma meleagridis*, and H5/H7 strains of avian influenza (AI). The NPIP H5/H7 prevention and control program involves all 50 States and Puerto Rico; more than 95 percent of commercial broiler, turkey, and egg industries; and the entire primary poultry breeding industry. Ninety-nine approved laboratories in 42 States provide diagnostic testing for the program. Surveillance, diagnostic, and biosecurity activities are funded through cooperative agreements with requesting States. In addition, APHIS manages the NPIP U.S. Poultry Primary Breeder AI Compartmentalization program, which audits and certifies pedigree poultry stock breeding companies that practice high-level biosecurity measures to keep their flocks AI-free. Compartmentalization defines the health status of a subpopulation of animals by common biosecurity and management principles rather than a shared geographic boundary. This voluntary program supports the trade of poultry and poultry products if the United States encounters an AI outbreak. Participating breeders must meet extensive biosecurity, personnel training, disease monitoring, and laboratory infrastructure requirements. APHIS administers the program and serves as the regulatory authority that international trading partners can trust to verify that a participant meets the requirements.

APHIS conducts AI surveillance in commercial poultry under the National H5/H7 AI Prevention and Control program. Although most of the testing is performed locally, the Agency's National Veterinary Services Laboratories (NVSL) provides reagents for testing and performs confirmation and identification testing of presumptive positive specimens. Each year, APHIS performs approximately one million AI surveillance tests through NPIP AI cooperative agreements. In 2021, APHIS performed approximately 1.5 million AI surveillance tests through NPIP AI cooperative agreements and more than 1.3 million tests through the third quarter of 2022. Complete 2022 data will be available after the agreements with States conclude on March 31, 2023.

AI circulates in waterfowl and shorebirds causing little to no disease, which allows the viruses to move efficiently along migratory flyways in these birds. Occasionally, these viruses infect domestic land-based poultry such as chickens and turkeys. When poultry are infected with H5 or H7 strains of AI virus, the virus can evolve into the more serious disease-causing form, highly pathogenic AI (HPAI). HPAI usually causes significant disease and mortality in domestic poultry and sometimes in wild birds. APHIS conducts wild bird surveillance to gain insight into AI viruses in wild populations, and to provide that data to poultry producers and others so they can make informed biosecurity and management decisions. In February 2022, APHIS detected highly pathogenic avian influenza (HPAI) in the United States. This initial detection was from a wild bird sampled as part of this surveillance efforts. APHIS leveraged NVSL and National Animal Health Laboratory Network (NAHLN) laboratories to increase AI surveillance in both wild and domestic birds to detect and respond to new HPAI detections. In 2022, the Agency coordinated the collection and laboratory analysis of approximately 20,860 wild bird samples from wild waterfowl in priority watersheds in all four flyways. Based on tests results available as of September 30, 2022, APHIS detected HPAI in 474 premises, including 230 U.S. commercial poultry flocks, across 40 states in 2022.

Internationally, APHIS facilitates agricultural trade, works with agricultural officials, monitors agricultural health, and supports efforts in sanitary and phytosanitary standard-setting. The Agency works with animal health counterparts to reduce the impact of AI in trade by promoting transparent communications; clarifying animal disease status; and - when U.S. poultry markets close - providing relevant data to reopen them and minimizing trade disruption of these products. In addition, APHIS works with the USDA's Foreign Agricultural Service and the U.S. Trade Representative's Office to maintain a coordinated, strategic approach to resolving avian health issues that affect U.S. exports. Further, APHIS coordinates with the World Organisation for Animal Health and other international organizations to assist with disease prevention, management, and eradication activities in HPAI-affected regions. In addition, APHIS sponsors and staffs the Emergency Management Center at the Food and Agriculture Organization of the United Nations, in Rome, Italy. This Center provides assessments, guidance, and resources to enable rapid response to animal disease outbreaks in countries where the United States would have

difficulties placing personnel or responding bilaterally. This approach reduces the threat of disease outbreaks becoming widespread and evolving into pandemics. In addition, the Agency works closely with counterparts in Canada and Mexico to address avian disease threats affecting North America. APHIS also delivers capacity-building activities focused on biosecurity, poultry disease diagnostics, quality assurance in the laboratory, and poultry and wildlife surveillance. In 2022, APHIS partnered with the University of Delaware to deliver an Emergency Poultry Disease and Regionalization Workshop, with 23 participants from 16 countries in Latin America, Middle East, Asia, and Europe attendance and a Veterinary Diagnostic Lab Quality Assurance Seminar, with 20 participants from 12 countries in Latin America, Asia, and Europe. This training included international animal health standards related to trade and the management of poultry disease outbreaks.

4. Cattle Health

The Cattle Health Program protects and improves the quality, productivity, and economic viability of the U.S. cattle industry, whose production was valued at approximately $94 billion (National Agricultural Statistics Service, 2021). The Cattle Health Program has two major goals: to rapidly detect and respond to diseases that could significantly affect the U.S. cattle and bison population and prevent the spread endemic disease of concern or any newly detected disease in domestic cattle and bison.

APHIS activities in the Cattle Health Program include surveillance, disease prevention, disease investigation, and outbreak response actions. In addition, APHIS maintains regulations, national program standards, and guidelines that direct activities at the Federal, State, Tribal, and local levels. Establishing and maintaining these standards is critical to supporting interstate and international commerce by providing assurances about the health of cattle or bison being moved or traded.

In 2022, APHIS continued to conduct surveillance for foreign, emerging, and endemic diseases, including bovine tuberculosis (TB), brucellosis, and bovine spongiform encephalopathy (BSE) as well as disease vectors, such as the cattle fever tick (CFT), and new world screwworm (NWS). The Agency conducts surveillance through cattle testing on-farm as well as at slaughter facilities, livestock markets, shows, sales, buying stations (first point testing), and rendering facilities (operations that collect dead, dying, disabled, and diseased animals). APHIS also continued working with Canada and Mexico to prevent the introduction of foot-and-mouth disease, new world screwworm, and other cattle diseases. The following are examples of the Agency's efforts to protect cattle health during 2022.

Bovine tuberculosis

Bovine TB primarily affects cattle but has the potential to affect other animal species and humans as well. APHIS' surveillance for this disease includes testing live cattle and using slaughter surveillance data from the USDA's Food Safety and Inspection Service. The bovine TB program, initiated in 1917, has significantly decreased the prevalence of the disease in U.S. livestock. Today the prevalence rate in cattle herds is less than 0.001 percent.

In 2022, 136 Federally inspected slaughter establishments submitted 5,602 samples for TB testing. Through these slaughter surveillance efforts, the program detected TB in six herds in 2022: four in Hawaii, one from Michigan's Modified Accredited Free Zone, and one with shared operations in Texas and New Mexico APHIS used CCC funds to conduct test-and-remove protocols and depopulation activities in accordance with each herd's management plan.

The Cattle Health Program has five State bovine TB classifications. A higher disease prevalence results in classifications that have more restrictive movement requirements. The classifications are, in order of least restrictive to most restrictive: accredited free, modified accredited advanced, modified accredited, accreditation preparatory, and non-accredited. Michigan is currently composed of two classification zones: accredited free and modified accredited status. At the end of 2022, 49 States, 2 Territories (Puerto Rico and the U.S. Virgin Islands), and 1 classification zone in Michigan were TB accredited free.

Bovine brucellosis

Bovine brucellosis is an infectious disease that can cause decreased milk production, weight loss, abortions, infertility, and lameness. These effects can negatively impact the livelihood of cattle producers and the supply of meat and dairy products. Federal and State brucellosis eradication efforts have resulted in all 50 States, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands being Class-Free since July 2009. The brucellosis Class-Free classification is based on no detections of brucellosis in the cattle herd for 12 months. Class-Free States with brucellosis in wildlife work with APHIS to implement a State brucellosis management plan (BMP). Each BMP defines the basis for the area identified; describes the epidemiologic assessment and surveillance activities to

determine if wildlife populations are affected; and describes surveillance and mitigation activities for cattle, bison, and wildlife. Although the U.S. is considered Class-Free of brucellosis, there continues to be a presence of brucellosis in free-ranging bison and wild elk in the Designated Surveillance Area (DSA), which includes parts of Idaho, Montana, and Wyoming and is commonly referred to as the Greater Yellowstone Area.

APHIS provides expertise to land and wildlife management agencies to manage brucellosis in the DSA. In 2022, APHIS conducted a brucellosis program review for Idaho to ensure the State is properly administering the brucellosis program to control their DSA and prevent infection from escaping the endemic zone. In 2022, APHIS detected brucellosis in two herds in Montana within the State's DSA. APHIS placed both herds under a test-and-remove herd management plan. APHIS's Approved Bison Quarantine Facility located in Montana is used to capture bison inside Yellowstone National Park, test them to determine brucellosis disease status, and release disease-free bison outside the DSA. In 2022, APHIS released 28 adult bison to the Fort Peck Bison Testing facility, an approved APHIS assurance testing facility which APHIS has partnered to increase the capacity for bison release.

In 2022 APHIS tested approximately 511,000 head of cattle under the market cattle identification national slaughter surveillance program, exceeding the annual target goal of 350,000. The Agency, in conjunction with States, tests cattle and domestic bison on farms and ranches prior to movement, private sale, and herd certification issuance for show and exhibition purposes. In 2022, the program vaccinated over 3.3 million calves and tested over 11,000 adult cattle for brucellosis. The number of certified-free herds is steadily declining since all States are considered Class-Free of brucellosis. Agency-accredited veterinarians perform most of the vaccinations and sample collection, and State laboratories test the samples. As of September 30, 2022, the program is still collecting and validating fourth quarter testing and sampling data.

Bovine spongiform encephalopathy

BSE, widely referred to as "mad cow disease," is a progressive and fatal neurologic disease of cattle. The disease is caused by a transmissible agent, an abnormal prion protein. BSE is not a contagious disease and therefore is not spread through casual contact between cattle or with other species. The primary route of spread of classical BSE infection in cattle is feed contaminated with the infectious agent. APHIS works with the USDA Food Safety and Inspection Service and the Food and Drug Administration to conduct ongoing BSE surveillance, allowing the US to maintain BSE Negligible Risk status per the World Organisation for Animal Health's (WOAH) standards to facilitate trade.

The WOAH evaluates countries that submit a request for disease freedom and assigns a points-based risk status for BSE. The BSE surveillance program uses OIE's weighted surveillance points system, which reflects that the best BSE surveillance programs focus on obtaining quality samples from targeted populations rather than looking at the entire adult cattle population. The OIE's surveillance points system also incorporates a country's history with the disease, the implementation and enforcement of cattle feed regulations, and their overall BSE surveillance. In 2022, the Agency tested 21,816 cattle for BSE, resulting in 360,553 points, exceeding the OIE's international surveillance standards (21,429 points per year) by 18 times. No cases of BSE were detected in 2022.

Cattle fever tick

The Federal-State Cattle Fever Tick Eradication Program is a partnership between APHIS and the Texas Animal Health Commission. The cattle fever tick (*Boophilus annulatus*) and the southern cattle tick (*B. microplus*) are vectors for spreading babesiosis, also known as cattle fever. Even when not transmitting this disease, CFT can cause blood loss, damage to hides, and an overall decrease in the condition of livestock. Mortality in cattle without prior exposure to the disease ranges from 70 to 90 percent. The Agency focuses on controlling the spread of tick species that transmit the infectious agent through the inspection of livestock before they leave quarantined areas, surveillance at local markets, inspection of hunter-killed white-tailed deer and other exotic ungulates that can harbor the tick, and horseback river trail patrols to capture stray and smuggled Mexican livestock that may carry ticks into the United States.

The United States remains free of cattle fever. There is a permanent quarantine buffer zone established between Texas and Mexico. Bordering Mexican states harbor tick species, which carry the disease, and tick-infested wildlife or livestock near the U.S./Mexico border can bring the ticks into the United States. Tick eradication activities consist of identifying and quarantining infested premises and treating livestock and wildlife. Approved treatment methods for ticks include dipping or spraying cattle with coumaphos, feeding ivermectin-treated corn to deer found in wildlife, and injecting cattle with Doramectin. To release a quarantine area, every infested premise must have all cattle treated for at least nine months, including inspections and treatments every two weeks. In 2022, APHIS

conducted 83,319 individual animal inspections and 81,258 treatments throughout South Texas. For 2022, the permanent quarantine zone and the free area of Texas contained 63 newly quarantined premises (34 in the Free area and 32 in the permanent quarantine zone), compared to 66 (25 in the Free Area; 38 in the permanent quarantine zone) in 2021.

Carrizo cane is an invasive species and perennial bamboo-like grass that occupies the banks and floodplains of the Rio Grande in Texas. The cane makes for a particularly favorable habitat for CFT which reside in the vegetation waiting for animals to brush by so they can attach. The standard approach for keeping Carrizo cane under control is to cut it down to three feet twice a year using a mechanical cutter bar mounted on a tractor, a process referred to as "topping". In 2022, APHIS worked with contractors to aid in the eradication of the invasive cane and increase river visibility by successfully topping approximately 115 miles of land area, primarily alongside river trails used by CFT inspectors.

Screwworm

APHIS and its cooperators eradicated new world screwworm (–NWS; *Cochliomyia hominovorax*) from the United States, Mexico, portions of the Caribbean, and down through Central America to the southern-most portion of Panama. APHIS' international efforts prevent the reestablishment of NWS in the United States by collaborating with Panama and Colombia to maintain a biological barrier zone in eastern Panama preventing the northward movement of this pest from South America, where it is endemic, to NWS free areas in Central and North America and the Caribbean. This investment saves an estimated $3 billion dollars annually (APHIS internal analysis) for the cattle industries of the United States and other NWS free areas, and contributes to financial security of related agricultural industries, animal health and welfare, and food security in the region.

The program relies on field operations and the sterile insect technique, a process where APHIS and cooperators mass-rear and sterilize NWS at a jointly managed facility in Panama and release them in the barrier zone to mate with wild NWS flies, thereby preventing reproduction and controlling wild populations, thereby preventing reproduction, and controlling wild populations. The facility produces approximately 20 million sterile NWS per week but can produce up to 80 million sterile flies per week, providing surge capacity for additional production in the event of an outbreak in U.S. territory.

In 2022 presented the highest number of NWS cases detected in the barrier zone since eradication was declared in 2006. The program confirmed 621 positive cases, the majority clustered along the Pan-American highway in Darien Province, presenting a high risk of pest spread from the barrier zone into screwworm free areas in Panama via cattle movement. The cases in this area were higher than normal due to several reasons, including a significant increase in the cattle population in Darien—from approximately 64,000 in 2006 to 133,000 in 2022 (a 108 percent increase). Surveillance activities indicate that approximately 75 percent of cases were detected in preventable wounds left untreated, presenting an opportunity for producer education Worldwide shipping disturbances affected accessibility of routine supplies and materials, including quality powdered egg, a critical NWS diet ingredient already in limited supply due to the Avian Influenza outbreak. Additionally, a shipment of contaminated fiber led to reduced fitness of the sterile NWS. The program resolved these issues through diet testing, analysis, trial-and-error adjustment of the diet, and monitoring studies show steady improvement in the quality of the sterile flies. To address the high number of cases, the program hired additional temporary field inspectors and extension agents to support surveillance, outreach, and education campaigns for producers and intensified quarantine animal movement control activities. The program also increased NWS production from 20 to 24 million sterile NWS per week to augment aerial and ground release rates over high-risk areas. While the number of monthly cases declined by 30 percent from August to September 2022, the program continues to improve the sterile NWS strain in production and will introduce cryogenically preserved biological material for additional fitness. Despite the challenges, APHIS and its cooperators contained NWS cases within the barrier, protecting NWS free areas in the United States and Latin America.

5. Equine, Cervid and Small Ruminant Health

The Equine, Cervid, and Small Ruminant Health (ECSRH) program protects the health and improves the quality, productivity, and economic viability of the equine, cervid, sheep, and goat industries. APHIS activities include monitoring, surveillance, investigation, response, and disease prevention and preparedness to address animal health issues. The Agency's monitoring and surveillance activities detect foreign, emerging, zoonotic, and domestic diseases that could substantially impact the economy. APHIS also works with international and domestic trading partners to facilitate safe trade in equine, cervids, and small ruminants and their products and ensure diseases incidents of trade concern are reported to the World Organisation for Animal Health (WOAH). In 2022, the ECSRH Program conducted disease surveillance and/or monitoring for the following diseases: scrapie, bovine tuberculosis

(TB), chronic wasting disease (CWD), vesicular stomatitis virus, contagious equine metritis (CEM), equine piroplasmosis (EP), Eastern equine encephalitis (EEE), West Nile virus (WNV) and equine infectious anemia (EIA).

Sheep and Goat

Scrapie is a fatal, degenerative disease affecting the central nervous system of sheep and goats. Infected flocks can experience significant production losses. The National Scrapie Eradication Program (NSEP) focuses on improving the health of domestic sheep and goat, reducing scrapie-associated economic losses and increasing international marketing opportunities. Regulatory scrapie slaughter surveillance efforts began in 2003, and were designed to identify scrapie infected flocks and herds by sampling animals at slaughter. Since the surveillance program began in 2003, the program has collected samples from approximately 718,000 animals at slaughter, and only 471 sheep have tested positive for classical scrapie.

In 2022, APHIS collected samples from more than 23,000 sheep and goats for scrapie testing. Out of the total number of animals tested in 2022, no animals tested positive for classical scrapie and one sheep tested positive for non-classical scrapie (Nor98-like). Unlike classical scrapie, non-classical scrapie is either not laterally transmissible or is transmissible at a very low rate. The WOAH and APHIS determined that it is not a disease of trade concern.

NSEP has a voluntary flock certification component, the Scrapie Free Flock Certification Program (SFCP). Participation in SFCP enables producers to enhance the marketability of their animals by protecting them from scrapie and provides participants an avenue to export sheep and goats. In 2022, 194 flocks were enrolled in SFCP. Of these, 41 were export certified (scrapie-free), 31 were export monitored (working towards documenting scrapie freedom), and 122 were select monitored (reduced scrapie risk).

Cervids

APHIS works with State agencies to encourage cervid owners to certify their herds by meeting the requirements in the CWD Herd Certification Program (HCP) Standards. APHIS' voluntary national CWD HCP helps States, Tribes, and the cervid industry control CWD in farmed cervids by allowing the interstate movement only from certified herds. Currently, 28 States participate in the national CWD HCP. In 2022, 7 percent of the 285,589 farmed cervids in the HCP participating states were tested for CWD at State and APHIS laboratories. APHIS confirmed 23 new CWD positive farmed cervid herds. APHIS provided Federal indemnity to depopulate nine of the newly identified positive herds in 2022. The remaining infected herds are under State quarantines. APHIS determines the use of Federal indemnity payments within the CWD program on a case-by-case basis.

In 2022, APHIS made approximately $9.4 million available for cooperative agreements with States and Tribal governments to further develop and implement CWD surveillance, testing, management, and response activities. This includes the further development and evaluation of techniques and strategies to prevent or control CWD in farmed and wild cervid populations. APHIS funded 27 States and 5 Tribes, 1 Tribal Organization, and 1 State university. The State university agreement was to conduct wild cervid surveillance on Tribal lands.

APHIS also coordinates a voluntary cervid TB herd accreditation program. Herds that participate in the cervid TB herd accreditation program must test all cervids in the herd over 12 months of age. They must also have negative TB results from two rounds of testing 9 to 15 months apart using either the Dual Path Platform (DPP) test or the Single Cervical Test (SCT) for their herd to be classified as accredited free. Herds must retest every three years thereafter to remain accredited. In 2022, approximately 7,600 animals were TB tested using the DPP blood test and 1,600 using the SCT. Of the cervids tested using DPP, 72 were identified as suspects on the first round of testing, and 25 were classified as reactors based on the second round of testing. Of the cervids tested using SCT, 7 suspects were identified on the first round of testing, and none were classified as reactors on the follow up test. 25 DPP reactors were necropsied, and their tissues were tested by culture and polymerase chain reaction (PCR). APHIS determined one of those reactors was infected with TB and the herd was depopulated. All other reactors were negative for TB.

In 2022, APHIS continued a project to evaluate the DPP test (approved in 2012, as a primary TB test for elk, red deer, white-tailed deer, reindeer, and fallow deer) for use as a primary and secondary TB test in mule and sika deer. The DPP test is a serologic test that performs comparable to skin tests with the added advantage of reducing animal handling and associated morbidity and mortality; its use is expected to enhance TB surveillance in these two species. The project uses samples that accredited veterinarians submit for TB herd certification purposes. The project requires the collection of 306 samples from each species submitted in accordance with APHIS guidelines. The Agency will consider tests conducted as part of the project to be official TB tests. As of the end of 2022, 215 mule deer and 69 sika deer were tested as part of the project. All animals tested negative.

Equines

APHIS collaborates with Federal, State, and industry partners to protect the equine industry from disease, improve the health of our domestic herd, and protect human health. These activities improve trade and facilitate equine movement, which are vital to maintaining the industry's economic value. APHIS provides veterinary support and consultation to the U.S. Department of the Interior's Bureau of Land Management Wild Horse and Burro Program through an interagency cooperative agreement.

APHIS provides expertise and helps develop the industry's National Equine Health Plan. The plan functions as a roadmap for owners, veterinarians, and industry organizations to coordinate with State and Federal animal health officials to recognize, prevent, control, and respond to diseases. APHIS integrates the roles of the State and Federal health officials with industry stakeholders to improve both equine health and the industry by decreasing the impact of infectious disease on the horse economy.

In 2022, APHIS provided oversight and epidemiological support in response to 18 cases of EP in 5 States and 68 cases of EIA in 12 States. Additionally, maintained certification and annual proficiency testing for 20 equine viral arteritis laboratories, 12 EP laboratories, and 13 CEM laboratories, and additionally certified and conducted annual proficiency testing for 392 EIA laboratories. APHIS also participated in the Agricultural Research Services' VSV Grand Challenge project with two peer-reviewed publications completed in 2022.

6. National Veterinary Stockpile

The National Veterinary Stockpile (NVS), overseen by APHIS' Field Operations Logistics Center, serves as the primary source of materials, supplies, and equipment for the response to, control of, and containment of significant animal disease outbreaks. The NVS has two primary objectives. The first is to deploy countermeasures, within 24 hours of approval, against the most damaging animal diseases including highly pathogenic avian influenza (HPAI), foot-and-mouth disease (FMD), virulent Newcastle disease (vND), classical swine fever (CSF), and African swine fever (ASF). The second objective is to assist States, Tribes, and Territories with planning, training, and exercises for the rapid request, receipt, processing, and distribution of NVS countermeasures during an event. The NVS works with States, tribes, and territories to develop their logistics plans, conduct logistics training, and organize full-scale logistics exercises.

The NVS continuously evaluates its inventory of supplies and replaces expired inventory. The NVS deployed supplies, equipment and contractor support to States responding to HPAI outbreaks across the U.S. In 2022, the NVS acquired additional equipment to assist in poultry disposal during the HPAI outbreak and completed its efforts to refurbish its legacy fleet of 13 foam depopulation units.

The NVS purchased additional supplies to support response efforts to the outbreak of African swine Fever in the Dominican Republic and Haiti, detected in July 2021. These efforts include widespread testing, targeted depopulation, and enhanced biosecurity in the continental United States and across Hispaniola, to prevent further spread and possible transmission to the United States. In 2022, the NVS shipped animal handling equipment, depopulation equipment, and personal protective equipment (PPE) to the Dominican Republic and provided supplies to Puerto Rico in support of ASF enhanced surveillance activities.

The NVS coordinates and supports activities with States, tribes, and territories to improve logistical readiness in the event of an animal disease outbreak. Traditionally, logistical readiness activities are conducted in person with stakeholders. The NVS began hosting these events via webinar as a result COVID-19 social distancing protocols in 2020 and 2021. In 2022, the NVS to returned to conducting some of these training exercises in-person. In 2022, the NVS conducted a logistics-based full-scale exercise with the Oklahoma Department of Agriculture, Food and Forestry which validated the state's ability to respond logistically to a foreign animal disease outbreak. The exercise included receiving, staging, and storing placebo FMD vaccine. In addition, tabletop exercises were conducted with Maine and Missouri. The NVS also delivered several virtual veterinary stockpile presentations to States preparing for a HPAI response which included representatives from California, Connecticut, Hawaii, Michigan, and New Hampshire. These activities supported APHIS and participating stakeholders and partners in refining their preparedness procedures. NVS continues to conduct exercises and trainings in resource deployment and response preparedness to animal health events in 2023.

APHIS continued to maintain the North American Foot and Mouth Disease Vaccine Bank (NAFMDVB) as part of the agency's animal health readiness initiative in 2022. The NAFMDVB is a vaccine stockpile that the United States

and Canada cooperatively support. Each country has contributed funding to acquire vaccine and maintain a stockpile of vaccine concentrate, from which FMD vaccine is derived. Canada and the United States continue to ensure that the Bank maintains stocks of vaccine concentrate and conducts necessary quality assurance testing. A portion of NVS funding was used to acquire new antigen for FMD preparedness.

7. Swine Health

APHIS' Swine Health Program protects the health and improves the quality, productivity, and economic viability of the swine industry. The 2021 production value of the swine industry was approximately $29 billion (USDA, National Agricultural Statistics Service). In addition, the program facilitates trade in swine and pork products, and addresses swine health issues at the human-swine interface and between wildlife and domestic swine. APHIS activities include comprehensive and integrated swine surveillance, emergency preparedness and response planning, disease investigation and control activities, zoonotic disease prevention and response, swine health studies and special projects, collaborations on emerging issues, and outreach and communication with stakeholders. In addition, the Agency maintains regulatory and programmatic guidelines that direct activities at the Federal, State, and Tribal levels. Establishing and maintaining national standards support interstate and international commerce by ensuring the health of animals and products being moved or traded.

APHIS collects swine samples from various surveillance streams as part of a comprehensive integrated surveillance approach to detect swine diseases that could substantially affect domestic producers and the national economy. Comprehensive integrated surveillance includes field work and epidemiological investigations, designated surveillance streams, veterinary diagnostic laboratory infrastructure, data management systems, and methodologies for data analysis and reporting. APHIS collects samples and data from veterinary diagnostic laboratories, slaughter plants, high-risk producer premises, livestock markets, and feral swine during population elimination projects. Surveillance testing supports the swine industry by assuring trading partners and other stakeholders of the status of swine diseases in the United States. Comprehensive surveillance enables APHIS to maintain effective surveillance using a risk-based approach that targets high-risk samples and reduces costs.

For several years, APHIS has closely followed African swine fever (ASF), a highly contagious and deadly viral disease of domestic and wild pigs, as it spread across Asia and Europe. Currently, the only known control strategy is to depopulate all affected or exposed swine herds. Early detection is the key to controlling, containing, and eliminating ASF. APHIS has instituted a series of interlocking safeguards to prevent ASF from entering the United States and is working closely with States and industry to develop and refine plans in case of an outbreak.

In the event of ASF entry to the U.S swine population, enhanced surveillance and diagnostic testing strategies will be critical to facilitate progressive response and eradication of the disease. In 2022, APHIS successfully evaluated ASF diagnosis using aggregate oral fluid samples through experimental studies at the Agency's Foreign Animal Disease Diagnostic Laboratory (FADDL). Compared to individual animal sampling, oral fluid collection for active surveillance is a non-invasive alternative that is less resource and time-intensive. The results from the evaluation suggest that oral fluid samples may be used to supplement traditional samples for rapid detection of ASF virus. The program also completed an evaluation of a sample pooling method (blood, tissue) which may enhance ASF diagnosis and surveillance. Finally, APHIS released and continually maintains a public reporting tool for external stakeholders to monitor the progress of the ASF/Classical Swine Fever (CSF) surveillance program.

Since 2021, APHIS has been sponsoring and supporting a pilot project with Iowa State University entitled "Development and Demonstration of a U.S. Swine Health Improvement Plan" (SHIP) modelled after the National Poultry Improvement Plan (NPIP)". Its objective is to develop a certification program for high-consequence swine diseases. The pilot provides a framework to further safeguard the swine industry by ensuring active and effective nationwide surveillance and the ability to quickly regionalize and quarantine infected areas. The framework enables the Agency to assure trading partners and consumers about the status of these diseases and the health of unaffected areas. U.S. pork producers and packing facilities in participating States that meet specified requirements can voluntarily enroll in the program. In 2022, APHIS oversaw the second phase implementation of the project which included: increasing membership in the pilot's House of Delegates (a forum of industry stakeholders); standing up Official State Agencies and beginning enrollment of swine premises; continuing technical working groups drafting program standards and resolutions in areas such as sampling and diagnostics, traceability, and biosecurity; and hosting the second annual House of Delegates meeting in September 2022. The pilot project team has developed a system of enrolled farm sites and packing facilities that meet well-defined biosecurity standards. The team also developed traceability testing requirements for participating States. In 2022, APHIS continued to provide policy, technical, and funding support for the pilot, and has initiated the rulemaking process to codify the program.

In 2022, APHIS tested 95,642 samples for pseudorabies virus (PRV) and swine brucellosis (SBR). Testing results received by September 30, 2022, confirmed that all commercial swine herds continue to be free from PRV and SBR, although these diseases continue to be found in non-commercial herds after exposure to feral swine. In 2022, all non-commercial herd tests that were positive for PRV and SBR were animals found through an alternate surveillance program, which targets higher-risk facilities and those that slaughter higher-risk swine. Complete 2022 herd data will be available in March 2023 after States complete investigations and data has been verified. In all test-positive cases, APHIS and States investigate and quarantine infected herds, conduct outbreak testing to determine herd disease levels, and depopulate or remove infected animals through a test-and-removal strategy to eliminate disease risk from these herds. These efforts protect commercial herds that may be exposed to infected backyard herds.

APHIS performed slightly fewer foreign animal disease (FAD) investigations in swine in 2022 compared to 2021, due to the COVID-19 pandemic and the focus on the highly pathogenic avian influenza outbreak. In 2022, APHIS performed 1,337 FAD investigations in swine, and all were negative. A total of 1,261 of the investigations were for vesicular diseases, such as foot-and-mouth disease (FMD), and 76 were for hemorrhagic fever. Swine hemorrhagic FAD investigations continued to increase significantly, particularly in Puerto Rico, due to the ASF outbreak in the Dominican Republic and Haiti.

APHIS continued an ASF/CSF combined hemorrhagic fever surveillance program in 2022, testing 23,783 samples at the NAHLN, and 6,129 CSF-only serum samples at the Agency's FADDL (82 percent from feral swine and 18 from high-risk domestic swine). CSF remains eradicated from the United States. On July 15, 2022, APHIS updated the *Swine Hemorrhagic Fevers: African and Classical Swine Fevers Integrated Surveillance Plan* to reflect program enhancements. The Agency developed the initial surveillance plan in 2019 to further its ASF preparedness efforts. These updates reflect additional measures implemented in 2022, particularly in light of the ASF outbreak in the DR and Haiti. The plan also includes updated case definitions, adds whole blood as an approved sample type, and clarifies information about data sources.

Swine can harbor several zoonotic disease agents, such as swine influenza (IAV-S) and SBR. In such cases, State public health and animal health officials conduct investigations, and request support from APHIS and the Centers for Disease Control and Prevention (CDC) when warranted. Joint animal health and public health investigations support the One-Health concept and strengthen APHIS' ability to respond when both animal and human health might be compromised. In 2022, State public health officials reported nine human variant influenza A cases in eight States (Georgia, Iowa, Michigan, North Carolina, Oklahoma, Oregon, West Virginia, and Wisconsin). Five of the nine individuals reported exposure to swine, and two did not know whether they were exposed to swine. State public health and animal health officials led the investigation of these outbreaks but did not request assistance from APHIS for any further assessments. Many States and local public health officials find information derived from whole genome sequencing helpful in their investigations. APHIS and ARS have established a program to help States and industry identify isolates from the swine associated with these outbreaks. In 2022, 505 IAV-S samples were entered into this program. States and industry enter genetic sequences from the samples tested in this program into GenBank, a publicly accessible genomic database that provides the scientific community with comprehensive DNA sequence information to support diagnostic test and vaccine development.

APHIS has the responsibility under the Swine Health Protection Act (SHPA) to license and inspect swine production facilities that feed cooked garbage to swine, and to conduct searches for unlicensed facilities that may illegally feed raw garbage to swine. In addition, the SHPA authorizes States to have primary enforcement responsibility, which provides authority to regulate the feeding of garbage to swine. If a State fails to meet the SHPA enforcement requirements, APHIS may assume the responsibility in the State. Feeding untreated or improperly treated garbage could transmit infectious diseases such as ASF, FMD, or CSF to swine. In 2022, seven States held enforcement responsibility and APHIS held enforcement responsibility for two States, Puerto Rico, and the U.S. Virgin Islands. The remaining 18 States that allow the feeding of cooked garbage to swine maintain a cooperative Federal/State enforcement program. In 2022, APHIS supported 2,110 inspections of licensed premises and 4,035 searches for non-licensed facilities. Through these searches, the Agency identified 14 non-licensed feeders. APHIS worked with States to either bring unlicensed facilities into compliance or force them to cease their illegal activities.

8. Veterinary Biologics

APHIS' Center for Veterinary Biologics (CVB) regulates veterinary biological products under the Virus-Serum-Toxin Act to ensure that these products are pure, safe, potent, and effective. Manufacturers develop these products, which include vaccines, bacterins, antisera, diagnostic test kits, and analogous products to prevent, diagnose, and

treat animal diseases in a wide variety of animal species. The CVB develops regulations concerning the production and licensing of veterinary biologics, evaluates pre-licensing dossiers and issuance of licenses and permits, tests products submitted for licensure, inspects facilities and products, approves product certifications, investigates non-compliance, and conducts post-marketing surveillance to ensure that manufacturers comply with all relevant regulations and policies. This comprehensive regulatory approach is the most effective way to ensure that only quality, federally licensed veterinary biological products are available to U.S. consumers and for U.S. export markets, and it plays an essential role in protecting animal health and agriculture.

From 2020 through 2022, the CVB hired 23 additional staff to better address current and changing industry needs. With the increased staffing, APHIS is helping to ensure an effective, efficient, and responsive veterinary biologics program that can provide timely approvals and availability of veterinary vaccines, diagnostics, and other novel biologics to protect animal and public health and enhance export opportunities for U.S. veterinary biologics companies. In 2022, the Agency needed an average of 523 workdays to issue a license for a veterinary biologic product. This represented a 32 percent increase from 2021's average of 397 workdays. The increased turnaround times can be attributable to retirements and vacancies in critical positions, training of new personnel, deployment of staff to respond to the highly pathogenic avian influenza outbreak, and the request by the biologics industry to extend the implementation period for single-tier product to April 2022.

Licensed Products and Inspections

APHIS licenses and inspects facilities to ensure that all veterinary biological products produced and distributed within, imported into, or exported from the United States are of the highest quality, and are not worthless, contaminated, dangerous, or harmful. Before the Agency began regulating these biologics, farmers and animal health officials found products to be ineffective or contaminated with harmful diseases, including foreign animal diseases. While most of the time required in the licensing process is in the control of the potential licensee in developing manufacturing processes and conducting required studies, the CVB analyzes data and conducts confirmatory testing before issuing licenses. To reduce the burden on the regulated industry, CVB has, over recent years, streamlined required information collection under specific circumstances and implemented electronic submissions for most required regulatory submissions.

All countries require import and export certificates to certify that products are prepared in accordance with the Virus-Serum-Toxin Act. In 2022, APHIS reviewed/processed 3,509 Certificates of Licensing and Inspection and reviewed/processed 1,921 export certificates for veterinary biological products. The Agency processed all export certificates within 4 days (the 2022 average was 1.5 days), and all certificates of licensing and inspection within 28 days (the 2022 average was 17.3 days). Timely processing helps ensure that markets are accessible for manufacturers who export their product. APHIS also helped ensure there were no foreign animal disease events related to the importation of more than 428 million doses of biological products, a 3 percent decrease from 2021, in the number of doses imported.

In 2022, APHIS received 85 applications for new and renewal licenses/permits and issued 18 licenses/permits for the prevention, diagnosis, management, or cure of existing or new/emerging animal diseases. This data depends on the biologics manufacturers and is outside CVB's control. The Agency licensed 86 manufacturers and permittees for 1,448 active product licenses/permits for the control of 278 animal diseases in 2022. These products are vital for protecting American agriculture, facilitating trade, and enhancing agricultural economic opportunities.

APHIS' National Centers for Animal Health (NCAH) Portal allows real-time communication and data exchange between APHIS and biologics manufacturers, reducing the time and costs for application review. In 2022, the Agency provided four new licensed firms with access to the NCAH Portal2. APHIS continued to enhance the Portal for more comprehensive electronic submissions and two-way data exchange. By the end of 2022, 94 percent of licensed firms and permittees were using the NCAH Portal. This resulted in CVB receiving 99 percent of marketing documents, 98 percent of biographical summaries, 91 percent of licensing correspondence, and 68 percent of inspection and compliance correspondence through the Portal. In 2022, the Portal received 87 percent of export certificates and 94 percent of facility documents. Import permits submitted electronically represented 99 percent of Research and Evaluation Permits, 100 percent of Transit Permits, and 54 percent of Sales and Distribution Permits. In total, CVB received 36,631 submissions from the Portal in 2022, as opposed to 37,321 in 2021. Overall, 92 percent of 2022 CVB submissions were received through the Portal.

Each year, APHIS inspects an average of 50 biologics facilities to assure compliance with regulations. Despite COVID-19 travel restrictions, this number increased in 2022. In addition to the innovative ways in which the CVB has been conducting inspections virtually to allow for timely oversight and approval of new and remodeled biologics

manufacturing facilities due to COVID-19, the Center also resumed on-site inspections. In 2022, APHIS conducted 68 inspections, of which 59 were on-site and 9 were virtual.

In 2022, APHIS continued implementing the single-tier labeling rule, which changes the efficacy descriptions for veterinary biologics to a single, uniform label claim. This simpler format better communicates product performance, saves time and money for the manufacturer, and aligns U.S. labeling with international markets. In addition, APHIS clearly defined policy to allow the use of platform and prescription vaccines. These policies allow stakeholders to quickly change vaccines to match emerging and changing pathogen threats with very limited risk to people, animals, or the environment. In 2022, the COVID-19 pandemic continued to cause unexpected supply chain issues related to accessing vials, containers, cartons, and labeling materials used for labeling final biologics products. Because of these delays, the CVB granted a request by manufacturers to extend the use of currently approved labels through April 30, 2023.

APHIS continued to implement a Virus-Serum-Toxin Act regulation in 2022, requiring all veterinary biologics licensees and permittees to submit reports to the CVB concerning adverse events associated with the use of biological products they produce or distribute domestically and internationally. An adverse event is any illness, reaction, or other undesirable occurrence after the use of an immunobiological product, whether the product caused the event. For diagnostics products, adverse events include anything that hinders the discovery of the correct diagnosis. Adverse event reports are a vital component of CVB's mission to ensure that veterinary biologics, including those marketed internationally, comply with regulations. In 2022, CVB continued working to improve the quality of data submitted by manufacturers. In response to the mandatory reporting requirement, CVB received 68,213 adverse event reports in 2022. This represented a 58 percent increase from the 43,092 that CVB received in 2021. APHIS also performed 201 regulatory actions, issued 30 violation notices, and conducted 16 investigations of possible violations. More than 99 percent of the unlicensed entities investigated either moved toward product licensure or ceased the objectionable activity.

Collaborative Efforts

APHIS promotes U.S. policy for the oversight of biologics as a regulatory model for both established and developing markets, and it improves the worldwide marketability of USDA-licensed biologics. The Agency participated in harmonization efforts with major trading partners including Japan and the European Union through the International Cooperation on Harmonization of Technical Requirements for Registration of Veterinary Medicinal Products. Additionally, CVB participates in the Veterinary International Conference on Harmonization's (VICH) Outreach Forum. This forum promotes the use of VICH harmonized guidelines in countries with developing regulatory systems for veterinary medicinal products. To further improve the marketability of USDA-licensed biologics in overseas markets, CVB worked with the industry to create and issue an Inspection Certificate program which provides Good Manufacturing Practices certificates that align with regulatory authorities and facilitate the marketing of U.S. prepared products in the international arena. In 2022, APHIS provided expertise and training at a joint Institute for International Cooperation in Animal Biologics education program. This program was made available through in-person and virtual sessions to educate domestic and international industry personnel and foreign officials on U.S. regulatory processes. The program promotes U.S. policy as a regulatory model for both established and developing markets, and it improves worldwide marketability of USDA-licensed biologics.

9. Veterinary Diagnostics

Laboratory and diagnostic services are essential components of the U.S. animal health infrastructure. The Veterinary Diagnostics line item provides partial funding for the National Veterinary Services Laboratories (NVSL), which consists of laboratories in Ames, Iowa and Plum Island, New York. The NVSL is recognized by the World Organisation for Animal Health (WOAH) and the Food and Agriculture Organization as an international reference laboratory for significant animal diseases, such as highly pathogenic avian influenza, foot-and-mouth disease (FMD), and rinderpest. In 2022, the WOAH accepted new NVSL Reference Laboratory experts for swine influenza, vesicular stomatitis, and contagious equine metritis. Additionally, WOAH accepted NVSL's request to add three new WOAH Reference Laboratories for African swine fever (ASF), chronic wasting disease, and mammalian tuberculosis. NVSL currently maintains WOAH reference laboratory status for 14 diseases of veterinary significance. NVSL provides diagnostic test services ranging from a single laboratory test to comprehensive services covering many pathogens for suspected outbreaks of domestic and foreign animal diseases (FADs). The Veterinary Diagnostics line item also supports the National Animal Health Laboratory Network (NAHLN), which is an animal disease surveillance and monitoring system that interconnects Federal and State laboratory resources to improve the security of the nation's livestock by providing disease diagnostics both daily and at increased levels during outbreaks. In addition, this line item supports efforts to stand up the National Bio and Agro-Defense Facility

(NBAF) in Kansas which will help protect the nation's agriculture, farmers, and citizens against the threat and potential impact of serious FADs. NBAF will replace the Plum Island Animal Disease Center (PIADC). The diagnostic testing funded by this line item can rapidly confirm the presence or absence of a particular animal disease and promptly provide decision makers with vital information that could have significant trade impacts and prevent or mitigate the spread of devastating animal diseases.

National Veterinary Services Laboratories

Diagnostic testing and confirmation of surveillance samples improves the security of the nation's livestock. NVSL is often on the forefront of emerging and re-emerging diseases of concern including ASF, virulent Newcastle disease virus, tilapia lake virus, infectious hypodermal and hematopoietic necrosis virus, Senecavirus A (SVA), bluetongue, vesicular stomatitis virus, and rabbit hemorrhagic disease virus. In 2022, NVSL managed more than 264,511 diagnostic tests and approximately 41,073 accessions (one or more diagnostic samples received from the same submitter on the same day). In 2022, NVSL maintained a web-based portal for entering sample information to minimize the manual re-entry of this information. The laboratories produced and shipped more than 99,000 reagent order items representing approximately 550 types of products. Many of these products are only available to stakeholders through APHIS. In 2022, NVSL continued implementing a new laboratory inventory system called DARBI (Diagnostic and Research Biomaterial Inventory) that is being used during the sequestration of biological materials from PIADC to NBAF, with eventual use at NVSL as part of a new Laboratory Information Management System (LIMS). The initial phase of the LIMS project will focus on the collection of fees for requested testing, sample processing, reporting, and developing workflows for PCR (polymerase chain reaction) and ELISA (Enzyme-linked immunosorbent assay) tests. A PCR test is used to detect the genetic material of infectious agents, while an ELISA test can be used to detect antibodies and other proteins in the blood. APHIS expects that this new system will improve efficiency.

In 2022, NVSL supported international capacity building and collaborative activities in Argentina, Brazil, Bulgaria, Canada, Chile, Costa Rica, the Dominican Republic, Ecuador, El Salvador, the Republic of Gambia, Germany, Guatemala, Haiti, Honduras, Ireland, Jamaica, Korea, Latvia, Mexico, Pakistan, Panama, Poland, Romania, Scotland, Singapore, Switzerland, the United Kingdom, and Venezuela. In 2022, NVSL's Foreign Animal Disease Diagnostic Laboratory (FADDL) supported three FAD diagnostician refresher training courses involving State and Federal participants, including military veterinarians; other in-person scheduled courses at the PIADC were postponed due to COVID-19. In collaboration with the Canadian Food Inspection Agency (CFIA), APHIS worked on a strategy to improve and harmonize available diagnostic methods to enhance North American ASF preparedness.

In 2022, NVSL tested 15,470 samples for 3,002 FAD accessions across 45 States and territories. Since 2014, APHIS has experienced a significant increase in FAD investigations, largely due to the emergence of SVA, a non-fatal infectious disease of pigs reported across the United States and Canada, as well as in Australia, Brazil, and New Zealand. Because the clinical signs are highly similar to those caused by FMD, APHIS must diagnose each case to exclude FMD. Testing all samples at FADDL for FMD and SVA is time consuming, resource intensive, and decreases FADDL's ability to develop new assays or perform other testing. The NAHLN serves as a resource to enable moving high-volume testing with confidence. In this case, SVA and FMD PCR results (if negative for FMD) from NAHLN laboratories can be considered final and actionable for the field. NAHLN laboratories continue to submit duplicate samples from all cases to FADDL which retested 5 percent for quality assurance. The use of an FMD/SVA multiplex assay in the NAHLN laboratories that facilitates simultaneous testing for both diseases from a single sample has saved time, money, and resources.

The Agency conducts proficiency testing of Federal, State, and university-sponsored laboratories when these laboratories perform authorized diagnostic testing as part of APHIS-approved surveillance and/or response programs. This is done to ensure that they use standardized, rapid diagnostic techniques and to maintain the credibility of U.S. diagnostic test results in the international marketplace. In 2022, APHIS made 32 types of proficiency panels available to international, Federal, State, and private laboratories, both within and outside the NAHLN network. APHIS made the necessary controls and reference strains available for approximately 200 diseases to help other laboratories develop and validate diagnostic tests. User fees cover the cost of some reagents and proficiency panels. In 2022, NVSL finalized the Salmonella Group D proficiency test (PT), and distributed results for the PT in late 2021. NVSL also developed a new Salmonella Group D structure to improve structure, reduce cost, and increase ease of grading in 2022 based on customer feedback. In January 2022, NVSL completed and administered the Caprine Scrapie Susceptibility Genotyping PT for the first time. NVSL developed the new PT in response to increased industry need for laboratories to be approved in testing for certain goat diseases. As a result of this PT, diagnostic testing has been streamlined based on sample numbers and timing of testing.

NVSL continues to encourage the development of collaborative and other projects to advance NVSL's expertise. Currently, NVSL personnel have collaborative projects with other Federal agencies such as the Agricultural Research Service (ARS) and the Centers for Disease Control and Prevention; State governments such as the Michigan Department of Agriculture and the Texas Animal Health Commission; universities nationwide; and international laboratories such as the CFIA and WOAH reference laboratories in Brazil and the Netherlands. These projects have resulted in new epidemiologic insights and improved diagnostic capabilities.

National Animal Health Laboratory Network

The Veterinary Diagnostics program also supports the NAHLN, which serves as a vital early warning system for foreign and emerging animal diseases. This support includes limited infrastructure in NAHLN laboratories; NAHLN program staff; the APHIS Laboratory Portal, which provides a secure means of communication for NAHLN laboratories and proficiency test management for NAHLN and non-NAHLN APHIS-approved laboratories; personnel to provide information management system support for electronic messaging; and online quality management training the NAHLN laboratories use to maintain qualifications for participating in the network. In 2022, the NAHLN celebrated 20 years of safeguarding animal health. NVSL trains NAHLN laboratory personnel to ensure proficiency and standardization for performing diagnostic tests. As of September 30, 2022, the NAHLN consisted of 59 State, Federal, and university veterinary diagnostic laboratories in 42 States. These laboratories work with the NVSL reference laboratories to test for 14 economically devastating and/or FADs and potential zoonotic diseases. These include FMD, influenza in avian and swine species, bovine spongiform encephalopathy, ASF, and classical swine fever (CSF). In 2022, network laboratories performed approximately 340,000 diagnostic tests, an increase of 80,000 tests, to support APHIS' animal health surveillance and response programs for NAHLN scope diseases, including the NAHLN ASF/CSF active surveillance. NAHLN program staff conduct exercises to prepare participating laboratories for animal disease outbreak scenarios and enable them to remain proficient in animal disease testing. It also enables them to generate rapid, local preliminary diagnostic results while NVSL performs confirmatory testing.

APHIS has established various communication mechanisms to enable NAHLN program staff to efficiently exchange information between and among member laboratories and State and Federal officials. One method for gathering input on the network's function includes the NAHLN Coordinating Council, which consists of NAHLN laboratory directors, State animal health officials, and officials from APHIS and the National Institute of Food and Agriculture. A laboratory designation system reflects different capability levels for surveillance, preparedness, and emergency response preparation. NAHLN laboratories designated as Level-1, -2, or -3 receive infrastructure support from USDA, and conduct fee-for-service testing for the USDA. The Council approved 32 Level-1 laboratories including 9 branch laboratories, 22 Level-2 laboratories including 2 branch laboratories, 4 Level-3 laboratories, and 1 Federal Affiliate laboratory. The NAHLN Coordinating Council continued to maintain electronic messaging as a priority in the laboratory assessments for designation. Overall, 56 laboratories were capable of messaging results for approved NAHLN assays in 2022, and APHIS projects that number will increase to 59 laboratories in 2023.

As of September 30, 2022, 30 NAHLN laboratories report they are capable of testing for SARS-CoV-2, and 7 report they are capable of testing human samples. The number of NAHLN laboratories capable of testing for SARS-CoV-2 can fluctuate since laboratories must be certified to test human specimens and may decide not to maintain this certification. NAHLN laboratories test only at the direction of the State animal and public health authorities and submit any presumptive positive animal samples to NVSL for confirmation.

African Swine Fever Diagnostic Preparedness

APHIS continues to expand its rapid detection capability to maintain a timely, effective response and build surge capacity in case of an ASF outbreak. APHIS engaged in collaborative efforts at FADDL and across the NAHLN to strengthen ASF diagnostic preparedness. To enhance capacity in the NAHLN, FADDL provided proficiency testing to NAHLN laboratories, expanding its ASF testing capacity in 2022 from 48 to 49 approved laboratories. APHIS also added 2 laboratories for a total of 12 NAHLN laboratories performing ASF/CSF active surveillance. NAHLN is collaborating with FADDL on plans to deploy an ASF serological assay to NAHLN laboratories. APHIS has completed a standard operating procedure for distribution and a study using a commercial serologic assay kit that has been initiated in two NAHLN laboratories. FADDL developed a PCR multiplex in 2022 to be deployed to the active ASF/CSF surveillance laboratories in 2023. The NAHLN Methods Technical Working Group evaluated a company's ASF PCR reagents that were recently licensed for use in the United States and recommended to use this kit if needed for outbreak testing with appropriate deviation, and the NAHLN is working with vendors to maintain needed inventory and consider stockpiling or rolling inventory options. In addition, APHIS approved spleen and

blood swabs as well as blood cards as additional sample types. This will streamline both sample collection in the field and sample processing time in the laboratory. APHIS determined that these samples will be recommended for use in NAHLN laboratories during an outbreak to increase capacity and high throughput testing and can be used in FAD investigations for ASF testing if samples approved for CSF testing are also submitted. Also in 2022, NAHLN worked with APHIS' Center for Epidemiology and Animal Health modeling team to complete a project estimating laboratory testing expectations during an ASF outbreak. APHIS is using this information to help define the capability and capacity needs as we prepare to respond to a potential ASF outbreak. The Agency continues to develop strategies to use oral fluids to achieve early and rapid detection of positive cases.

National Bio and Agro-Defense Facility

In 2022, APHIS continued to work with the Department of Homeland Security (DHS) and ARS to plan for the move from the PIADC in New York to the state-of-the-art NBAF in Kansas. In addition, USDA and DHS continued planning for the transfer of NBAF management and oversight from DHS to USDA. PIADC, home to FADDL, is the only U.S. laboratory that is permitted to work with virulent FMD virus and hold rinderpest virus. In addition, FADDL is the custodian of the North American FMD Vaccine Bank and now manages the U.S. National Animal Vaccine and Veterinary Countermeasures Bank, as outlined in the 2018 Farm Bill. NBAF will be a key national asset to protect the U.S. animal agriculture industry and the first and only U.S. facility with large animal Biosafety Level-4 (BSL-4) containment capability. In 2023, NBAF ownership will transfer to ARS, with both ARS and APHIS having responsibilities on operational aspects of the facility and for their own science programs. The mission transfer from PIADC is planned to be completed in 2025.

In 2022, APHIS and ARS continued to develop a workforce of subject matter experts in foreign, emerging, and zoonotic diseases to conduct diagnostics in preparation for the NBAF transition. Workforce development is critical, given the significant loss of expertise expected during the transition and the need to transfer FAD diagnostic institutional knowledge to the NBAF. While USDA can train diagnosticians to perform specific tests, interpreting unclear results and troubleshooting diagnostic assays when they do not perform properly requires a high level of experience. Additionally, APHIS anticipated a potentially significant expertise gap, particularly during the first 5 to 10 years of operations at NBAF, based on the time required to develop expertise in this area. To address this possible workforce gap, APHIS is continuing the NBAF Scientist Training Program to meet the needs for subject matter experts in foreign animal and zoonotic diseases. Through this workforce development program, USDA is developing personnel to fill NBAF positions through continued service agreements. This program is critical because subject matter expertise and international recognition in FAD diagnostics take years to develop, yet not all the current FADDL workforce with that expertise is expected to relocate to NBAF. This development program will help preserve and transfer the U.S. FAD diagnostic institutional knowledge to NBAF. By the end of 2022, the program had accepted 24 fellows from 14 universities nationwide: there are currently 13 fellows enrolled including 3 fellows with a Doctor of Veterinary Medicine (DVM)/PhD and 10 fellows with a PhD. Furthermore, 11 fellows (5 DVM/PhD fellows, 4 PhD, 2 MS) have successfully graduated and joined the Federal workforce at FADDL. APHIS also supported the NBAF Laboratorian Training Program (NLTP) to train future NBAF laboratory technicians. As of the end of 2022, 39 students had completed the NLTP. In 2022, APHIS partnered with Texas Tech University to expand the NLTP partnership to include basic laboratory techniques and animal handling. Planning is underway to extend the program to include Historically Black Colleges and Universities. Besides Texas Tech University, students in this program are coming from multiple Hispanic-Serving Institutions including the University of Wyoming, Berry College, Auburn University, Tarleton State University, Sam Houston State University, and Midwestern State University.

In addition, NVSL established collaborations with international partners in countries that have endemic high-consequence transboundary animal and zoonotic disease threats to mitigate the possibility that these diseases will cross over to other countries, particularly the United States. These collaborations included the Global Partnership for Animal and Zoonotic Disease Surveillance with nine partner laboratories in seven countries, with plans to expand; regional genomic ASF surveillance in West Africa in partnership with African Center of Excellence for Genomics of Infectious Diseases; a research Alliance for Veterinary Science and Biodefense BSL-3 Network (RAV3N) coordinated by Texas A&M University involving 18 U.S. BSL-3 and BSL-4 laboratories jointly funded with ARS; and a NAHLN-NBAF Partnership to develop a regional NAHLN laboratory approach to enhance NBAF and NAHLN agro-defense capabilities.

APHIS prioritized certain science positions for hiring before 2022. Most of these positions are training on FADDL-specific assay protocols and instrumentation systems at PIADC, before transitioning to NBAF. APHIS is placing the remaining positions at NBAF, since they are critical to developing standard operating procedures, ordering equipment and supplies, developing the International Organization for Standardization (ISO) accreditation

paperwork, and helping with the select agent registration process. The overarching responsibilities of all priority hires include the validation of the space for workflows and laboratory practices for both select agent registration and ISO 17025 accreditation, as well as proficiency in the required equipment care, use, and calibration to meet ISO accreditation and biosafety standards.

10. Zoonotic Disease Management

"One Health" is a collaborative, multisectoral, and trans-disciplinary approach—working at the local, regional, national, and global levels—with the goal to achieve optimal health outcomes while recognizing the interconnection between people, animals, plants, and their shared environment. The Zoonotic Disease Management Program enhances State, national, and international collaborative efforts to promote healthy animals, people, and ecosystems by addressing zoonotic diseases (those that pass between animals and people) and other relevant One Health issues.

According to the U.S. Centers for Disease Control and Prevention (CDC) and the World Organisation for Animal Health (WOAH), 60 percent of human pathogens are zoonotic, and 75 percent of emerging diseases are zoonotic (including Ebola, Zika, MERS, and SARS). Most zoonotic diseases originate from animal reservoirs. APHIS leads the national effort to address the animal health component of the One Health approach. The Agency contributes animal health expertise, infrastructure, and networks in combination with those of human and environmental health to provide holistic solutions to complex One Health problems. The Agency collaborates with industry and State partners to develop strategies, policies, and training to help stakeholders effectively engage with public health counterparts, provide guidance, facilitate information exchange, and enhance responses to One Health issues. By enhancing APHIS' efforts to address the animal health component of One Health, the program protects public health and improves animal health and marketability. Additionally, APHIS coordinates and reports USDA's international efforts related to implementation of the Global Health Security Agenda (GHSA), a partnership of over 70 nations, international organization, and non-governmental stakeholders to minimize the threat of infectious diseases on the world stage. APHIS coordinates GHSA reporting on zoonotic disease, antimicrobial resistance, biosafety and biosecurity, national laboratory systems, and real time disease surveillance, ensuring interagency collaboration and communication with relevant agencies and stakeholders, both international and domestic.

Zoonotic Disease and One Health Engagement, Investigation, and Response

In 2022, APHIS continued work on the Bovine Tuberculosis (TB) Initiative. This initiative is composed of five separate projects that address the challenges of bovine TB being introduced to U.S. national livestock herds from outside sources. This work, led by APHIS, includes clinical trials to test the efficacy of TB vaccines in cattle and deer, evaluation of new TB diagnostic tests, an in-depth epidemiological analysis of affected herd investigations, and an acquisition of TB samples from other countries. In collaboration with public health partners focused on the zoonotic aspects of TB, this work is set to address critical gaps in slaughter surveillance. In 2022, APHIS enrolled and vaccinated over 1,400 calves across four dairies in a vaccine study in Baja California, Mexico. APHIS will continue these vaccination efforts with the goal of enrolling and vaccinating 6,000 calves. APHIS established agreements with the four dairies to share production and health data to evaluate the effectiveness of vaccination. In 2022, APHIS began evaluating a test that will distinguish between vaccinated and unvaccinated animals and has the potential to increase specificity over the current blood test. Additionally, APHIS focused on adding isolates from Central America to the World M. bovis Genome Database by adding isolates from Honduras, Costa Rica, and Guatemala. APHIS also assisted in the vaccination of free-ranging deer in Michigan to reduce the incidence of TB. APHIS worked with USDA's Agricultural Research Service (ARS) to develop an effective bait-based delivery system for use in free-ranging white-tailed deer. APHIS and ARS are currently working stabilize the vaccine and to provide a carrier to incorporate into field deployable baits.

Antimicrobial Resistance

Antimicrobial resistance (AMR) is the ability of a microbe to resist the effects of medication previously used to treat them. To combat AMR, APHIS uses a One Health approach involving multidisciplinary coordination from public health and animal health sectors, and private sector organizations and stakeholders. APHIS works with its State, Federal, and industry partners to promote the judicious use of antimicrobials, which supports a strong, healthy, and thriving U.S. animal agriculture system as well as public health. Additionally, APHIS collaborates with State Departments of Agriculture, diagnostic laboratories, and public health officials to address AMR infections in humans when an animal component is suspected.

In 2022, APHIS hosted a virtual meeting on antimicrobial resistance with over 400 attendees from various Federal, State, industry groups. The meeting was a launching point for the Department to reevaluate the current USDA

Antimicrobial Resistance Action Plan. APHIS continues to participate in discussions about the future of antimicrobial resistance activities across the Department, including efforts to develop practical mitigation strategies to reduce AMR prevalence in human and animal health. These strategies cover a variety of efforts including AMR monitoring at the farm level, collection of antimicrobial drug use data, and efforts to promote stewardship of antimicrobial drugs by animal owners and veterinarians. In 2022, APHIS completed a study designed to provide a snapshot of current feedlot cattle health management practices, including antimicrobial use and stewardship. The information collected allows the Agency to analyze trends in specific topics related to cattle health, based on previous feedlot studies. Additionally, APHIS launched a national study focusing on ranched bison health and management. This study will be completed in 2023. APHIS also continued investigating antimicrobial use and resistance trends in swine and poultry through collaborative projects.

APHIS continued a public-private partnership with Pipestone Veterinary Services to collect and analyze samples from pigs and the environment, along with antimicrobial use monitoring on swine farms. In 2022, APHIS conducted a cooperative agreement with the National Institute of Antimicrobial Resistance Research and Education to evaluate data security options for the development of an antimicrobial resistance dashboard, including gathering stakeholder input. APHIS also started a new cooperative agreement with the New York Farm Viability Institute to evaluate how to change human behavior on dairy farms related to antimicrobial stewardship.

APHIS continued to engage with the Food and Drug Administration (FDA)-Center for Veterinary Medicine on their approach to measure the use of antimicrobial drugs in food producing animals. APHIS also reported progress updates to partner agencies on activities associated with the National Action Plan for Combating Antimicrobial Resistance. In 2022, APHIS continued to participate on the Presidential Advisory Council for Combating Antibiotic Resistant Bacteria, including participating in a Working Group on linking antimicrobial resistance activities to pandemic preparedness. APHIS also presented information on our antimicrobial resistance activities at several events including webinars hosted by the Farm Foundation, ARS, and the National Institute for Animal Agriculture's Annual Antibiotics Symposium.

In 2022, APHIS completed the fifth year of a pilot project for collecting antimicrobial susceptibility data from veterinary diagnostic laboratories. This project is now transitioning to a long-term antimicrobial resistance monitoring program. An interactive dashboard summarizing the results from the entire program was published on the National Animal Health Laboratory Network website. This dashboard provides near-real time data on susceptibility test results from 6 animal species and 8 bacterial pathogens. Susceptibility testing data from over 3,500 isolates and whole genome sequencing data from over 500 isolates were collected by the project. Progress on this effort is reported quarterly as a USDA Agency Priority Goal for 2022 and 2023 online: https://www.performance.gov/agencies/USDA/apg/goal-1/.

In 2022, APHIS continued to study 17 common *Salmonella* serotypes across all major animal groups, which incorporated antimicrobial susceptibility testing. APHIS published two scientific articles on the prevalence and resistance profiles of fecal *Salmonella* and *Campylobacter* for goat operations in the U.S., as well as the prevalence and resistance profiles of fecal *Salmonella* and *E. coli* on equine operations. APHIS also worked closely with the CDC to investigate human outbreaks of drug resistant bacterial organisms stemming from animal origins. APHIS continues to be involved with the National Antimicrobial Resistance Monitoring System (NARMS), participating in a virtual public meeting highlighting the new strategic plan. In 2022, APHIS investigated antimicrobial genes in *Salmonella* isolates submitted for serotyping from 2014-2017. Information from historical isolates can serve as a useful comparison to recent observations. This investigation uncovered the emergence of a multidrug resistant clone in multiple animal species. Additionally, APHIS tested 7,943 goat sera samples for *Coxiella burnetti* antibodies. The results indicated an overall prevalence of 11.6 percent in domestic goats and a herd prevalence of 21 percent in the United States.

APHIS participated in several international AMR activities in 2022. APHIS, along with FDA, submitted a report on U.S. antibiotic use in animal agriculture to the WOAH Global Database on Antimicrobial Agents Intended for Use in Animals in compliance with the international standards. APHIS reinvigorated the Animal Health Antimicrobial Resistance Network, meeting bi-monthly with the United Kingdom, New Zealand, Australia, and Canada, to share information about antimicrobial resistance. APHIS continues to participate in the Transatlantic Taskforce on Antimicrobial Resistance. APHIS presented to Pakistan about the U.S. approach to collecting antimicrobial use data through a voluntary approach with producers. APHIS continues to review AMR-related statements and positions that stakeholders and other governmental and nongovernmental agencies promulgate that may have implications for animal agriculture. For example, APHIS continues to monitor European Union (EU) legislation related to antimicrobial use in animal agriculture, and potential implications for exporting animals and animal products to the EU.

One Health and Pandemic Disease Preparedness

APHIS continues to coordinate with cross sector partners to develop and implement national and international One Health strategies and strengthen our emergency response capacities to ensure a quick response to zoonotic diseases. In 2022, APHIS continued to participate in several multisectoral groups that emphasize the mission of One Health, including the Interagency Foodborne Outbreak Response Collaboration (IFORC). IFORC develops and coordinates Federal best practices for detection of foodborne outbreaks and interagency and public health communication strategies and processes. Additionally, APHIS continues to participate in the North American Plan for Animal and Pandemic Influenza Health Security working group. This group exchanges information on animal and human health sector responses to SARS-CoV-2, include modeling, detection, diagnostic information and healthcare capacity and capability data. In 2022, APHIS shared animal health information with the CDC on monkeypox, Japanese encephalitis virus, and highly pathogenic avian influenza.

APHIS continues to use its position as a coordination leader on the national effort to address the animal health component of One Health during the COVID-19 pandemic. In 2022, APHIS tested 182 animals for SARS-CoV-2 representing 14 species across 47 states, including the District of Columbia and Puerto Rico. Test results were reported to the WOAH as positive detections were identified, contributing to international knowledge of SARS-CoV-2 infections in animals. APHIS subject matter experts continue to provide consultation and guidance to State animal and public health agencies on decisions and testing of animal for SARS-CoV-2.

Selected Examples of Recent Progress - Plant Health:

1. Agricultural Quarantine Inspection

APHIS and the Department of Homeland Security's (DHS) Customs and Border Protection (CBP) safeguard U.S. agricultural and natural resources from the introduction of invasive pests and diseases through the Agricultural Quarantine Inspection (AQI) program. APHIS assesses the risks associated with international trade and specific imported agricultural products and develops import regulations to exclude foreign pests and diseases and protect U.S. agriculture. In addition, the Agency conducts off-shore pest risk reduction activities including foreign commodity pre-clearance programs; trains agricultural inspectors and detector dog teams to work at U.S. ports of entry; inspects and takes action as necessary on imported plant propagative materials; monitors the fumigation of arriving containers and cargo to mitigate pest risks; conducts trade compliance activities to detect violations of APHIS' import regulations and prevent smuggling; and provides the scientific support necessary to carry out these activities and those carried out by CBP, including, among other things, the authoritative and timely identification of pests necessary to determine whether regulatory actions on imported products are required.

APHIS collects AQI user fees under the authority of The Food, Agriculture, Conservation, and Trade Act of 1990, to recover costs for services provided by APHIS and CBP associated with preclearance inspections of passengers and the port-of-entry arrival of commercial vessels, trucks, loaded railroad cars, aircraft, and passengers entering the United States from a foreign destination. In 2022, AQI user fee collections increased over the previous year as travel restrictions and requirements associated with COVID-19 were lifted or eased in many countries, including the United States. However, collections were still approximately 25 percent lower than in 2019, the last full fiscal year prior to the pandemic. To ensure that the program could continue operations to prevent the entry of foreign pests and diseases, the 2022 Appropriations Act, Consolidated, provided $250 million for the AQI program. APHIS inspectors oversee the preclearance of certain commodities by inspecting shipments for export in the country of origin, monitoring treatments where required, or by monitoring systems approaches for pest mitigation (a combination of integrated pest management practices used in the field and after harvest). In most cases, exporters of the pre-cleared commodity cover the costs of this APHIS service through trust funds established for this purpose.

APHIS also receives appropriated funding for pre-departure inspections of passengers and cargo traveling from Hawaii and Puerto Rico to the continental United States to prevent the introduction of non-native agricultural pests and diseases into the continental United States while facilitating the movement of travelers and agricultural goods. APHIS inspects all passenger baggage leaving these islands because of the risks associated with pests of fruits and vegetables grown in these areas. When inspectors identify an item that poses a specific risk, they take immediate action to prevent the entry of materials that could harbor the pest or disease in question. This action prevents damage to the country's agricultural industry and negates the need for cost control and eradication programs. APHIS also partners with industry groups and State and Commonwealth counterparts to facilitate the safe movement of cargo. In Hawaii, the State Department of Agriculture conducts nursery inspections and certifies nursery stock on APHIS' behalf for shipment to the continental United States.

Cooperative Program Management

APHIS works with CBP to protect America's agricultural resources and food supply by inspecting international passenger baggage, cargo, and conveyances. APHIS and CBP share management of the program through working groups and daily collaboration. Senior leadership of both Agencies meet frequently to develop joint plans and coordinate efforts in priority areas, ensure clear and balanced decision-making, streamline effective outreach and communication, and improve organizational structure and leadership to support the shared work in the agriculture safeguarding mission. In 2022, APHIS trained 273 new CBP agriculture specialists, conducted basic agricultural threat training for 1,728 first-line CBP officers, provided agriculture fundamentals training for 24 CBP import specialists, and provided advanced agricultural training support for the Trade and Cargo Academy for 72 CBP officers. In addition, APHIS provided training support to CBP Agriculture Specialists who delivered military cooperator inspector training to certify 335 Department of Defense (DOD) cooperators who perform agriculture quarantine inspections in mainland U.S. military installations. These cooperators prevent the entry of agricultural pests and diseases associated with military equipment and/or personnel returning from overseas military installations to the United States. Additionally, APHIS trained 63 canine teams and 20 agriculture field trainers for CBP.

Pre-Clearance and Offshore Risk Reduction

One of the most effective ways to facilitate the safe movement of commodities into the United States is to address pest threats where they originate. In 2022, APHIS precleared 2.82 billion pounds of 74 different fresh fruits and vegetables from 19 countries before they arrived in the United States. Additionally, APHIS inspected 2.04 billion pounds of avocados in Mexico as a part of a systems approach to facilitate safe trade. APHIS has overseen this program since 1997, and the program accounts for about 87 percent of avocado imports to the United States. APHIS also precleared 2.2 million pounds of cut flowers, bulbs, and perennials from Chile and 1.1 billion bulbs and perennials from the Netherlands, United Kingdom, Belgium, and South Africa. There were two pest interceptions detected at the U.S. ports of entry. APHIS immediately conducted traceback investigations in the country of origin and strengthened safeguarding measures to prevent a recurrence. This offshore work, which importers fully fund, allows inspected and precleared perishable products to enter through the U.S. ports of entry without delay.

APHIS conducts certain inspections and certifications overseas to verify that treatment or production facilities meet our standards and regulatory requirements to help protect U.S. plant health from pests that could move into the United States with high-demand, large-volume commodity imports. In 2022, APHIS certified a total of 15 new treatment facilities - two new irradiation facilities (India, Vietnam), five new hot water treatment facilities (Peru, Chile, Ecuador), eight new fumigation treatment facilities (Chile) - and certified upgrades to six previously certified hot water treatment facilities. In total, APHIS monitored 282 treatment facilities in 17 countries, including seven irradiation, three cold treatment, 127 fumigation, 141 hot water treatment, two Niger seed facilities, and two soapy water and wax facilities. The majority of these treatment facilities are part of the preclearance programs.

Through audit-based monitoring programs, APHIS oversees almost 90 commodity programs that mitigate pests before they reach U.S. ports. Of these, 12 programs require annual audits of all or a portion of their facilities. APHIS completed 50 audits and recertifications, including 16 *Ralstonia* exclusion program facilities for annual geraniums, seven offshore greenhouse certification program facilities, and 16 clean stock program facilities for dracaena (a genus that includes many popular houseplants). These three programs alone allowed for the safe import of 702 million propagative plant units with a wholesale worth of $188 million.

To help the U.S. military prevent the spread of foreign animal diseases and plant pests, APHIS worked with the U.S. Department of Defense in the first three-quarters of 2022 to inspect 21,190 shipments of personal goods, 1,376,773 pieces of military cargo, and 5,464 personal vehicles (POVs) before they returned stateside. APHIS completed annual evaluations and recertifications of 109 military preclearance programs in 18 countries in Europe and Africa, ensuring that these programs meet all administrative, programmatic, and safeguarding requirements. APHIS trained 109 military service members to manage these programs locally in Europe and Africa.

Defoliating moth species from Asia, or the flighted spongy moth complex, formerly referred to as the Asian gypsy moth (AGM) species complex (made up of five *Lymantria* species), present an existential threat to U.S. forests. These moths can lay their eggs on the superstructure of maritime vessels, posing a threat of spreading the pest into new territories. In partnership with CBP, APHIS coordinated the inspection in 2022 of approximately 4,900 vessels that had visited high-risk ports within in the last 24 months. Vessels can request a predeparture AGM inspection certificate from 28 national plant protection organization (NPPO)-accredited certification bodies in high-risk countries, including Russia, China, Korea, or Japan. APHIS coordinates on the standard for these inspections with

its counterparts in Canada, Australia, New Zealand, and Chile. CBP reports at least 3,832 (79%) of inspected vessels presented these certificates at U.S. ports of entry. Around 4 percent of ships without a predeparture AGM inspection certificate had suspect AGM compared with 0.4 percent for ships with certificates.

APHIS also helps keep plant pests and diseases offshore with cooperative programs like the Greater Caribbean Safeguarding Initiative (GCSI), the Don't Pack a Pest Program (DPAP), and the PestLens website and early warning system. The GCSI is a cooperative framework of 42 NPPOs in the Caribbean region that funded 9 safeguarding projects to mitigate pest risk near U.S. borders in 2022. The DPAP provides traveler education materials in participating countries to stop the introduction of pests and diseases in personal baggage. APHIS added a tenth DPAP program this year and continues to work with 17 NPPO partners to develop programs in their countries. Finally, in cooperation with North Carolina State University, APHIS provided 39 pest alert notifications to more than three thousand registered users of PestLens, including 150 new pest-related articles, and added 119 new pests to the Global Pest and Disease Database. These systems serve as a resource for APHIS and other plant health regulatory officials that conduct plant health risk assessments and develop inspection policies for imported goods, among other things.

Pre-Departure Inspections

APHIS inspected the baggage of more than 14.4 million passengers prior to departing Hawaii and Puerto Rico and intercepted approximately 292,698 prohibited items and 4,834 quarantine-significant pests in 2022. APHIS conducts commodity certification and inspection programs to facilitate interstate trade between Hawaii, Puerto Rico, and the continental United States. In 2022, the program conducted 48,548 inspections of regulated agricultural commodities shipped from Hawaii and Puerto Rico. In addition, the program oversaw or conducted 6,779 cargo treatments in Hawaii and Puerto Rico.

CBP Facilitated Port-of-Entry Inspections

In 2022, approximately 314 million passengers and pedestrians entered the United States by air, bus, ship, train, or on foot. The program also conducted secondary agricultural inspections of 339,385 of the 82.5 million passenger vehicles entering the United States from Canada and Mexico in 2022. In addition, inspectors cleared 32,349 ships and 2.8 million cargo, mail, and express carrier shipments, intercepting 61,711 pests.

Propagative Plant Inspection

Imports of nursery stock and other propagative plant materials can serve as significant pathways for invasive pests and diseases. To reduce the pest and disease risks associated with such imports, APHIS requires that certain imported plant materials enter the United States through one of 16 plant inspection stations located at or near ports of entry throughout the country and territories at major international airports and seaports, and at major crossings along the U.S.-Mexico border. Plant Health Safeguarding Specialists at these stations inspect shipments to ensure that imported plants and seeds do not contain pests and diseases of regulatory significance. In addition, they enforce the regulations that apply to the import and export of plant species protected by the Endangered Species Act and the Convention on International Trade in Endangered Species of Wild Fauna and Flora. In 2022, inspectors cleared 26,176 imported shipments containing 2.22 billion plant units (cuttings, rooted plants, tissue culture, etc.) and over 525,898 kilograms of seeds of woody plants. Through these inspections, APHIS employees detected 3,820 pests of which 1,702 were quarantine-significant pests at the plant inspection stations. In addition, the stations conducted 3,255 treatments or other actions to remediate pests on more than 12 million plant units and 3,524 kilograms of seed.

Plant Germplasm Quarantine

APHIS' Plant Germplasm Quarantine Program (PGQP) provides quarantine services for importing plant cultivars and germplasm safely to prevent foreign pathogens from entering our agricultural production areas and environment. In 2022, PGQP released from quarantine 22 bamboo clones, 10 grass clones, 2 kiwis, 119 pome fruits, 49 potato clones, 60 potato true seed lots, 36 rice seed lots, 47 stone fruit clones, 239 Prunus seedlings, 9 sweet potato clones, and 113 woody ornamentals. Fifty-five of the 119 pomes, 18 of the 47 stone fruits, 4 of the 49 potato clones, and 12 of the 15 sugarcanes released this year resulted from therapy performed on the infected imported plants. Quarantine regulations prohibit entry of these high-risk crops into the United States in commercial quantities, but importers can bring in small quantities through an APHIS-approved plant quarantine program, like the one at PGQP. All pome fruit, stone fruit, potato, sweet potato, bamboo, and rice introductions released this year tested negative for pathogens by high throughput sequencing (HTS), a nucleic acid sequencing method. PGQP developed a new HTS

pipeline, a procedure that integrates and automates sequence steps, to detect the genetic sequences that are pathogen-specific. The process developed by the PGQP allows APHIS to compress analysis involving hundreds of steps that normally take a month or longer into one week. The program also improved detection procedures for 19 pome viruses and viroids, 8 potato viruses, 5 grass viruses, 17 stone fruit pathogens, and 1 kiwi virus.

APHIS responded to two incidents of post-entry quarantine plant material being released prematurely from their mandatory 2-year quarantine period. The same nursery was involved in both incidents. In the first, the nursery shipped *Acer* plants from their quarantine location in Oregon to 19 States. In the second, the nursery shipped *Acer* plants from their quarantine location in Connecticut to two States. APHIS worked with the Oregon Department of Agriculture and Connecticut Agricultural Experiment Station to identify the number of plants shipped to each State affected. APHIS initiated two recalls of the *Acer* plants, recovering 175 of 278 plants shipped. In those States where the *Acer* plants had already been sold, APHIS plans to support surveys for the pests of concern.

Pest Identification

When pests are detected in cargo, the program must identify them to determine if they are considered quarantine significant under APHIS regulations (i.e., if they are exotic and could pose a significant threat to U.S. plant health, if the program can allow the cargo entry into the United States, and what, if any, mitigation measures would be required.) In 2022, APHIS processed and identified approximately 109,000 pest interceptions, with approximately 53,200 being quarantine significant. In 2022, APHIS continued its use of digital imaging technology for pest identification to support limited staff presence in the pest identification laboratories to protect the health of employees from COVID-19 exposure. APHIS National Specialists performed 77 percent of their final identifications for cargo on hold based on digital images, an increase of 4 percent over 2021. APHIS will continue the use of digital imaging technology as means to improve the timeliness of pest identifications for urgent submissions (i.e., those for which cargo is on hold pending a pest identification). APHIS and CBP use the Cargo Release Authority (CRA) program to reduce the number of pests that CBP must submit to APHIS for identification, speeding up the inspection process for shipments that contain no suspect quarantine pests. Through the CRA program, APHIS provides training and job aids that allow CBP Agriculture Specialists to recognize frequently intercepted, easily identifiable, low-risk organisms, and to release the cargo if the organism is not a quarantine significant pest. APHIS grants CRA after the Agriculture Specialist has successfully identified a particular pest a certain number of times and submitted documentation to APHIS. APHIS and CBP initiated a review of the program in 2022 and will relaunch the full CRA program during 2023.

Risk Analysis and Methods Development

APHIS' Plant Pest Risk Analysis (PPRA) unit develops pest risk analyses and epidemiological approaches to support and improve pest exclusion programs and decision making. In 2022, APHIS completed approximately 278 risk analyses associated with imports, exports, invasive pest threats, and other programmatic requirements. This total includes 33 analyses to open, expand, or maintain export markets for U.S. producers and 48 risk assessments for import requests from foreign countries. PPRA's work also included evaluations of 10 newly detected pests by the New Pest Advisory Group, 9 pathway analyses and spread models, 2 economic analyses supporting operational and policy decisions, and 8 New Pest Response Guidelines to proactively prepare for emergency responses. These products identify potentially harmful plant pests and diseases and help APHIS decide what mitigating actions to take in order to prevent their entry into or limit their spread or economic impact within the United States. APHIS' Plant Pathogen Confirmatory Diagnostics Laboratory (PPCDL) develops, adapts, validates, and utilizes diagnostic methods for the detection of regulated plant pathogens. In 2022, PPCDL supported the development and implementation of innovative molecular diagnostic tools at ports of entry for a *Ralstonia*, a pathogen that cannot be detected visually.

Smuggling Interdiction and Trade Compliance (SITC)

SITC identifies and closes smuggling pathways for prohibited agricultural products into U.S. commerce. SITC works closely with CBP to identify and target agricultural risks at the ports of entry before they enter U.S. commerce. In 2022, SITC conducted over 11,613 market surveys and seized 2,929 prohibited agricultural items in retail commercial locations. In addition, SITC initiated 1,613 product traces including 278 items from internet sales and 202 from courier surveys. Those seizures totaled 339,408 pounds of prohibited and/or restricted plants, plant products, meat, and meat products valued at approximately $2.1 million. Additionally, SITC conducted 19 recalls for restricted material, including noncompliant wooden handicrafts and grain products. Total seizures as a result of recalls weighed 48,843 pounds and had an estimated value of $713,915.

Treatment Program

APHIS supports U.S. imports of plants and plant products by facilitating and monitoring phytosanitary treatments. APHIS facilitated entry of regulated agricultural cargo through the monitoring of 15,347 fumigations, 38,620 cold treatments, 6,766 irradiation certifications, and 114 heat treatments of Niger Seed to reduce pest risks on cargo that would not otherwise have been allowed entry.

Permitting

APHIS requires that importers apply for permits for the importation into the United States and transit through the United States of certain high-risk regulated plants and plant products for consumption or propagation. These products include regulated plants and plant products, pests, and pathogens for diagnostic and research, biological control agents, soil, and Federal noxious weeds. Permits notify importers of commodity import requirements to ensure products and commodities making entry into the United States will not harm American agriculture. During 2022, PPQ issued 36,999 import permits for regulated plant material and issued 11,471 letters (Letters of Denial or Letters of No Jurisdiction) in response to permit application requests. In addition, to permits and permit-related correspondences, the Plant Protection and Quarantine Customer Support Center responded to 42,230 customer support calls and emails to assist stakeholders with import-related questions. APHIS continues to improve the customer experience through the development and delivery of the new eFile permitting system. The new eFile system supports the implementation of automated permitting for more than 45 percent of all permit types and reduces the wait time for a permit to be issued to within minutes, as compared to 2-4 weeks using the previous ePermits system.

Phytosanitary Export Certification

APHIS facilitates the export of agricultural shipments by tracking plant health import requirements for approximately 200 countries and provides certifications to U.S. exporters to help ensure that U.S. products meet other countries' requirements. More than 2,100 Authorized Certification Officials at the Federal, State, and county levels can access countries' certification requirements online and conduct inspections to issue phytosanitary certificates. These certificates facilitate the entry of commodities into foreign markets. The program employs a web-based Phytosanitary Export Database. This database, which is free to exporters, enables them to research requirements and better prepare for shipping. In addition, this program uses a Phytosanitary Certificate Issuance and Tracking (PCIT) database that allows exporters to apply for certificates, schedule inspections, and pay certification fees. PCIT also collects State and county cooperator fees in addition to the USDA fees for phytosanitary certificates. In 2022, APHIS collected more than $40.1 million for certificates and remitted more than $21.7 million of that amount to State and County cooperators for certificates they issued. Currently, 37 States and 34 counties use this feature. PCIT also enables APHIS to capture export application information, document inspection, and certification information, print an original phytosanitary certificate on secure paper, and generate export reports. Additionally, the Agency is continuing its effort with international counterparts exchanging phytosanitary certificates electronically. Over the last several years, APHIS worked with the International Plant Protection Convention to establish an electronic hub that countries can access to exchange export certificates with trading partners. The hub provides a central point for document exchange that eliminates the need for countries to establish electronic connections with each trading partner individually. Recent studies by industry have shown that paperwork errors slow down exports, leading to the majority of costly delays. The United States began using the hub in May 2018 and is actively exchanging certificates with 80 countries now (an increase of 25 countries in 2022) with more than 203,000 phytosanitary certificates received and more than 292,000 sent (more than 40 percent of the total number of certificates issued). In 2022, APHIS, State, and county officials issued more than 656,000 Federal export certificates for agricultural shipments. APHIS also transitioned away from the use of Plant Protection and Quarantine Form 578 (Processed Product Certificate) because it was not compatible with international standards or electronic exchange. Most commodities that traditionally received it were transitioned to regular phytosanitary certificates. Additionally, APHIS also discontinued the use of security paper for all certificates. Each certificate has a QR code allowing the authenticity to be verified anywhere in the world. This change allows exporters to print any certificates once completed for their own needs and saves both government and industry time and money associated with printing, storing, distributing, and retrieving documents.

2. Cotton Pests

The Cotton Pests Program works with growers, the cotton industry, States, and Mexico to eradicate the boll weevil (BW) and pink bollworm (PBW) from all cotton-producing areas of the United States and northern Mexico. Collectively, the BW and PBW are the most destructive pests of cotton, worldwide. The Cotton Pests Program also maintains preparedness capabilities to address other cotton pests that could enter the United States. APHIS provides

national coordination, operational oversight, and technology development (such as sterile moth production for PBW eradication), while program partners have provided more than two-thirds of the funding for the BW eradication effort and most of the operational funds for PBW eradication. APHIS also provides technical advice on trapping and treatment protocols to its partners in Mexico for their eradication efforts.

The BW has cost cotton growers more than $15 billion since it entered the United States in the late 19th century (National Cotton Council of America, 2021). APHIS began the initial BW eradication program along the Virginia-North Carolina border in the early 1980s. The BW eradication effort involves mapping cotton fields, using pheromone traps to evaluate weevil presence, and applying pesticides. Once BW is eradicated from an area, cotton growers rely less on insecticides, thus reducing their production costs. Over the course of the eradication efforts, the program has increased these growers' global competitiveness, primarily through reduced production costs and increasing yields.

To date, APHIS and cooperators have eradicated BW from 99 percent of the 11.2 million acres of U.S. cotton (Acreage Report, National Agricultural Statistics Service, 2021). The Lower Rio Grande Valley (LRGV) is the last zone within the United States where the pest persists. BW populations in neighboring Mexican cotton producing State of Tamaulipas impact eradication efforts in the LRGV. Therefore, APHIS and its cooperators in Mexico's National Service for Agrifood Health, Safety and Quality (SENASICA) and Texas Boll Weevil Eradication Foundation (TX-BWEF) are working to eradicate BW from the Mexican state of Tamaulipas.

APHIS continued virtual monthly meetings with SENASICA to maintain open communication about BW eradication successes and challenges throughout the 2022 growing season. APHIS also engaged its international counterparts in Mexico City to expand its engagement with SENASICA. APHIS will continue engaging SENASICA at multiple levels to ensure growers adhere to eradication and quality control protocols, as well as ensure growers adhere to defoliation, harvest, and stalk-destruction deadlines set by the BW eradication program.

In addition to monthly meetings with SENASICA in 2022, cooperators from the United States and Mexico gathered for their annual meeting to review progress and amend the BW Eradication Operational Plan for the 2022 growing season. Amendments were adopted to enhance quality controls for technician training, BW monitoring, data integrity, and communication. These mutually agreed upon amendments will ensure accurate and timely treatment of areas where BW captures are present. These amendments refined the practices adopted in 2021 which emphasized early-season treatments followed by aggressive localized aerial treatments triggered by detection of a single weevil.

In 2022, APHIS continued its support for the BW Eradication Program in Tamaulipas, Mexico, through its agreement with the North American Plant Protection Organization (NAPPO) which funds ultra-low volume malathion and aerial treatment expenses. Cooperators from TX-BWEF provided technical training and assistance to SENASICA and growers in Tamaulipas to implement the rigorous quality control program protocols. This includes providing technical assistance through the smart device application that enables employees and TX-BWEF managers to monitor trap deployment, trap servicing, and treatment activities in real time.

Environmental conditions in the LRGV and Northern Tamaulipas present APHIS and its cooperators with challenges that interfere with BW monitoring and treatments. Unseasonal freezing in 2021 delayed cotton planting by two weeks in the LRGV and Tamaulipas areas. By contrast, extended heat and drought conditions in 2022 caused growers to destroy some of their cotton crop and shorten the growing season. BW captures in Tamaulipas remained low throughout the 2022 growing season but captures in LRGV spiked in late August through mid-September. Captures in Tamaulipas decreased by 96 percent, totaling 404 by October 2022, compared with 11,993 BW captures by the same time in 2021. Cooperators in Tamaulipas treated 447,026 acres in 2022 compared with 558,212 treated acres in 2021. Captures in LRGV increased by 34 percent, totaling 4,033 by October 2022, compared with 3,029 BW captures by the same time in 2021. Approximately 93 percent of BW captures in the LRGV originated from a single 62-acre field from August 29 through September 16 when the field was harvested and plowed down. The field represented only 0.00054 percent of the 182,213 acres of planted cotton in the LRGV. Cooperators needed to treat only 447,047 acres in the LRGV, compared with 753,505 that needed treatment at the same time the prior year.

APHIS will continue partnering with the U.S. cotton industry to reduce the BW population in the LRGV and to conduct BW surveillance efforts for all U.S. cotton production areas in 2023. APHIS will also continue to partner with SENASICA's Tamaulipas BW Eradication Program to provide technical assistance and funding for their parallel program to the LRGV program. APHIS is committed to monitoring BW to ensure the detection any of reintroductions quickly, and to work toward successful eradication of BW in the United States in the coming years.

In the United States, although the volume of acreage planted with cotton varies from year to year, the PBW commonly caused cotton losses of 20 percent or more in affected areas. Since the PBW control program began in 1967, APHIS and cooperative program partners have eradicated the PBW from Southern California, Arizona, large areas of New Mexico, and the El Paso/Trans Pecos region of Texas. On September 26, 2018, APHIS issued a Federal Order releasing Arizona, California, New Mexico, and Texas from the PBW quarantine. On October 19, 2018, APHIS, in conjunction with industry partners, officially announced the successful eradication of PBW from all commercial cotton-producing areas in the continental United States. In 2018, Florida added a PBW quarantine for an area in the Everglades where a wild PBW population has persisted for the last 80 years and appears to only be active in wild cotton. As a result, APHIS, along with the Florida Department of Agriculture and Consumer Services and the Florida cotton industry began surveying the perimeter of the commercial cotton area in the northern part of the State and the adjacent okra fields in the city of Homestead, to ensure that PBW has not spread. In 2022, APHIS continued to survey these areas in Florida to ensure that isolated PBW populations in southern Florida do not move into the commercial cotton production areas north of the Everglades. These surveys will continue in 2023.

3. Field Crop & Rangeland Ecosystems Pests

The Field Crop and Rangeland Ecosystem Pests (FCREP) program protects U.S. agricultural crops and rangelands from the establishment or spread of invasive or economically significant pests, facilitates safe international trade and domestic commerce, preserves economic opportunities for U.S. farmers, and fosters healthy ecosystems in rangelands and natural lands. To accomplish these goals, APHIS provides national coordination, threat assessment, and strategies to prevent pests and diseases such as grasshoppers and Mormon crickets (GMC), imported fire ants (IFA), Karnal bunt, and witchweed from spreading and impacting export markets for U.S. farmers. These programs help protect resources that small, rural communities depend on for income.

Grasshoppers and Mormon Crickets

Through the FCREP program, APHIS cooperates with Federal, State, Tribal, and local agencies, organizations, and institutions to conduct survey and suppression activities in western States to reduce damage that GMC outbreaks cause, protecting rangeland resources that serve as forage for livestock, provide habitat for wildlife and ecosystem services, as well as recreation opportunities. A 2012 University of Wyoming study found that healthy rangeland provides forage value worth $6.7 billion and overall benefits ranging from $10.7 to $21.2 billion. Uncontrolled GMC infestations could cause significant economic losses for U.S. livestock producers by reducing animal food supply in rangeland, and therefore forcing producers to buy supplemental feed or sell their livestock at reduced prices. Besides feeding on grass, GMC can also devastate cultivated crops such as alfalfa, barley, corn, and wheat. Damage from grasshoppers and Mormon crickets also reduces habitat and food sources for wildlife, which can threaten animal and plant biodiversity as well as the rangeland's ability to sequester carbon. Infestations often cover vast acreage, and landowners or land managers may need Federal support to control them. The program helps landowners and land managers by providing population information, helping to predict where grasshopper populations could develop into outbreaks, and providing technical assistance about options for dealing with problem-level populations. By providing ongoing information, and advice to land managers and conducting suppression treatments where necessary and possible, this program helps protect 661 million acres of rangeland across the western United States.

In 2022, APHIS conducted surveys in 13 States for GMC, collecting data at approximately 30,685 survey points. Grasshopper populations can build cyclically, and high population levels that began two years ago in 2020 continued into 2022. With available funding, APHIS was able to conduct treatments for small areas with high populations. The program conducted treatments in five States in 2022, using FCREP funding and reimbursements from participating landowners. The Plant Protection Act specifies that the Federal government covers 100 percent of treatment costs on Federal lands; 50 percent on States lands; and 33.3 percent on private lands. APHIS conducted treatments on 91,642 acres in Arizona, Idaho, Nevada, Oregon, and Utah. These treatments protected rangeland forage and wildlife habitat on more than 224,000 acres. Before conducting any grasshopper treatments, APHIS confirms the species of the grasshopper as some do not cause damage to rangeland and others can even provide ecological benefits by eating weeds (leaving grasses for grazing livestock).

Imported Fire Ants

IFA is a major public nuisance and serious agricultural pest causing approximately $6.7 billion in damage to homeowners, agriculture, and natural ecosystems within the IFA Federal quarantine area, according to the Ant Pests

Community led by the National Institute of Food and Agriculture's Extension Service (https://ant-pests.extension.org). The economic impact if IFA reached all suitable habitats in the United States where IFA could become established is greater than $10.6 billion per year (Economic Evaluation of the Regulatory Program for Imported Fire Ants, APHIS, March 2018). Currently, IFA infests more than 374 million acres in Puerto Rico and 14 States: Alabama, Arkansas, California, Florida, Georgia, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia, which are under a partial or full State quarantine. The IFA program provides regulatory guidelines to stakeholders for the treatment of regulated articles, oversight, and enforcement to help prevent the human-assisted spread of the pest. In 2022, the IFA program continued work with university researchers and USDA's Agricultural Research Service (ARS) to develop new pesticide treatments to prevent IFA movement on nursery stock and sod and to stay informed on any new opportunities for biological control. The program also worked with ARS on a second generation of the field identification immunoassay kit which identifies red, black, and hybrid IFAs in the same assay. In 2022, the program incorporated the new IFA field test kits in detection surveys. The kits appear to be working well according to initial feedback and requests for additional test kits. The program continued support to California to maintain the scope of their annual IFA surveys and assisted New Mexico with information on IFA surveys. The IFA program is in the process of expanding the Federal quarantine area for new counties in Arkansas and Tennessee.

Karnal Bunt

The FCREP program also addresses Karnal bunt, a fungal disease of wheat that was first detected in the United States in 1996. Many U.S. trading partners will not accept U.S. wheat unless it is certified to originate from areas where Karnal bunt is known not to exist. The program prevents the disease from entering the grain market system, spreading beyond the areas of Arizona where it is currently found (portions of two counties in the State, accounting for 0.12 percent of wheat acreage in the United States). In 2022, the program removed 24,715 acres from Karnal bunt regulated areas on tribal and non-tribal lands in Arizona based on the program's protocols. These activities prevent Karnal bunt from affecting other States. USDA's Economic Research Service estimated in 2010 (the most recent study available) that without the program's efforts there would be a cumulative reduction of national net farm income of $8 billion over the next eight years. In 2022, 23 wheat-producing States participated in the Karnal bunt national survey. The program tested 559 samples with no positive detections. Based on this national survey, the program certifies wheat exports free of Karnal bunt, assuring trading partners about the safety of U.S. wheat exports, retaining export markets, and facilitating wheat movement into domestic and international markets. In 2021, farmers across the country planted approximately 47 million acres of wheat and harvested 1.6 billion bushels of wheat with a value of $11.9 billion (National Agricultural Statistics Service, Crop Values 2021 Summary and Crop Production). The United States exported 24 million metric tons of wheat, valued at $7.2 billion; wheat products valued at $153 million; wheat flour valued at $180 million to 83 countries (Foreign Agricultural Service, Global Agricultural Trade System). Without the successful Karnal bunt quarantine and survey program, wheat trade would be disrupted.

Witchweed

Another concern for the FCREP program is witchweed, a parasitic plant present in several counties in North and South Carolina that can significantly damage corn, rice, sorghum, and sugarcane. If witchweed were to spread throughout the Corn Belt, it could decrease crop yields for corn and sorghum by up to 10 percent and could negatively impact trade in commodities from these areas. Since program activities began in 1957, APHIS and cooperators have successfully eradicated witchweed from 99 percent of the infested areas in North Carolina and South Carolina. These activities consist of frequent field inspections, treatment of infested acres (tillage, ethylene injections to stimulate witchweed seeds to sprout, and hand-pulling and herbicide application), post-eradication surveys, and addressing any new infestations. The program surveyed 21,786 acres in 2022 (surveys continue through the fall and are still ongoing). At the beginning of the 2022 season, 1,725 acres were infested, and 62 acres were newly infested or re-infested during the season. In 2022, APHIS treated 861 acres. Because witchweed seeds can remain viable in the soil for up to 14 years, and a host plant must be present for witchweed germination, year-to-year fluctuations in the number of acres infested are common. By preventing the spread of this damaging weed, the program indirectly protects U.S. corn production, which covered more than 93 million acres in 2021 valued at nearly $82.6 billion (National Agricultural Statistics Service, Crop Values 2021 Summary).

Roseau Cane Scale

Roseau cane is an important grass species in wetland areas of the lower Mississippi Delta, Louisiana. The plant's root system provides wildlife habitat, protects the interior from storm surges, and protects riverbanks from erosion, which impacts the Mississippi River navigation channel. Since 2017, researchers from Louisiana State University (LSU) and ARS have investigated multiple potential stressors causing dieback of Roseau cane in the Mississippi

River Delta. These stressors include high water levels, salinity intrusion, scale insects, plant pathogens, and soil chemistry. To further investigate the possible causes of the die-off, LSU formed a multi-disciplinary and multi-institutional team with support from APHIS, starting in 2018. Research objectives include the biology and control of the scale insect that affects Roseau cane; other stressors that may affect the health of Roseau cane, including soil composition, pH levels, and nitrates; marsh grass restoration techniques; host plant resistance to scale insects; impacts of both beneficial and pathogenic microbes on Roseau cane; and restoration ecology. In 2022, funding from APHIS supported continued work on environmental stressors and Roseau cane die-off and restoration; above and below ground interactions impacting Roseau cane; field monitoring and remote sensing of Roseau cane dieback sites and restoration plots; and categorization of genetics of Roseau cane found in the Mississippi River Delta. Additionally, with funding available under Plant Protection Act 7721, APHIS identified a potential biological control agent (*Aprostocetus sp.*) and is conducting initial work to develop it, including rearing it in containment to start a colony and begin testing to ensure it will not attack non-target plants. The work to date by the Roseau cane die-back team has continued to improve our understanding of plant stressors on Roseau cane and the biology, distribution, feeding ecology, and impact of the scale insect attacking the cane at the Mississippi River Delta.

4. Pest Detection

The goal of the Pest Detection Program is to document the presence or absence of plant pests and diseases of Federal regulatory significance in the United States. This documented information is the basis of APHIS' regulatory efforts and pest management programs that preserve economic opportunities for farmers (i.e., interstate commerce and international trade) and safeguard U.S. agricultural and natural resources. The program collaborates with Federal agencies, state departments of agriculture, Tribes, academic institutions, and industry partners in all 50 States and several U.S. Territories to conduct program activities.

APHIS and its State cooperators carry out plant pest surveys through the Cooperative Agricultural Pest Survey (CAPS) program. APHIS provides national coordination for the program and develops policies and procedures for surveys. In addition, the program funds survey coordinator positions in each State as part of the personnel infrastructure necessary to do surveys. The program enables APHIS and cooperators to target high-risk hosts and commodities, gather data about pests specific to a commodity, and provide information of pest distribution, including pest-free areas. Early pest detection is important to avert economic and environmental damage. In addition to lost farm revenues and damage to ecosystems, the mitigation costs can reach millions of dollars once a pest becomes established or spreads significantly. While many entities are involved in protecting crops and resources, APHIS verifies that U.S. products do not pose risks to other countries. Pest surveys conducted through the CAPS program demonstrate absence of a pest and are used in some cases to address importing countries' phytosanitary requirements and retain access to foreign markets.

APHIS and cooperators in 50 States and 4 territories conducted a total of 326 unique pest surveys, targeting 97.2% of the high-risk plant pests and diseases identified for 2022 surveys. Through the Pest Detection program, APHIS also funded a network of 49 State Survey Coordinators that assisted with pest detection surveys. From these surveys, APHIS confirmed at least 7 pests new to the United States. In addition to the annual surveys and detected pests, the Pest Detection program coordinates development of survey tools for high-risk pests with APHIS scientists. For example, in 2022 APHIS developed climate suitability maps to help State cooperators target survey efforts for 10 pests of concern. The program is evaluating and responding to about 50 pests identified during 2022 surveys and prior years including old world bollworm, golden twin-spot moth, and tomato brown rugose fruit virus. Evaluating these detections allows APHIS and State officials to determine whether regulatory or mitigation measures are necessary to manage the potential impacts of the pests or diseases. In consultation with stakeholders, APHIS determined eight pests do not require regulatory measures and the regulatory pest status changed from quarantine to non-quarantine; these pests include: *Agriotes lineatus, Batocera rufomaculata, Clepsis spectrana, Colletotrichum phormii, Ctenarytaina spatulata, Lachnopus curvipes*, *Megalurothrips usitatus,* and *Thaumastocoris peregrinus*. In addition to providing data for determining when pest response activities are needed in the United States, APHIS uses the data showing that many high-risk pests are not present to support U.S. farmers' access to export markets. In 2022, APHIS used the data in bilateral trade discussions, pest risks assessments supporting U.S. exports, and issuance of phytosanitary certificates.

In 2022, the program exceeded its target of detecting 90 percent of the 104 high-risk pests before they spread to new areas. All pests were localized at the time they were detected.

5. Plant Protection Methods Development

The Plant Protection Methods Development (PPMD) program develops scientifically viable and practical tools for exotic plant pest exclusion, detection, and management. These tools preserve economic opportunities for farmers and industries who engage in interstate commerce and international trade, and safeguard U.S. agricultural and natural resources from invasive plant pests. The program is essential to APHIS' mission by developing and validating tools for detecting exotic pests in survey programs; molecular diagnostic tests and identification tools for pest identification; integrated pest management methods, including biological control, to help eliminate or manage invasive pests; and phytosanitary treatments to support interstate and international trade. A major focus of the program is to develop and implement biological control technologies that allow for the use of natural enemies alone, or in combination with other control tactics, to effectively mitigate the impacts of introduced, invasive insect pests, weeds, and plant pathogens, while minimizing impacts to the environment.

In 2022, the program continued developing and improving technologies, tools, and treatments for APHIS' plant pest and disease programs, including Mexican fruit fly, grasshopper, and spotted lanternfly (SLF), among others. For SLF, the program continued operationalizing the use of golden pest spray oil (a product that is 93 percent food-grade soybean oil registered with the Environment Protection Agency and certified for organic use) as a control method on the pest's egg masses to prevent pest spread. In 2022, four States—Delaware, New Jersey, Pennsylvania, and Virginia—began using it on a trial basis. If the treatment is successful, APHIS will expand it to additional States in 2023. The program continues to make advances in new technologies for pest detection and management, including the use of unmanned aerial systems (UAS). In 2022, the program worked toward the use UAS for aerial sprays of fruit fly treatments. For example, the program evaluated the effects of three flight path algorithms on spray efficiency to determine software requirements. The program also used UAS to obtain images of wild grasshoppers to improve use of artificial intelligence for UAS-based surveys.

The program provides ongoing methods support to a variety of plant pest and disease programs, providing short-term improvements and helping to solve immediate program needs. In 2022, the PPMD program tested new diet ingredients for Mexican fruit fly sterile insect production when citric acid supplies were impacted by supply chain issues and found a substitute for the ingredient, ensuring production of sterile flies could continue. The program also developed standard operating procedures for APHIS' domestic sterile fruit fly production facilities. The procedures provide a step-by-step guide to a series of tests conducted on a daily basis throughout the facilities to ensure that the sterile insects are high-quality and effective in the field. The guide makes the processes consistent across facilities and provides an easy-to-use reference document for employees.

The PPMD program maintains its own quarantine and rearing facilities for biological control agents in Arizona, California, Massachusetts, Michigan, Texas, and Guatemala. APHIS partners with USDA's Agricultural Research Service (ARS), the U.S. Fish and Wildlife Service, State departments of agriculture, universities in 30 States and Territories, and 2 Native American Tribes to evaluate and establish biological control agents for invasive plants, pests, and diseases. The biological control program has been responsive in developing biological control agents to address invasive pests and weeds such as Asian longhorned beetle, emerald ash borer (EAB), roseau cane scale, air potato and spotted lanternfly. The current 2022 biological control portfolio includes 38 cooperative agreements with States and Tribal Nations that collectively attack 25 weeds and 3 arthropod pests.

In 2022, the biological control program continued to work with State and Tribal cooperators to rear and release approved biological control agents. New research on EAB biological control agents has identified species that climatologically adapt to cooler or warmer U.S. regions and surrounding areas. This discovery allows the program to better target biocontrol releases, while protecting the next generation of ash trees in eastern region forests. Ongoing field evaluation of these EAB biological control agents will determine best management practices for their operational release.

The PPMD program also supports research related to invasive honey bee pests, specifically Varroa mites. A Varroa mite feeds on the honey bee's fat body tissue (an organ similar to the human liver), in turn weakening and shortening the bee's life. The Varroa mite is considered the greatest single driver of the global honey bee colony losses (ARS). Managed honey bee colonies add at least $15 billion to the value of U.S. agriculture each year through increased yields and superior quality harvests (O'Brien, D. 2019 ARS Microscopy Research Helps Unravel the Workings of a Major Honey Bee Pest). In 2022, the program continued to fund priority projects with other Federal and State agencies, as well as university and non-profit researchers, that support managing, suppressing, and eradicating Varroa mites, small hive beetles, and other pests and diseases contributing to a decline in honey bee health. These projects included investigating new pesticide control options for Varroa mites, and researching other

important pests of honey bees. In 2023, the program will continue to fund similar priority projects to combat Varroa mites and other important issues related to honey bee health.

6. Specialty Crop Pests

The goal of the Specialty Crop Pests (SCP) Program is to protect U.S. fruits and vegetables, tree nuts, horticulture, and nursery crops from adverse impacts associated with invasive pests, such as crop damage or threats to international trade and interstate commerce. APHIS works with State, Tribal, university, and industry partners to develop and implement practices, policies, and regulations that prevent or mitigate impacts for invasive pests of Federal regulatory significance. These activities include verifying pest distribution, identifying and mitigating risk pathways to prevent long distance spread of the pests, developing and implementing diagnostic tools and pest mitigation strategies, and communicating with the public to gain support for program strategies. These efforts help U.S. farmers export their products, prevent damage to specialty crop production (helping to ensure the availability of fresh fruits and vegetables), and protect natural resources, including forests and residential landscapes. The program currently addresses several pests and diseases including exotic fruit flies, a variety of citrus pests and diseases, glassy-winged sharpshooter (GWSS), spotted lanternfly (SLF), pale cyst nematode (PCN), navel orangeworm (NOW), and *Phytopthora ramorum*, among others. Overall, the program directly protects specialty crop production worth more than $11 billion in 2021 (APHIS internal analysis based on National Agricultural Statistics Survey data). The program indirectly protects additional specialty crop production valued at nearly $7 billion in 2021, by preventing the spread of these damaging pests and diseases to new areas (based on APHIS analysis using Economic Research Service data). Without the SCP program, trading partners might not accept a variety of U.S. fruits and vegetables. The value of trade in specialty crops that could potentially be disrupted without the SCP program was $4.3 billion in 2021, according to an internal APHIS report using data from the Foreign Agricultural Service's Global Agricultural Trade System.

Grapes

The SCP program targets several devastating pests and diseases, including GWSS, EGVM, and SLF, that could affect grape production and impact export markets. In August 2016, APHIS declared the successful eradication of EGVM from California. In 2022, APHIS, in collaboration with the California Department of Food and Agriculture (CDFA) and industry partners, continued monitoring for EGVM with more than 22,000 traps placed in 37 participating counties. APHIS and cooperators found no infestations. APHIS is evaluating what level of survey to continue and how to expand surveys to incorporate other grape pests.

APHIS also continued the successful, cooperative GWSS program designed to suppress populations of this pest where it is established. GWSS is a vector for Pierce's disease, which is lethal to grapevines. The program's suppression and regulatory activities work to prevent the spread of the vector and disease across California. In 2022, the program continued to conduct surveys and other regulatory activities including inspections of nursery stock and bulk citrus for the pest in 49 California counties, and continued area-wide suppression activities in affected agricultural production areas of four California counties. With citrus growers' voluntary suppression treatments, the program covered 27,132 acres. Of the more than 27,000 shipments of nursery stock from infested areas, California county inspectors rejected three shipments due to GWSS life stages being present. Together, the EGVM and GWSS programs directly protected 829,000 acres of grape production worth $5.2 billion in the State of California in 2021 (National Agricultural Statistics Survey Noncitrus Fruit and Nuts 2021 Summary).

In 2022, APHIS and cooperators continued addressing SLF using funding provided through Specialty Crop Pests and with $7.5 million in funding available under Plant Protection Act Section 7721. This invasive pest is now found in 14 States, including Connecticut, Delaware, Indiana, Maryland, Michigan, Massachusetts, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Virginia, and West Virginia. SLF prefers to feed on the invasive tree of heaven (*Ailanthus altissima*) but also feeds on a wide range of crops and plants, including grapes, apples, hops, walnuts and hardwood trees. Thus far, vineyards have been the most adversely affected agricultural commodity. The insect sucks sap from stems and leaves, causing damage to plants as they feed. There is a strong correlation between new SLF populations and major transportation pathways, such as railroads and interstate corridors. APHIS conducts targeted treatments and, in some areas, removes SLF's preferred host plant, tree of heaven, from transportation hubs with the aim of reducing the risk of SLF spread to new areas. APHIS and cooperators also continue to conduct treatments on the leading edge of the infestation and to eradicate isolated infestations. In 2022, APHIS and cooperators treated 4,802 properties covering 6,150 acres in affected areas included in the program's environmental assessment (EA). The program is continuing efforts to complete National Environmental Protection Act documentation in the four additional States where SLF has been identified and are not covered under the current EA—Indiana, Massachusetts, Michigan, and Rhode Island. Once the program completes

the supplemental EA for these four States requiring immediate treatment, APHIS will begin preparing a programmatic, nationwide EA to address all other known and potential SLF treatment areas in the United States. The program continues to evaluate new treatment strategies, and in 2022, APHIS and cooperators identified three potential biological control organisms, one that targets the tree of heaven and two that target SLF. APHIS will continue to evaluate them and develop methods to rear them in the laboratory. Additionally, APHIS began working with the National Association of State Departments of Agriculture and the National Plant Board to develop a national strategic plan outlining the future direction of the SLF program. With the strategic plan, APHIS aims to harmonize the approach across States to slow SLF's spread, develop consistent outreach messaging for a nationwide audience, and more effectively use existing State and Federal resources.

Citrus

Citrus fruits are high-value specialty crops and a nutritious food for consumers across the world. The United States was the fourth largest exporter of citrus by value and sixth largest by volume in 2021 (International Trade Centre Trade Map database). APHIS supports the citrus industry's continued ability to produce, harvest, process, and ship citrus fruits and nursery stock despite the presence of diseases such as citrus canker, citrus greening or Huanglongbing (HLB), sweet orange scab, and citrus black spot, which decrease fruit quality, increase production costs for producers, and threaten export markets in areas when found. HLB is the most serious disease of citrus currently impacting Florida and Texas, and threatening the citrus crop in Arizona, California, and Louisiana. The insect vector, the Asian citrus psyllid (ACP), spreads the disease. Through the Citrus Health Response Program, APHIS and State partners also conduct surveys for other diseases not known to occur in the United States, including citrus leprosis and citrus variegated chlorosis.

APHIS and cooperators in citrus-producing States perform multi-pest surveys providing timely information about the presence of pests and diseases to growers and State government partners. This information allows growers to take necessary actions to manage their groves and allows APHIS and States to update quarantine boundaries and regulations to prevent the spread of serious citrus pests and diseases through the movement of regulated materials. Based on the results of surveys, the Agency adjusted quarantine boundaries during 2022 for HLB in California, citrus canker in Alabama and Texas, and citrus black spot in Florida. In areas affected by citrus pests and diseases, APHIS' flexible regulatory protocols have minimized the impact of the quarantines on growers, who can move citrus out of quarantined areas to packinghouses if they follow mitigation procedures to prevent the disease or its insect vector from spreading. The Agency works with citrus nurseries across the United States to ensure that nursery stock produced in areas quarantined for citrus diseases is free from the pests, ensuring that clean plants are moving between States and available for citrus producers and residential use. In 2022, approximately 614 businesses had compliance agreements with APHIS and moved regulated host materials such as citrus fruit and nursery stock under more than 18,800 certificates and limited permits issued by the Agency.

APHIS and cooperators continue extensive surveys that establish citrus black spot-free production units and low prevalence areas for citrus canker in Florida for export packing to the European Union. APHIS also supports area-wide management efforts in Texas and California for citrus pests and diseases. In 2022, APHIS and cooperators continued to conduct risk-based surveys for HLB in residential and commercial citrus areas in California to ensure they detect the disease quickly if it is present. APHIS assists CDFA in aggressively responding to positive detections of HLB (thus far in residential areas only) and implementing an area-wide management approach for ACP population control. APHIS continued biological control efforts targeting ACP. This program, which employs a predatory wasp against ACP, augments other management methods, especially in residential areas in Arizona, California, Louisiana, and Texas, where use of chemical pesticides is undesirable. Additionally, APHIS and cooperators confirmed the presence of citrus yellow vein clearing virus in Tulare County, California; efforts are ongoing to determine the extent of disease spread and develop an appropriate regulatory response. These citrus health activities directly protect citrus production on 668,100 acres in the United States worth approximately $2.91 billion for the 2021-2022 growing season (National Agricultural Statistics Survey Citrus Fruits 2022 Summary). Without APHIS' activities, citrus exports could be at risk each year. In 2021, the value of U.S. citrus exports totaled approximately $968 million (Foreign Agricultural Service Global Agricultural Trade System).

HLB Multi-Agency Coordination (MAC) Group

To help address the citrus industry's immediate and long-term needs in dealing with HLB, APHIS established the HLB MAC response framework in December 2013. In addition to APHIS, the HLB MAC includes USDA's Agricultural Research Service (ARS), National Institute of Food and Agriculture, and Office of Pest Management Policy; the Environmental Protection Agency; State departments of agriculture in Arizona, California, Florida, and Texas; citrus research organizations in California, Florida, and Texas; and citrus industry organizations in California, Florida, and Texas. Between 2014 and 2019, the HLB MAC funded a total of 105 projects carried out by State cooperators, universities, private companies, and Federal agencies. The projects focused on strategies for vector control, therapies for infected trees, sustainability of new plantings, early detection technologies, best management practices for citrus groves, and support for the development of HLB-resistant citrus varieties. In 2019, the HLB MAC shifted focus towards determining the best management practices for producing citrus under the threat and pressure of HLB. In 2019 and 2020, APHIS provided HLB MAC funds to support the Florida Citrus Research and Field Trials (CRaFT) project to conduct field evaluations of strategies that showed previous scientific evidence of success. This project brought in growers, as collaborators, to evaluate interactions between methods, treatments, environments, rootstock/scion combinations, and growing practices. In 2021, building on the success of the CRaFT approach in Florida, APHIS initiated similar projects in California and Texas. As these States represent different stages of disease progression yet share the common goal of robust healthy trees and a productive industry, this approach offers an opportunity to evaluate the impact of tools available for all challenges that HLB poses in different environmental conditions. The results of these projects will benefit all citrus-growing regions in the United States that are threatened by this devastating disease. In 2022, APHIS provided funding to California and Florida for these ongoing projects. Texas continued using funds provided in 2021 under a 2-year cooperative agreement.

Tree Fruit and Nursery Stock

APHIS protects a wide variety of specialty crops (particularly tree fruit and citrus) through exotic fruit fly exclusion and detection activities. One of the Agency's key strategies is effectively managing pest populations in Guatemala and southern Mexico to prevent northward movement of Mediterranean fruit fly (Medfly). Medfly is one of the most destructive agricultural pests in the world, attacking more than 300 cultivated and wild fruits and vegetables. APHIS through its cooperator Moscamed, produced an average of one billion sterile Medfly per week in 2022 to mitigate northward movement from Mexico and Guatemala, and to release in high-risk areas of California and Florida on a preventative basis.

In 2022, the international cooperative program continued addressing Medfly outbreaks that began in 2019, in the program-designated free areas of Mexico and Guatemala. USDA continued to assist collaborators in Mexico by funding the additional production of 200 million sterile Medfly for release in Chiapas. Overall, the number of outbreaks decreased from 1,619 in 2021 to 804 in 2022. APHIS, through the cooperator Moscamed also continued the production and release of sterile Medfly and aerial bait spray treatments in the program area of Guatemala. Through these and other efforts, the program focuses on effectively managing Medfly in Guatemala and southern Mexico and maintaining internationally recognized Medfly-free areas in Peten, Guatemala and Belize which include approximately 147,900 square kilometers combined.

Since 2015, when the first Medfly outbreak occurred in the Caribbean, APHIS has worked with partner countries in the region to improve surveillance for Medfly and other exotic fruit flies. In 2022, 8 Caribbean countries participated in this effort with active trapping and surveillance programs. The number of countries participating was lower than in past years due to issues associated with the pandemic, weather-related events, issues with infrastructure, and competing priorities with other pest and disease programs, among others. Going forward, APHIS will continue to support surveillance in the Caribbean through technical assistance and work with partners to continue to increase participation in this early warning network as resources allow.

Domestically, APHIS and State cooperators maintain the cooperative Preventative Release Program, which releases sterile fruit flies in high-risk areas to prevent any introduced Medflies or Mexican fruit flies (Mexflies) from reproducing and establishing a population in the United States. In the Los Angeles area in California, APHIS and cooperators release 120 million sterile Medfly per week, and in four port areas in Florida, 80 million per week. APHIS and cooperators also maintain a detection network of more than 160,000 traps in California, Florida, New York, Puerto Rico, Texas, and other States vulnerable to exotic fruit fly incursions. When outbreaks occur, APHIS and cooperators implement immediate emergency response activities to eradicate them. APHIS and CDFA completed eradication for two exotic fruit fly outbreaks in June 2022 and detected three new outbreaks in summer 2022, including an Oriental fruit fly (OFF) outbreak in Los Angeles County, an OFF outbreak in Orange County, and a Mexfly outbreak in the San Diego County. The Los Angeles and Orange County outbreaks are in residential

areas and do not impact agriculture. APHIS and CDFA completed eradication for the Los Angeles County OFF quarantine at the end of September. APHIS established an incident management team for the Mexfly outbreak, which covers more than 4,000 acres of agricultural production. The program's regulations allow growers who implement required protocols to ship their products out of the quarantined area. APHIS is releasing approximately 11 million sterile Mexflies per week in the area along with implementing trapping and regulatory protocols. APHIS expects to complete the remaining two responses in summer 2023.

In 2022, the program continued response activities for ongoing Mexfly outbreaks in the Lower Rio Grande Valley, the home of the Texas citrus industry, which experiences frequent incursions of the pest. During 2022, the program enhanced sterile fly release activities and worked with growers to identify additional measures to help contain the outbreak. Growers removed unmanaged groves, eliminating reservoirs of Mexfly host material. With the sterile fly program enhancements and grower cooperation, the program was able to reduce the size of the quarantine from 1,172 square miles at its largest point to 191 square miles at the end of the fiscal year. The commercial citrus acreage under quarantine was reduced from more than 9,000 acres to approximately 850 acres. The program expects to complete the response in November 2022 and release the area from quarantine. In 2022, APHIS began the transition of the strain of sterile Mexflies released in Texas from the Willacy strain (where both males and females are released) to the black pupae strain, which allows males and females to be separated. Releasing only male sterile flies improves efficiency in controlling wild Mexfly populations.

APHIS also continued to address the European cherry fruit fly (ECFF) in northwestern New York during 2022. APHIS and cooperators in New York enforce quarantine regulations over the 3,223 square-mile affected area to reduce the risk that ECFF will spread to other cherry-producing areas. Cherry producers can mitigate damage the pest may cause to crops through current management practices. In 2022, APHIS worked with cherry producers to streamline regulatory measures that allow the movement of cherries out of the quarantine areas. In place of requiring trapping in orchards, inspectors now conduct "float tests" in the orchard and at the processing plants—when the cherries are submerged in water, fruit fly life stages float to the surface—to determine whether any ECFF are present in shipments. This change reduces requirements for growers in their fields while meeting the goal of preventing ECFF from spreading through cherry shipments.

APHIS and cooperators also work to address NOW and *Phytopthora ramorum (P. ramorum)*. In 2022, APHIS and cooperators in California and Arizona continued implementation of the NOW areawide program, targeting the moth, which is a serious pest of tree nut crops including almonds, pistachios, and walnuts. Adult moths lay eggs through gaps in the nut hulls or shells, where newly hatched larvae feed and contaminate the nuts with insect waste and secondary fungal spores that may produce poisonous aflatoxins. APHIS uses its Phoenix Rearing Facility (PRF) in Arizona to produce sterile NOW moths and ships them to California where they are released by airplane over participating pistachio and almond orchards. APHIS produced and released approximately 750,000 sterile NOW moths per day for early-season releases in the spring over half of the acreage with the emerging generation of wild NOW moths, and increased production to approximately 1.5 million per day in the summer. APHIS continued to provide a portion of the sterile NOW moths for research initiatives conducted by ARS and the University of California-Riverside. APHIS and cooperators continue to evaluate the impact of the release of sterile moths and the other integrated pest management measures on NOW in tree nut crops.

APHIS protects natural resources and nursery stock production and trade by limiting the spread of *P. ramorum* from quarantine areas and affected nurseries through regulatory strategies and adoption of mitigations and changes to cultural practices. *P. ramorum,* which causes sudden oak death, can be moved through host nursery stock and can affect a variety of forest trees. The disease is present in coastal northern California (affecting 16 counties in the State) and a small area in Curry County, Oregon. In 2022, Oregon State officials continued surveys related to a positive detection outside the quarantined area the previous year. APHIS will update quarantine regulations to include the new area when the delimiting surveys are completed. Because of the presence of *P. ramorum* in the surrounding environment, nurseries within the quarantine area that ship interstate must meet annual certification survey and sampling requirements to prevent the movement of potentially infested material. The program also regulates nurseries outside the quarantine area that have been confirmed positive for *P. ramorum* in plants, water, or other regulated articles. The nurseries must remain free of *P. ramorum* for three consecutive years to be deregulated. All positive interstate shipping nurseries must participate in a compliance program using protocols to eliminate the pathogen and implement required mitigations focused on critical control points to reduce the risk of reintroduction. Currently, 19 nurseries participate in the program. In 2022, three nurseries completed the program, and APHIS released them from the program requirements.

In 2022, APHIS reclassified LBAM as a nonquarantine pest and removed the domestic LBAM quarantine regulations in California and Hawaii effective December 17, 2021. When APHIS first confirmed detections of

LBAM in the United States in 2007, the best science available indicated that this moth would be a pest of economic significance. Over time, however, it became clear that LBAM does not cause as much crop damage as initially anticipated. APHIS is revising import requirements for certain fruits imported from Australia and New Zealand by removing the requirement for a phytosanitary certificate containing an additional declaration that states the shipment is free of LBAM. These changes will comply with international standards under the International Plant Protection Convention, which do not allow for countries to regulate imports for a specific pest more than it regulates it domestically.

Through all these activities, APHIS directly protects nursery stock production worth approximately $1.3 billion in 2019, and tree fruit production worth approximately $1.7 billion in 2021 (APHIS internal analysis based on National Agricultural Statistics Survey data). By preventing pests and diseases like exotic fruit flies and *P. ramorum* from spreading to new areas, the program indirectly protects approximately $6.8 billion in fruit and nursery stock production (APHIS internal analysis based on National Agricultural Statistics Survey data).

Potatoes

APHIS addresses two major potato pests, pale cyst nematode (PCN) in Idaho and the golden nematode (GN) in New York. In 2021, these programs protected 935,200 acres of U.S. potatoes, valued at $4.1 billion. In 2021, the United States exported more than 596,000 metric tons ($275.8 million) of fresh and seed potatoes. APHIS and cooperators have confined each to a relatively small area and continue survey and regulatory efforts to protect export markets for U.S. potatoes from 36 States. In 2022, APHIS processed 6,398 soil samples for the PCN eradication effort in Idaho, and 5,493 samples from detection surveys in other States. PCN has not been detected outside of Idaho, and fumigations of infested fields in Idaho have reduced PCN populations by 99 percent since the pest was first detected in 2006. In 2022, the program conducted 1,701 regulatory treatments of farm equipment to prevent the spread of PCN out of regulated areas. There are currently 32 PCN-infested fields, and the current regulated area is 6,568 acres, of which 3,542 acres are infested fields, and 3,026 acres are associated fields. The infested fields are in an 8.5-mile radius that spans a portion of northern Bingham County and southern Bonneville County. In 2022, the program conducted eradication treatments on 5 infested fields, totaling 452 acres. In the treated fields that no longer show PCN viability, according to a greenhouse bioassay test, producers can plant potatoes with continued monitoring by APHIS and cooperators to ensure PCN is not present. During the greenhouse bioassay (three rounds of greenhouse bioassay that is the equivalent of three crop cycles), the program tests the viability of any PCN nematodes found in the soil. If the nematodes are found to be non-viable (they fail to reproduce under favorable conditions in the presence of a host), the fields from which they came are eligible to immediately return to potato production at the landowners' discretion. The PCN program requires infested fields that return to potato production to undergo full-field surveys following each of three subsequent potato crops to check for viable PCN populations. These fields remain regulated but benefit from reduced sanitation requirements. In 2022, farmers planted potatoes in three eligible fields; this is the first round of in-field bioassay for two of the fields and the second round of in-field bioassay for the third field. The fields will be sampled following harvest and analyzed for the presence of viable nematodes. The program is working with ARS, the University of Idaho, and other cooperators to develop PCN-resistant potato varieties. APHIS has funded several projects on PCN-resistant potato varieties through Plant Protection Act 7721 for this long-term effort.

In 2022, APHIS and New York cooperators continued an effective survey and regulatory program targeting GN with a focus on deregulation of all eligible land. Adopting strategies used in the more recently established PCN program, the GN program is focusing on fields that are either infested or associated with infested fields rather than political boundaries such as townships. APHIS, working closely with the New York State Department of Agriculture and Markets (NY AGM), has removed more than 1 million acres from the GN regulated area in New York since 2010, allowing several farmers to grow their crops without restrictions. APHIS continues to manage an active control and mitigation program to prevent GN from spreading from the remaining 90,307 regulated acres, including 5,945 acres that are infested with GN in portions of 8 New York counties. The program enforces regulations designed to prevent the spread of GN and requires sanitation treatments of on farm equipment and other items moving out of the quarantined area. In 2022, the program processed 8,084 soil samples for the GN deregulation effort in New York. The program conducted 268 regulatory treatments of farm and earthmoving equipment to prevent the spread of GN out of regulated areas and certified 3 shipments of potatoes to Canada, totaling 160,000 pounds. APHIS has cooperated with ARS, NY AGM, and Cornell University to develop GN-resistant potato varieties for several decades. The program is now headquartered at a newly renovated laboratory on the Cornell University campus to continue this and other work on methods of eradicating GN. The program has developed a total of 45 GN-resistant varieties. Because the pest can overcome resistance, continued development of new GN-resistant varieties is necessary.

Together, these efforts to address PCN and GN protect 300,000 acres of potatoes in Idaho, valued at $981 million in 2020 (National Agricultural Statistics Survey Quick Stats), and 14,300 acres in New York valued at $45 million in 2018 (National Agricultural Statistics Survey 2018 Potatoes Summary). These programs indirectly protect approximately one million acres of potato production nationwide worth $2.9 billion in 2020 (APHIS analysis using National Agricultural Statistics Survey data).

Canine Detection and Surveillance

APHIS continued developing the use of canines for pest surveillance efforts in 2022, focusing on SLF, Japanese beetle, and Asian longhorned beetle (ALB) in 2022. APHIS provided funding to Auburn University College of Veterinary Medicine's Canine Production Sciences program for the projects. Through the agreement, Auburn will continue developing the use of canine detectors for SLF early detection efforts. Auburn will also continue testing the use of canines to detect Japanese beetle larvae as part of an effort to prevent the pest from becoming established in Oregon and to detect frass left by ALB to enhance ALB detection efforts. The program also provided a portion of the funding for ongoing support of the ACP-focused canine teams in California and the mollusk and parcel inspection teams in Florida.

Apple Snail

The apple snail is an invasive snail from South America that has been found in Alabama, Georgia, Florida, Louisiana, Mississippi, South Carolina, and Texas. It has a negative impact on rice and crawfish production in affected areas. APHIS, working with ARS, has developed a multi-year project aimed at identifying methods to control the snail. The project will include a report on the lethality of commercially available chemicals on multiple apple snail life stages; a listing of the effective cultural and mechanical controls compatible with rice and crawfish production; a list of recovered parasites relevant to the rice, crayfish, and catfish industries, as well as human health; and an assay for the detection of apple snails in water samples collected from production systems. APHIS will provide funding for the project to ARS in 2023, and ARS will conduct the work with cooperators from Louisiana State University and Mississippi State University.

7. Tree & Wood Pests

The Tree and Wood Pests (TWP) program protects forests, private working lands, and natural resources from the Asian longhorned beetle (ALB), emerald ash borer (EAB), gypsy moths, and most recently shot hole borers (SHB). Numerous native hardwood tree species that are common throughout the United States are vulnerable to these pests. APHIS cooperates with Federal, State, Tribal, and local agencies, organizations, and institutions to conduct survey, regulatory, control, and outreach activities in 48 States to manage or, in some cases, eradicate these pests. Conserving forests enhances the economic vitality of rural communities by supporting forest-related industries, recreation and tourism, and the overall livability of communities. The value of forest products that APHIS protects is over $200 billion (U.S. Forest Service, USFS). In addition, trees in residential areas lower cooling bills, filter pollutants from the air, decrease runoff, and improve residents' quality of life (U.S. Environmental Protection Agency).

Asian longhorned beetle

The ALB threatens forest resources nationwide, as roughly 30 percent of U.S. trees are potential ALB hosts. The program's ALB eradication activities prevent multi-billion-dollar losses to the maple syrup, timber, tree nursery, trade, and tourism industries.

ALB was first detected in Brooklyn, New York, in August 1996, and was later found in other areas of New York, Illinois, New Jersey, Massachusetts, Ohio, and in 2020, Charleston, South Carolina. The program has successfully eradicated ALB from Chicago, Illinois; Boston, Massachusetts; Islip, Staten Island, Brooklyn, Queens, and Manhattan, New York; Jersey City, Middlesex County, and Union County, New Jersey; and Batavia, Stonelick, and Monroe Townships, Ohio. The program continues to match State and Federal quarantine boundaries and conduct activities in regulated areas of New York, Massachusetts, Ohio, and South Carolina.

APHIS' eradication strategy for ALB includes surveys, regulatory inspections and quarantine restrictions, removal of infested and high-risk trees, and chemical treatment applications. APHIS conducts several cycles of surveys to determine the scope of infestation, establish a quarantine area, identify trees to remove or treat, determine if the pest has spread outside of the established quarantine area, and determine when to release an area from quarantine. A survey cycle, which is the time it takes to complete a survey of a given area, can take

several years depending on the size of the area, the density and type of trees in the area, and type of landscape or land use. APHIS can declare eradication after a minimum of four years between the last detection of the pest in a given area and the completed final survey cycle, when APHIS can declare eradication. APHIS provides ongoing support to evaluate new methods and protocols to combat ALB and tailors project responses to site-specific conditions, resulting in a more efficient program. Currently, each regulated area is at a different stage of eradication and faces unique, local conditions. In 2022, the program surveyed a total of more than 656,000 trees across the four regulated areas.

In the Long Island, New York, outbreak, the program surveyed 42,515 trees and found only 14 new infested trees in 2022. The program prepared for additional removals of high-risk host trees in the quarantined zone by contacting and gaining approval from homeowners. Tree removals will take place in 2023. The New York ALB program also collaborated with the U.S. Forest Service (USFS) on a risk-based model for beetle dispersal using past infested tree data to help determine areas of low risk and where to prioritize survey efforts. The program has surveyed a cumulative 1.7 million trees in Long Island over the program's life and removed more than 8,000 trees.

To address ALB in Worcester County, Massachusetts, the program continued ongoing survey efforts—surveying nearly 266,000 trees in densely wooded, hard-to-access areas in 2022. The program found no new infested trees in Massachusetts, indicating the program is making progress. Over the program's lifetime, the program has surveyed more than 10 million trees and removed 36,263 high-risk host and infested trees.

In Tate Township, Ohio, the program surveyed nearly 279,000 trees, found 77 new infested trees, and removed more than 1,000 infested and high-risk host trees in 2022. After completing final surveys of host trees in a portion of the quarantined area, APHIS issued a Federal Order to remove 7.5 square miles of the ALB quarantine area of East Fork State Park, in Batavia and Williamsburg Townships, Clermont County, Ohio. Surveying and infested tree removal efforts continued in the remaining 49 square miles of the Ohio quarantine area. The program has surveyed a cumulative 4.3 million trees in Ohio and removed approximately 115,000 since the initial detection in 2011.

In 2022, efforts in South Carolina (the most recently detected outbreak) focused on ALB surveys in the southern part of the quarantine area and removal of infested and high-risk host trees in the core area of the infestation. This regulated area includes forested and wetland areas, making access for surveys and tree removals challenging. Experienced staff from other ALB regulated areas deployed to the South Carolina outbreak to provide support. The program surveyed nearly 69,000 trees and removed 1,530 in 2022. In South Carolina, the program has surveyed approximately 142,000 trees since 2020 and removed approximately 6,500.

In 2019, the program began investigating the use of unmanned aerial systems (UASs) equipped with digital cameras as an additional survey tool. In 2020 and 2021, travel related COVID-19 restrictions delayed the investigation of the tool in the field. In 2022, the program conducted the UAS evaluation to determine if it could inspect ALB damage and conduct host tree mapping. The results of the testing concluded that the camera performance was insufficient for visual surveys under the tree canopy, and it was not able to accurately diagnose ALB damage. However, the UAS has the potential to map locations of ALB host trees. The program may consider the use of UASs to determine locations where ALB host tree surveys are needed and provide host mapping in areas where ground access is difficult. This includes the wetland areas in South Carolina.

Emerald ash borer

Another forest pest of concern is EAB. In 2002, this pest was first detected in Michigan and has since been detected in 34 additional States and the District of Columbia. In 2022, APHIS detected EAB in Oregon and confirmed detections in 42 new counties.

EAB has spread beyond what a regulatory program can control. In 2019, APHIS initiated proposed rulemaking to deregulate EAB and redirect resources for controlling the spread of this devastating pest using biological control agents and exploring ways to preserve ash resources. On September 19, 2018, APHIS published a proposed rule in the Federal Register to remove the EAB Federal domestic quarantine regulations. In 2020, APHIS reviewed and responded to all comments received during the open public comment period and in 2021, APHIS published the final rule to remove the Federal domestic EAB quarantine. In 2022, APHIS continued to transition from a regulatory program to a management and biological control program. In support of the transition, APHIS provided more than 2,000 EAB survey traps and held three webinar training workshops for State and Tribal cooperators in 22 States in 2022.

The program's biological control initiative is designed to effectively manage EAB populations. It provides a promising strategy, using four species of parasitic stingless wasps for long-term EAB management. To date, the EAB program has cumulatively released a total of more than 8 million parasitic wasps in 369 counties within 31 states and Washington D.C.

APHIS and cooperators continue to assess the impacts of the parasitic wasps on EAB populations and tree health at release sites and nearby areas. Field evaluations indicate the EAB parasitoid wasps and other EAB natural enemies are protecting sapling ash from EAB.

Gypsy Moths

European Gypsy Moth (EGM) is a destructive pest for some of North America's most beautiful and popular deciduous trees, including maples, oaks, and elms. This pest is established in all or parts of 20 northeastern, mid-Atlantic, and Midwestern States, as well as the District of Columbia. APHIS and State cooperators conduct regulatory activities in the quarantine area to prevent the human-assisted spread of the pest and the establishment of gypsy moth populations in non-quarantine areas. These efforts include inspection, treatment, and certification of regulated articles for movement from quarantine to non-quarantine (non-infested) areas. The program issues compliance agreements and conducts public outreach to ensure that businesses and residents in infested areas comply with regulations to prevent long-distance spread of the pest. EGM also spreads naturally into areas bordering the quarantined zone. APHIS monitors the transition zone along the 1,200-mile-long border of the quarantine area to ensure that newly infested areas are added to the quarantined zone and regulated effectively. Working with the USFS and the EGM Slow-the-Spread Foundation, APHIS and cooperators have greatly reduced the rate of EGM's spread and eradicated isolated populations, preventing this pest from becoming a larger issue. In 2022, APHIS and State cooperators continued to conduct EGM surveys to detect, delimit, and eradicate any isolated populations.

Asian gypsy moth (AGM) is an invasive threat to North American urban and natural forests because of its broad host range, demonstrated damage potential, and its ability to compromise an effective management system that has taken nearly 100 years of research to assemble. AGM poses a particular risk to western areas because of its ability to hitchhike on shipping vessels from Asia. APHIS supports the exclusion of AGM through negotiations and support of offshore ship inspection and certification. Due to an increase in AGM egg masses that were intercepted on ships in 2012, APHIS, the Department of Homeland Security's Customs and Border Protection, and the Canada Food Inspection Agency conducted increased outreach to the maritime shipping trade over the last several years.

In 2022, APHIS and State cooperators performed a precision delimitation response, to determine if there was a population present in Washington following a single AGM detection in 2021. The precision delimit response did not detect any additional moths. Additionally in 2022, APHIS supported post-treatment delimitation responses following eradication treatments for a single detection of AGM in Washington and for EGM at a single location in Minnesota. The program and its partners also conducted delimiting surveys in California and Oregon, for AGM that were detected in 2019 and 2020. The surveys did not detect any additional moths.

Shot Hole Borers

Various non-native shot hole borers have been detected in several States and hosts, including numerous woody trees in forests and urban landscapes, cultivated tea, and avocado. Shot hole borers are also called ambrosia beetles because they have a symbiotic relationship with ambrosia fungi, which they vector from tree to tree. The fungi disrupt the vascular system of impacted trees. In recent years the polyphagous and Kuroshio shot hole borers and diseases they cause have been devastating riparian habitats in southern California and urban areas in other parts of California. At California's request, APHIS and USFS helped establish a working group, led by USFS, with the goal of strategically addressing the shot hole borers in California.

In 2022, APHIS continued to provide support for addressing the management of shot hole borers in California. This support included, assisting with the foreign exploration of biological control agents and continuing efforts to determine host specificity of parasitoids on SHB populations. APHIS plans to continue these projects in 2023.

Selected Examples of Recent Progress – Wildlife Services:

1. Wildlife Damage Management

APHIS provides Federal leadership and expertise to resolve wildlife conflicts. Specifically, APHIS works to protect agriculture, human health and safety, property, and natural resources from disease and damage caused by wildlife. Cooperator participation and support is critical to the success of the Wildlife Damage Management Program. APHIS' wildlife biologists coordinate activities in every State and in three Territories with Federal, State and Territorial agencies, Tribes, local governments, private homeowners, farmers, ranchers, and other property owners to protect agriculture, human health and safety, natural resources, and property.

Agriculture

Feral swine are a harmful and destructive invasive species which cause significant damage to property, agricultural animal health and crops, natural resources, public health and native ecosystems. To address this problem, APHIS initiated the National Feral Swine Damage Management Program in 2014, with the goal of reducing damage and risk to agriculture, natural resources, property, animal health, and human health and safety in the United States. Ongoing research indicates that damages and control costs from feral swine could exceed $2.5 billion annually.

The Agency's damage management strategy for feral swine provides resources and expertise at a national level, while allowing flexibility to manage operational activities from a local or State perspective. Collaboration with other Federal, State, Tribal, and local entities, universities, and organizations, along with landowners and others experiencing damage, is essential for controlling the spread of feral swine and suppressing or, where possible, eliminating populations. In 2022, APHIS conducted cooperative, cost-share operational feral swine activities on approximately 231 million acres in 36 States and 3 Territories. APHIS considers feral swine eliminated from a State in detection status after the State is able to complete two years of monitoring with no additional sightings. Since the program began in 2014, APHIS and partners have successfully eliminated feral swine from six States (Colorado, Idaho, Maine, Maryland, New Jersey, and New York), and recognizes five States (Iowa, Minnesota, Vermont, Washington, and Wisconsin) in detection status.

APHIS also expedited its feral swine eradication efforts in Puerto Rico and the U.S. Virgin Islands in response to the increased threat of African swine fever (ASF). The Agency established a goal of eliminating feral swine from islands with low numbers and significantly reducing populations in areas with high numbers within 18 months. In 2022, APHIS conducted enhanced operational population control and ASF surveillance activities in the U.S. Caribbean territories, and also initiated ASF surveillance in four states (Texas, Louisiana, Georgia, and Florida) in counties determined to be at very high risk of ASF entry from Hispaniola. In addition to feral swine removal and sampling activities, APHIS conducted outreach and stakeholder engagement to ensure continuing partnership and cooperation with the local communities.

In collaboration with our partners, APHIS collected more than 6,000 samples from individual feral swine to conduct surveillance on diseases of national concern with implications for domestic livestock and public health in 2022. Other activities include, conducting economic analyses to better assess feral swine damage to agriculture, livestock, and limited resource farmers; collecting and analyzing environmental DNA to detect feral swine presence through genetic markers in water; and maintaining a National Feral Swine Genetic Archive to assess the human movement of feral swine from source populations. Finally, the Agency, along with State and university partners, is working to develop a feral swine toxicant to help control feral swine populations. The Agency has continued refinements to the sodium nitrite bait and baiting strategies, which are allowing for maximum efficacy on feral swine while reducing risks to nontarget species. A final field trial will be conducted in 2023 and results will be analyzed and written up for submission and consideration for registration with the Environmental Protection Agency (EPA). The timeframe to registration is dependent on EPA review times and potential further required studies.

While predators serve a vital role in ecosystems, they pose challenges for agriculture producers in the United States. Livestock losses attributed to predators cost producers approximately $232 million annually, according to the most recent surveys by National Agriculture Statistics Service. APHIS prevents and reduces livestock predation through technical assistance (education and outreach) to producers, and operational management programs. In 2022, APHIS provided assistance to nearly 8,000 livestock producers. APHIS and cooperators often share the cost of APHIS-conducted livestock protection activities. In 2022, APHIS conducted 72 predator management workshops attended by more than 3,000 individuals from 14 States.

In collaboration with State wildlife agencies, the U.S. Fish and Wildlife Service (FWS), and Tribes, APHIS conducts wolf damage management programs, and provides additional services to capture and mark wolves for research and population monitoring purposes. Upon request, and with appropriate authorizations, APHIS may remove depredating wolves to resolve conflicts. In 2022, livestock producers reported 1,324 animals killed by wolves. APHIS responded by providing a combination of direct control and technical assistance for wolf conflict to 762 stakeholders. APHIS provides technical assistance to producers on preventative measures to supplement direct control activities, which producers then implement themselves.

Nonlethal wildlife damage management often involves modifying human activities and practices, manipulating habitats, and other actions to change the behavior of wildlife or reduce its presence and impact. In 2022, APHIS promoted nonlethal methods to cooperators in the form of range riding, fladry, fencing, and husbandry practices. The Agency continued efforts initiated in 2021 with additional funding provided to increase and expand use of nonlethal methods in 13 States to protect livestock from large carnivore predators.

Black vulture populations have increased in both abundance and range during the past 30 years. The Migratory Bird Treaty Act, enforced by the FWS, protects black vultures, which prey on livestock. Under the Migratory Treaty Bird Act, the public cannot kill, destroy, or remove migratory birds, their nests, or their eggs without a Migratory Bird Depredation Permit from FWS. APHIS works collaboratively with FWS recommending short and long-term options to provide producers with relief from damage. If removing vultures is necessary, APHIS assists producers in obtaining a depredation permit from FWS. With cooperator funding, APHIS conducted direct control in 22 States in 2022, removing 13,154 black vultures and dispersing 83,454 black vultures to protect agriculture, human health and safety, and property (including buildings, cattle, vehicles, utilities, and sheep, among others), in addition to providing technical assistance to guide private management efforts.

Fish-eating birds, especially double-crested cormorants, can have major impacts on the U.S. aquaculture industry. According to the National Marine Fisheries Service, annual aquaculture production in the United States is valued at $1.5 billion (USDA, National Agricultural Statistics Service), and research from the National Institute of Food and Agriculture estimates that the catfish aquaculture industry incurs an average loss of $64.7 million in costs associated with bird damage and damage prevention (losses ranged from $33.5 to $92.6 million). APHIS provides operational and technical assistance to aquaculture producers, particularly on roost management of double-crested cormorant, harassment of fish-eating birds on catfish facilities, and helping farmers acquire depredation permits under the Migratory Bird Treaty Act. Work is concentrated at lower Mississippi valley and southeastern aquaculture facilities in the fall and winter. In 2022, APHIS removed 1,190 and dispersed,117,551 double-crested cormorants to protect aquaculture.

Human Health and Safety

Rabies is one of the oldest known viral diseases, yet it remains a significant wildlife management and public health challenge. APHIS is the lead Federal agency to prevent the further spread of wildlife rabies, with the goal of eliminating rabies in carnivores in the United States using oral rabies vaccination (ORV). In 2022, APHIS and cooperators distributed more than 8.5 million ORV baits to combat raccoon rabies in 15 eastern States and more than 1.2 million in Texas to prevent the reemergence of rabies in coyotes and gray foxes along the border with Mexico. This is a continuation of the strategic distribution of more than 226 million baits since the program began in 1995. These programs have eliminated canine rabies in coyotes, resulting in the United States being declared canine rabies free in 2007; the elimination of gray fox rabies from Texas (no cases since 2013); and containment of raccoon rabies in the eastern United States. An internal economic analysis projected a $1.1 billion economic impact over 22 years in the absence of the APHIS-led ORV program, due to an increased need in human post-exposure treatment, livestock and pet losses and impacts to wildlife resources. Since 2005, APHIS has conducted more than 119,000 tests using a rapid rabies diagnostic field procedure, documenting more than 2,400 rabies cases that, in turn, facilitated science-based wildlife rabies management responses. In 2022, APHIS collected more than 4,300 raccoon blood samples in 14 States to estimate rabies antibody levels in ORV zones. APHIS also coordinates with international partners through the North American Rabies Management Plan – which includes the United States, Canada, Mexico and the Navajo Nation – on information transfer, prevention and control, surveillance and monitoring, and research. In 2022, APHIS continued research focused on six main objectives: evaluation of biomarkers for determining vaccine bait uptake by raccoons; evaluation and harmonization of rabies laboratory diagnostic platforms; improvements of vaccines, baits, and attractants to enhance ORV; refinement of baiting strategies in suburban and urban habitats; development of an ORV program in Puerto Rico; and host ecology, genetics, and modeling to enhance surveillance and ORV.

Increased air traffic, faster and quieter aircraft, increased populations of some Federally protected species of birds, and other wildlife all impact the safety of aircraft, particularly in rural communities. Since 1988, bird and other wildlife strikes have destroyed more than 304 civilian and military aircraft and killed 305 people globally. With funding provided by airports, and other Federal, State, and local cooperators, APHIS works to reduce wildlife strike hazards to protect people and aircraft. APHIS estimates the annual value of damage prevented from wildlife strikes exceeds $100 million. In 2022, APHIS mitigated wildlife hazards by assisting nearly 784 civil and military airports worldwide which included 148 Department of Defense airports in domestic and international settings.

Property

Beaver damage in the southeastern United States has exceeded $3 billion during the last 40 years. To address and prevent costly beaver damage, APHIS provide assistance by removing beaver dams that clog waterways and flood roads and timber sources. Every dollar invested in beaver damage management protects approximately $45 in natural resources on average. With cooperator funding, APHIS conducted beaver damage management activities in 45 States in 2022.

Natural Resources

Non-native, invasive animals can devastate ecosystems. APHIS focuses on eliminating damage from brown tree snakes (BTS), feral swine, nutria, and other invasive species. In Guam, BTS have eliminated most species of native birds, lizards, and bats, and continue to cause power outages leading to economic losses and public safety problems. In 2022, with funding other Federal departments and the Guam Department of Agriculture, APHIS continued the multi-agency partnership to prevent BTS movement from Guam to other Pacific Islands, Hawaii, and the continental United States. It is through this partnership that the Agency removed approximately 11,467 BTS in 2022 from Guam via programs at Department of Defense (DoD) and civilian ports, DoD on-base housing and contractor facilities, and the Guam power substations and transmission lines.

Nutria damage wetlands, agricultural crops, and structural foundations such as dikes and roads. This South American rodent has destroyed tens of thousands of acres of marshlands critical to the health of the Chesapeake Bay. Between 2002 and 2015, APHIS, in cooperation with Federal and State agencies and private landowners, removed nutria from more than 250,000 acres of coastal marshland on the Delmarva Peninsula (encompassing Maryland's eastern shore, lower Delaware and Virginia's eastern shore). APHIS continued to monitor the area to remove remaining nutria and conduct rigorous systematic surveys. In 2022, APHIS surveyed 694 miles (including by foot, boat, and canine) in 23 watersheds.

On September 16, 2022, nutria was officially declared eradicated from the Delmarva Peninsula. This marked the culmination of two decades of effort. The Chesapeake Bay Detector Dog Program, born out of a need to detect remaining nutria in extremely low-density populations, proved to be critical for removing the final of residual animals. Innovative detection and removal techniques developed on the project were successfully applied in other states and countries to combat nutria and other invasive species. The elimination of nutria from the Delmarva Peninsula has protected remaining wetlands and the culturally, ecologically, and economically important fish and wildlife that depend on them. APHIS continues to partner with Federal and State agencies to conduct surveillance in Virginia and begin eradication efforts in eastern Virginia. This project is funded by FWS' Ecological Services and the Mid-Atlantic Panel on Aquatic Invasive Species.

APHIS partners with various Federal and State resource agencies, private organizations, and community groups to conduct damage management benefiting protected bird species by preventing predation from other birds and mammals to nests, eggs, and juveniles. APHIS has estimated damages or damage threats to birds, including threatened and endangered species, to be more than $70 million annually. Approximately 7,250 projects across 50 States, District of Columbia, Guam, Puerto Rico and the U.S. Virgin Islands, benefitted protected species in 2022.

2. Wildlife Services Methods Development

Wildlife Services uses Methods Development (WSMD) funding to research effective and socially responsible methods and information to manage conflicts between people and wildlife to protect agriculture, natural resources, and human health and safety. WSMD provides research in support of the Agency's project areas such as feral swine and other invasive species, agriculture protection, rabies, wildlife disease, and population and reproduction control, among others. APHIS' National Wildlife Research Center (NWRC) provides the only dedicated Federal leadership in developing methods to manage wildlife-related damage problems. Scientists work on a variety of wildlife damage management problems through discovery, development, and technology transfer and use of products and

management methods to Wildlife Services operational programs as well as public and private partners. The majority of NWRC studies involve partnerships with State and Federal agencies, non-governmental organizations, universities, tribal governments, and private sector businesses. In 2022, NWRC had 197 active studies, produced 109 publications, collaborated with 171 entities and had over 141,000 downloads from Digital Commons, a public platform for sharing research documents.

Agriculture

The WSMD Program develops methods to safeguard livestock from predators, manage invasive species, and minimize the impact of wildlife diseases. The following are examples of efforts to protect American agriculture, which includes protecting resources related to farming and ranching such as livestock, crops, animal products and other associated industries.

The APHIS National Feral Swine Damage Management Program protects agricultural and natural resources, property, animal health, and human health and safety from feral swine damage. NWRC improves the efficiency of existing control methods and develops new strategies to ensure the program and partners use safe, acceptable, and science-based management tools. In 2022, APHIS continued efforts to develop a feral swine toxicant, optimize control methods, monitor feral swine populations, assess damage to agriculture and natural resources, and understand public perceptions related to feral swine.

A toxicant and delivery system will serve as a critical component to reduce feral swine populations and the damage they cause in the long-term. In 2022, the NWRC continued refinements to the bait and baiting strategies, which will allow the maximum efficacy on feral swine while reducing risks to nontarget species. Field trials with a new toxic bait formulation were conducted to evaluate the lethality and non-target hazards of the toxic bait. Data from the field trials were analyzed in 2022 and results will be submitted to the Environmental Protection Agency (EPA) as part of the toxicant registration application. An additional field trial is planned in Texas in 2023 to gather data on the toxicant's use and effectiveness during winter months. APHIS plans to submit a registration application to the EPA in 2023 and anticipates a final decision from EPA by 2025.

APHIS, in collaboration with the state of Missouri and university partners, conducted an analysis of organizations involved in feral swine management in Missouri, including identifying which organizations serve as major communication hubs on feral swine issues. This study provides a foundation for a 2023 qualitative case study to better understand how Missouri has generated and maintained momentum to remove feral swine in the State. The goal of the research is to determine whether there are best practices that can benefit other States' feral swine policy and management strategies.

Black vulture populations are increasing and expanding their range in North America. This, combined with their ability to adapt well to human dominated landscapes, has contributed to increased human–vulture conflicts. In 2022, APHIS continued to document trends in black vulture conflicts, reviewed available management strategies, identified knowledge gaps, and provided recommendations to enhance the management and understanding of this species. Agency researchers also assessed the role of human-based and natural landscape features on vulture roost selection to inform managers where current and future roosts may likely occur. In 2021, APHIS found vulture conflicts with livestock are increasing, as well as damages associated with private and public property, and collisions between vultures and aircraft. APHIS partnered with Purdue University in 2022 to survey livestock producers about their experiences with vultures and vulture damage. Results showed 38 percent of cattle producers in Indiana reported livestock losses due to black vultures. In addition, researchers mapped black vulture livestock predation risk in a six-State area. Managers and researchers will use these results to identify areas of potential nesting and roosting locations that can be targeted for future research and management actions, predict bird travel patterns, and identify counties that may benefit from stakeholder outreach for black vulture-livestock conflict and mitigation measures.

In 2022, APHIS received funding for nonlethal methods to assist livestock producers with managing depredation by large predators. The funds were primarily utilized in 13 States: Arizona, California, Colorado, Idaho, Michigan, Minnesota, Montana, Nevada, New Mexico, Oregon, Washington, Wisconsin, and Wyoming. Most States used funding to install fencing to exclude predators from livestock pastures or to hire range riders to protect livestock from predators by providing a human presence with the livestock. Agency researchers evaluated the effectiveness of these and other techniques to reduce conflicts, and surveyed producers about their perceptions of the tools' effectiveness. Early findings from these evaluations show that nonlethal tools, especially range riding and fencing, reduced depredations on livestock. Among nonlethal methods for reducing predation, the use of range riders was perceived to be effective or somewhat effective by the greatest percentage of producers, followed by electric fencing, guardian animals, nonelectric permanent fencing, and fladry. The Agency found a nearly 40 percent increase in participants willingness to continue to use nonlethal methods after participating in the Agency led efforts.

Natural Resources

Invasive and feral species can have profound and transformative effects on native plants, animals, and ecosystems. APHIS aids in designing, implementing, and evaluating wildlife damage management activities on islands and other sensitive habitats; coordinates and provides guidance on the legal use and registration of vertebrate control methods; and assists in protecting reintroduced or recovering native species.

In 2022, APHIS continued to aid the Bureau of Land Management (BLM) and other agencies seeking solutions to resolve damage from overabundant feral horse populations. NWRC completed projects at Theodore Roosevelt National Park in North Dakota to document GonaCon-Equine's long-term effectiveness to limit reproduction in free-ranging feral horses, both as a single-shot vaccine and as a two-shot vaccine series. GonaCon-Equine is an immuno-contraceptive vaccine developed by NWRC in 2013. In the first two years following the first vaccination by hand injection, researchers saw fewer foals born to treated versus untreated mares. The effects of the vaccine lasted even longer after the booster vaccination, with treated females giving birth to fewer foals than untreated mares for at least three consecutive years. Results on the effectiveness of the two-shot series when given by remote darting are expected in 2023. APHIS continues to work with agencies to customize procedures for their specific management areas using this existing tool, while continuing to pursue the development of single-shot contraceptive vaccines.

In early 2022, APHIS registered GonaCon–Prairie Dogs with the EPA to manage fertility in female black-tailed, white-tailed, and Gunnison's prairie dogs. The product may only be used in prairie dog colonies that occur in urban and suburban areas, open spaces and natural areas, parks, campgrounds, airports, roadway medians, and other non-crop use sites. Like other GonaCon products, the vaccine must also be registered with the State before use and is currently registered in Colorado and New Mexico. The registration adds to the suite of GonaCon products for wildlife.

In 2022, an Experimental Use Permit (EUP) application was submitted to the EPA for a proposed field study for a new toxic bait, called Fish-based Bait for Mongooses, which contains the active ingredient diphacinone. The preparation of the EUP application was a collaborative effort between APHIS and industry partners. The bait was developed to target invasive mongooses and was highly efficacious in a two-choice laboratory efficacy trial. If the EUP is approved, the bait will be tested in the field in bait stations in Hawaii in conservation areas and ports-of-entry in 2023.

Chronic wasting disease (CWD) is found in 30 States and impacts numerous wild and captive populations of deer and elk. Concerns about the impacts of diseases, such as CWD, on the U.S. livestock industry, and captive and wild cervid populations continues to prompt research studies on preventing disease outbreaks and minimizing the transmission of diseases between wildlife and livestock. Starting in 2021 and continuing in 2022, NWRC established cooperative agreements with universities to enhance existing CWD diagnostic tools; assess the movement of prions between wild and captive cervid herds; determine the potential role of scavengers, such as crows and coyotes, in the spread of CWD; and explore the use of environmental monitoring to detect CWD. In 2022, NWRC also established a new CWD research project and prion laboratory which will oversee both laboratory and field research by the Agency. APHIS is also developing a prion sample archive to retain samples from APHIS and State CWD management efforts for use in diagnostic development and future research.

The western Pacific Ocean coral atoll, known as Wake Atoll, is approximately 750 square kilometers and consists of three islands: Wake Island, Wilkes Island, and Peale Island. In 2022, APHIS collaborated with the U.S. Air Force and non-profit groups to conduct risk assessments necessary for future rodent eradications projects on the islands. The natural and human-made habitats increase the challenges associated with an eradication project. For our part, the Agency assessed the intertidal and structural baiting environments and assessed site readiness. APHIS is expected to support the collaborative eradication effort in 2023, as well as future efficacy monitoring.

Human Health and Safety

NWRC develops and evaluates new tools and techniques to address human health and safety issues related to wildlife disease and aviation safety.

Since 1995, the Agency has been working cooperatively with Federal, State, and local agencies, universities; and other partners to prevent the spread and reduce the prevalence of rabies in specific wildlife populations. Each year, APHIS and cooperators distribute more than 8 million oral rabies vaccine baits across 17 States to create vaccination zones that prevent the spread of raccoon rabies virus. NWRC's development of new tools and techniques and its evaluation of disease management strategies supports APHIS' National Rabies Management Program and its mission to prevent the spread of wildlife rabies and protect U.S. public health, agriculture, and natural resources. In

Puerto Rico, mongooses account for 40 to 80 percent of the reported rabies cases. Starting in 2011, APHIS began efforts to develop a rabies surveillance and control program for mongooses in Puerto Rico by determining the mongoose population density, home range behavior and habitat use, exposures to rabies virus, effective bait formulations and delivery mechanisms, in addition to potential nontarget hazards and public health and environmental risks. In 2022, APHIS continued to evaluate the use of the ONRAB vaccine and bait for controlling rabies in mongoose. The results have allowed researchers to recommend modifications to the baits' structure and shape to improve bait uptake by mongooses.

Collisions between wildlife and aircraft have increased in the past 30 years because of an increase in both hazardous wildlife species populations and aircraft movements. Through the Wildlife Damage Management program, APHIS provides operational and technical assistance. In addition, the Agency is conducting a series of trials at airports in eight States (North Carolina, Oklahoma, Michigan, South Carolina, South Dakota, Virginia, Washington and Wisconsin) in partnership with Arkion Life Sciences, LLC on the effectiveness of wildlife repellents at airports. The Agency has collaborated with Arkion to develop and register Flight Control® Max, an anthraquinone-based wildlife repellent. Anthraquinone is a naturally occurring compound that is found in more than 200 plant species. When eaten, anthraquinone has a repellency effect in many wild birds and some wild mammals, including mice, voles, squirrels, prairie dogs, rabbits, raccoons, and feral swine. The project is ongoing, but to date, four of the eight airports would continue to use the repellent to help reduce wildlife damage and hazards at their facilities. Results from the trials will support the development of best management practices for the use of repellents at airports.

Partnerships and Technology Transfer

The Federal Technology Transfer Act of 1986 allows Federal laboratories and industry to form partnerships that enhance the development of new technologies and move them to the marketplace to meet public and consumer needs. APHIS regularly partners with Federal and State entities, private companies, international groups, and non-governmental organizations to encourage the development and licensing of new wildlife damage management products to manage wildlife conflicts. Most NWRC technology development activity and partnerships involve universities and small businesses. Technologies pursued include development of devices, baits, formulations, and vaccines. In 2022, NWRC furthered its partnership efforts to make sure its research and development activities had a path for commercial development and operational management with the following: six Confidentiality Agreements, three Data Sharing Agreements, fifteen Material Transfer Agreements, nine Material Transfer Research Agreements, three Cooperative Research and Development Agreements, three Invention Disclosure, two Provisional Patent Applications, two Non-Provisional Patent Applications, three U.S. patent issued, and four foreign patents issued. Additionally, a large patent portfolio was initiated in 2022 between the NWRC Repellent Research Project and Arkion Life Sciences. Over the course of this collaboration, 18 patents have been allowed in the United States and 9 foreign countries, including a global patent under the Patent Control Treaty. APHIS is continuing to make progress on several patents through this partnership that are still under review in the United States and foreign countries.

Selected Examples of Recent Progress – Regulatory Enforcement:

1. Animal and Plant Health Regulatory Enforcement

Animal and Plant Health Regulatory Enforcement (APHRE) provides investigative, enforcement, and regulatory support services to the Agency's four regulatory programs and Agricultural Quarantine Inspection (AQI) activities carried out in partnership with the Department of Homeland Security's U.S. Customs and Border Protection (CBP). APHRE investigates alleged violations of Federal laws under its jurisdiction and pursues appropriate enforcement actions through administrative, civil, or criminal procedures.

In 2022, APHRE initiated 1,389 new cases, issued 505 official warnings, issued 672 pre-litigation settlements resulting in the collection of $1,939,534 in stipulated penalties, and obtained administrative orders assessing $181,750 in civil penalties. The Agency considers a case complete after it issues an official warning or voluntary settlement to which the recipient agrees, finds there is insufficient evidence to support enforcement action, or refers a case to the USDA's Office of the General Counsel (OGC). Highlights from APHRE are described below.

To support animal health, APHRE initiated 97 cases, issued 104 official warnings, issued 40 pre-litigation settlements resulting in the collection of $94,445 in stipulated penalties, and obtained an administrative order assessing $7,000 in civil penalties against a person for violations of laws aimed at protecting animal health and American agriculture. In one case, APHIS negotiated a pre-litigation settlement in the amount of $5,500 to resolve violations of the Animal Health Protection Act relating to the sale of sheep and goats without the required official identification. In two other cases, accredited veterinarians agreed to pay civil penalties of $5,000 and $4,375 relating

to the interstate movement of animals without the required documentation, a direct violation of the Animal Health Protection Act.

To support plant health, APHRE initiated 29 cases, issued 15 official warnings, negotiated 11 pre-litigation settlement agreements resulting in the collection of $31,031 in stipulated penalties, and obtained 2 administrative orders assessing $18,750 in civil penalties. In one case, APHRE negotiated a pre-litigation settlement in the amount of $9,750 that resolved violations of the Plant Protection Act involving the importation of Hass avocados from Peru. In another case, APHRE negotiated a pre-litigation settlement for $4,750 for violations of the Plant Protection Act involving non-compliance with ISPM-15 standards for regulating wood packing material in international trade.

To support AQI activities, APHRE initiated 992 cases, issued 182 official warnings, and issued 603 pre-litigation settlement agreements resulting in the collection of $1,637,813 in stipulated penalties. In one case, APHRE negotiated a pre-litigation settlement agreement with an Express Carrier in the amount of $491,250 that resolved hundreds of alleged violations of the Plant Protection Act and the Animal Health Protection Act relating to the breach of agricultural holds for inspection placed by CBP. In another case, APHRE negotiated a pre-litigation settlement agreement in the amount of $132,438 to resolve numerous alleged violations of the Plant Protection Act and the Animal Health Protection Act relating to the handling of regulated garbage.

To support animal welfare, APHRE initiated 262 cases for alleged violations of the Animal Welfare Act (AWA), issued 204 official warnings, issued 18 pre-litigation settlements resulting in the collection of $176,245 in stipulated penalties, obtained 17 administrative orders resulting in the assessment of $133,000 in civil penalties, and suspended or revoked 7 licenses. In one case, APHRE negotiated a pre-litigation settlement agreement in the amount of $25,650 to resolve alleged violations of the AWA standards including the failure to protect and prevent discomfort to animals kept outdoors by providing natural or artificial shelter appropriate to the local climatic conditions. In another case, working with the Office of the General Counsel, APHIS obtained a Default Decision revoking the respondent's AWA license and assessing a civil penalty of $53,600 for multiple violations of the AWA.

To support horse protection, APHRE worked with OGC to obtain an administrative order disqualifying 1 person from participating in activities regulated under the Horse Protection Act for a period of 8 months. In addition, APHRE initiated 9 new cases for alleged violations of the Horse Protection Act (HPA). These 9 new cases have been referred to OGC for administrative action. Civil penalties and fines related to these cases are still pending at this time.

APHRE will continue to post copies of enforcement records (such as initial decision and orders, default decisions, consent decisions, and administrative complaints) on its website: https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/actions.

2. Biotechnology Regulatory Services

APHIS' biotechnology regulatory system safeguards American agriculture and agriculturally important resources and fosters the safe research, development, and commercialization of innovative new agricultural products. Under the Plant Protection Act's (PPA) authority, APHIS oversees plants and certain organisms developed using genetic engineering (modified plants and modified organisms) that may pose a plausible pest risk to plants. The regulations allow APHIS to place requirements on field testing, importation, and interstate movement of modified plants and organisms, unless a modified plant is exempt from regulation, or the Agency reviews a modified plant and determines it is unlikely to pose a plant pest risk.

Regulatory Changes

In 2022, APHIS operated under the new regulatory processes in its revised biotechnology regulations (7 CFR part 340), which were published in May 2020, with a phased implementation throughout 2022. In 2022, APHIS issued its responses under the Regulatory Status Review (RSR) process and supported the developer community through the regulatory transition by sharing user guides, commonly asked questions and answers, and regulatory responses on its website.

Authorizations

Developers must obtain an authorization for the movement — importation, interstate movement, or environmental release — for modified plants and organisms unless a modified plant is exempt from regulation or the Agency has reviewed a modified plant and determines it is unlikely to pose a plant pest risk. As part of the authorization process, APHIS evaluates potential risks associated with regulated activities and may impose specific permit conditions to ensure modified plants and organism stay confined. In 2022, APHIS issued 758 authorizations to 207 organizations (academia, developers of all sizes, and government research groups) to use novel plants and organisms developed using genetic engineering. More specifically, APHIS evaluated 21,670 constructs (a 35 percent increase relative to 16,036 constructs in 2021) and 4,446 planting locations (a 118 percent increase relative to 2,041 locations in 2021) on 183,075 acres of land in 376 counties across 42 States and U.S. Territories. The Agency completed 98 percent of 2022 authorizations within target timeframes specified in the regulations.

Regulatory Review for Nonregulated or Exempt Status

Prior to adopting the revised regulations, developers could request (or petition) APHIS to remove a modified plant from regulation if they provided scientific information that demonstrated their plant did not pose an increased plant pest risk relative to a comparator plant from which it was derived. In 2022, APHIS made one determination of nonregulated status in response to a petition submitted under the legacy process for a variety of modified soybean, bringing the cumulative total of APHIS determinations to 136. APHIS continues to review six petitions for nonregulated status submitted under the legacy regulations.

Under the revised regulations, developers may now request a Regulatory Status Review (RSR) to learn whether a modified plant is subject to the regulations. The RSR process evaluates whether a plant requires oversight based on the characteristics of the modified plant itself, rather than on whether the plant was modified using a plant pest, as in the legacy regulations. In 2022, APHIS received 28 RSRs, 79 percent of which were requests by small-to-medium sized developers and public institutions in contrast to the legacy regulations where these groups represented just 25 percent of all reviewed products. These requests also included 13 crops that had never been reviewed under the legacy petition process. APHIS issued 3 responses to RSR requests for a tomato modified for altered color and nutrition qualities, corn modified for altered animal feed quality for improved digestion, and potato modified for altered tuber quality (non-browning).

Additionally, APHIS' new Confirmation Request (CR) process allows developers to voluntarily request a confirmation from APHIS that a modified plant qualifies for an exemption and is not subject to the regulations. In 2022, APHIS responded to 9 requests for confirmations of exempt status within 39 days, on average, of receiving a complete request (81 days faster than the timeframe specified in the regulations). All 9 responses were issued to small or medium sized developers, expediting innovative product development for agricultural use and domestic and international markets, including, for example, barley with altered germination, petunias with altered flower color, bananas with altered fruit quality (non-browning), potatoes with altered tuber quality (non-browning), and corn with altered nutrient quality for use in animal feed.

Compliance and Inspections

APHIS requires developers to comply with permit requirements, to help ensure that modified plants and organisms remain confined and do not persist in the environment. To ensure regulated activities meet the requirements outlined in the permit, APHIS inspects fields, equipment, and other associated facilities. In 2022, APHIS oversaw more than 660 inspections. The virtual inspection process, launched in 2018, proved critical for managing travel restrictions imposed during the COVID-19 pandemic. In 2022, APHIS prepared its inspectors to return to primarily conducting in-person inspections, concluding the fiscal year with more than 450 in-person inspections and more than 200 virtual inspections.

BRS has a comprehensive inspection system that uses science and risk criteria to identify any potential noncompliance. In 2022, approximately 88 percent of inspections were found to be in compliance (589 notices of compliance and 74 notices of noncompliance) with APHIS biotechnology regulations and permit requirements during the inspection process. The agency considers additional factors when assessing compliance, including but not limited to self-reporting of incidents and timeliness of reporting. Compliance rates for these additional factors averaged approximately 26 percent in 2022.

APHIS continues to take steps to strengthen its oversight of regulated field trials. In 2022, APHIS continued to use a risk-based inspection selection process and updated compliance inspection worksheets to align with revised regulations. APHIS also used technology to enhance digital mapping capabilities and remote sensing to augment oversight through virtual monitoring and field trial evaluations. Additionally, APHIS updated certain requirements for field trials authorized under permits, increasing consistency, and improving clarity of requirements for regulated entities and increasing enforceability of requirements in accordance with the OIG recommendations.

Partnerships

APHIS continued to work with the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA) to share information about and improve regulatory oversight of modified plants and organisms. In particular, APHIS collaborated on the development of an implementation plan for President Biden's "Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy." APHIS also continues to collaborate with FDA on the "Feed Your Mind" initiative to increase public knowledge of biotechnology. Additionally, APHIS' international outreach efforts aim to reduce the likelihood of trade disruptions by helping countries to focus on practical, risk- and science-based regulatory approaches. As part of these efforts, APHIS serves as the U.S. government lead of the Working Group on Harmonisation of Regulatory Oversight in Biotechnology in the Organization for Economic Co-operation and Development, which promotes international harmonization in environmental risk/safety assessment and regulation of organisms produced through modern biotechnology.

The Agency is also part of the interagency working group for the Cartagena Protocol on Biosafety, as well as its parent convention, the Convention on Biological Diversity. APHIS engages in capacity building efforts for foreign regulatory officials and scientific advisors by conducting presentations, participating in international forums, and serving on committees. In 2022, APHIS delivered approximately 15 presentations and seminars on the revised regulations to diverse international organizations, regulators, reviewers, and scientists from over 40 countries and economies and participating in 6 bilateral engagements between regulators and scientists from the United States and Pakistan, Botswana, Turkey, Korea, Japan, and Egypt. These sustained and consistent efforts helped influence Kenya and the Philippines to adopt new biotechnology regulations that are expected to shorten approval times and reduce regulatory burden for commercializing genetically engineered crops, particularly those developed using genome editing with modifications that do not involve the insertion of foreign DNA (consistent with APHIS' approach in the revised biotechnology regulations), and Australia, New Zealand, and the United Kingdom to advance proposals with similar approaches.

Selected Examples of Recent Progress – Emergency Management:

1. Emergency Preparedness & Response

The Emergency Preparedness and Response (EPR) program improves APHIS' capability to prevent, prepare for, respond to, and recover from animal health emergencies. This program's goal is to respond to an animal health event within 24 hours from the time APHIS determines that a federal emergency response is needed to manage an agricultural outbreak. It develops strategies, policies, and procedures for incident management and response coordination that meet national and international standards. The program participates in joint Federal, State, and local animal health and all-hazards test exercises to improve response capabilities. In addition, this program works with major commodity groups to ensure the continuous movement of livestock products during animal health emergencies. The EPR program funds activities that enable APHIS to achieve a high state of readiness and be able to respond rapidly and effectively to emergency events, thus lessening the impact of those events on producers, consumers, taxpayers, and the overall economy. Also, through this program, APHIS and the Centers for Disease Control and Prevention (CDC) jointly manage the Federal Select Agents Program (FSAP), which oversees the possession, use, and transfer of biological select agents and toxins that have the potential to pose a severe threat to public, animal or plant health, or to animal or plant products.

The EPR program provides national leadership and regional coordinators in the 10 Federal Emergency Management Agency (FEMA) regions for Emergency Support Function #11: Agriculture and Natural Resources (ESF #11). These coordinators work with local, State, Tribal, Territorial, Insular Area Governments, and other Federal agencies to prepare for and respond to emergency incidents and disasters. Expertise includes supporting animal and agricultural health incident responses; providing technical expertise to support animal and agricultural emergency management; ensuring the safety and defense of the Nation's supply of meat, poultry, and processed egg products; providing nutrition assistance; and working with the Department of the Interior to ensure the protection of historic

properties and natural and cultural resources. ESF #11 support mobilizes USDA response capabilities and resources from APHIS, the Food and Nutrition Service, and the Food Safety and Inspection Service, and includes collaborating with the Farm Service Agency, the Natural Resources Conservation Service, and Rural Development, which assist in the recovery of disaster-impacted areas. In addition, APHIS provides technical support to FEMA for the care of pets and service animals during disasters. The EPR program also maintains Emergency Qualification System dispatchers, who coordinate the delivery of emergency resources, as well as the APHIS security coordinator program and the Volunteer Emergency Ready Response Corps (VERRC) program, continuity planning, and Geographic Information System capability during incidents. This program also provides services to protect the health and safety of Agency personnel. Respirators serve a vital function by protecting workers from significant hazards and harmful pollutants. In 2022, respirators were used to protect APHIS employees who responded to multiple outbreaks of highly pathogenic avian influenza. APHIS continues to use respirators for this purpose as well as to protect employees who may respond to emergencies that require protection from hazardous chemical use. To comply with regulations instituted by the Occupational Safety and Health Administration, APHIS trains employees as respirator fit-testers and fit-tests any employees who may be using respirators at least annually to ensure proper fitting. APHIS had 131 trained fit-testers on staff as of the end of 2022 (compared to 164 at the end of 2021) and had 719 employees on staff who had been fit-tested (compared to 575 at the end of 2021). In 2022, the Agency maintained and calibrated 32 fit-testing units to ensure they met requirements.

Preparedness, Partnerships, & Planning

APHIS' National Preparedness and Incident Coordination Center (NPIC) develops animal health emergency management guidelines to protect U.S. animal agriculture through collaborative, science- and risk-based strategies. The guidelines are based on the National Incident Management System (NIMS) and National Response Framework. The NPIC National Training and Exercise Program (NTEP), which addresses the national priorities of APHIS' stakeholders, is dedicated to improving preparedness, mitigation, and response to animal disease emergencies among all stakeholder groups. It creates dynamic, real-world learning scenarios to build response capabilities of emergency responders and maintain the Agency's response readiness. In 2022, APHIS, State cooperators, and industry developed the Foreign Animal Disease Southern Agriculture Functional Exercise (FAD SAFE), a functional exercise for 11 States, one territory, and one Native American tribe. FAD SAFE is designed to test State agricultural agency response capabilities in the event of a multi-State Foot and Mouth Disease (FMD) outbreak. During the FAD SAFE, 1,481 players participated over the four-day exercise. In addition to FAD SAFE, the NTEP relied on more than 200 volunteers working more than 5,000 support hours on 49 Animal Disease Events. Volunteers completed seven virtual foreign animal disease diagnostician (FADD) drills for beef feedlots, cow-calf, dairy, swine, goats, equine, and livestock markets. The NTEP also drafted the 2022 Highly Pathogenic Avian Influenza (HPAI) Response Overarching After-Action Report and Improvement Plan and began developing a tabletop exercise for the Secure Poultry Supply and a poultry FADD Drill. In addition, the NTEP offered six webinars to help States prepare for the FAD SAFE exercise or help them develop an after-action report for their HPAI response.

In 2022, APHIS continued to sustain its animal health readiness capacity by maintaining 5 Incident Management Teams (IMT) with 28 volunteer first-responders per team (approximately 140 first-responders total). At any time, one of these teams is on-call and ready to deploy anywhere to respond rapidly and effectively to animal health disease events in support of incident management. These teams regularly experience personnel turnover reflecting a normal cycling of volunteer positions. The IMT members participate in training and workshops on the Incident Command System, animal disease, information technology, and technical training and workshops. Many of these trainings and workshops are hosted by the NTEP.

APHIS provides subject matter expertise on pet owners and their pets, for breeders, dealers, and exhibitors regulated by the Animal Welfare Act to enhance emergency response coordination. In 2022, the Zoo and All-Hazards Partnership, a collaborative agreement with USDA and the Association of Zoos and Aquariums, was able to reach over 600 entities, including zoos, aquariums, wildlife parks, sanctuaries, rehabilitation facilities, science centers, professional associations, hobbyist groups, private owners, private veterinary practitioners, and State, Federal, and local emergency management agencies. Activities conducted included webinars and other events covering topics such as Impacts of Highly Pathogenic Avian Influenza on Zoos and Bio-Security and Resilience for Zoos and Aquariums. APHIS also supported two additional efforts, including the National Summit on Animal Emergency Management, which brought together governmental and non-governmental partners and subject matter experts to address national animal emergency management capabilities. Additionally, the Agency collaborated with the University of Kentucky to update best practices documents in animal emergency management, including animal sheltering, animal evacuation and transportation, animal search and rescue, animal decontamination, veterinary

medical response, community outreach and engagement, planning and resource management, and incident command and coordination.

Response Efforts and Foreign Animal Disease Investigations

In 2022, FEMA mission assigned ESF #11 coordinators 9 times to support 6 incidents including wildfires, hurricanes, severe storms/tornados, and flooding. APHIS dispatchers worked with Agency programs to create announcements for emergency response activities and processed 2,170 resource requests for 48 agricultural and all-hazards incidents. In addition, the Agency trained more than 100 employees, including IMT members, safety officers, security coordinators, emergency coordinators, and VERRC members for various emergency response roles and situations.

In 2022, APHIS conducted 3,515 FAD investigations, of which 1,464, or 42 percent, were vesicular disease investigations. Vesicular diseases are viral diseases that affect various livestock animals, primarily swine and cattle. The most prominent vesicular disease is FMD, which is the highest-consequence FAD in terms of regulatory intervention and economic consequences. Several vesicular diseases exhibit similar clinical signs and can only be differentiated through laboratory testing. In addition, 1,322 investigations, or 38 percent of the investigations, were poultry investigations. This high number of poultry investigations is attributable to heightened concern due to the 2022 HPAI outbreak.

Safeguarding of Select Agents

APHIS and the Centers for Disease Control (CDC) jointly administer the select agents and toxins regulations as the Federal Select Agent Program (FSAP). Any individual or entity possessing, using, or transferring select agents or toxins that affect plant, animal or human health must register with FSAP Facilities must meet biosafety requirements, including employing measures to ensure the safety and security of select agents. APHIS and the CDC inspect facilities that possess, use, or transfer select agents to ensure regulatory compliance. To eliminate potential conflicts of interest, the CDC inspects USDA facilities, and APHIS inspects CDC facilities that possess select agents. APHIS' Division of Agricultural Select Agents and Toxins (DASAT) ensures that registered facilities promptly address non-compliances and take corrective actions. As of September 30, 2022, 36 entities were registered with APHIS and 199 entities were registered with the CDC.

In 2022, FSAP conducted 191 inspections of which 122 were conducted by the CDC, 21 were conducted by APHIS, and 48 were conducted jointly. The 69 inspections in which APHIS was involved consisted of 25 verification inspections, 40 renewal inspections, 1 new entity inspection, 3 new space inspections, and no compliance inspections. Of the 69 total inspections, 17 were remote, 30 were on-site, and 22 were hybrid (inspectors working onsite and remotely) inspections. APHIS identified deficiencies during these inspections and notified the inspected entities. The DASAT also conducted joint inspections with the CDC, the Department of Homeland Security (DHS), and the Department of Defense. DASAT worked with the Federal Bureau of Investigation (FBI), which conducts Security Risk Assessments (SRA) for the program, to evaluate individuals requesting access to the select agents and toxins. In 2021, FSAP facilitated 8,672 FBI SRAs, and based on the results, restricted the access of 21 individuals to select agents . FSAP issued 201 final inspection reports in 2021, and 99 percent of them were issued within the target timeline of 30 business days. Calendar year 2022 figures will be available in January 2023. In 2022, DASAT supported entities during several hazardous events to ensure the safety and security of select agents and toxins. In addition, DASAT continued to respond to an Office of Inspector General audit by providing responses to 6 of 11 audit recommendations. Also in 2022, FSAP continued to coordinate with representatives from APHIS and the Agricultural Research Service (ARS) overseeing the stand-up of the National Bio and Agro-Defense Facility in Kansas to provide guidance on the select agent registration process. FSAP provided input into select agent regulatory standards and the select agent program's facility registration approval process. FSAP is also working with DHS, OMB and National Security Council to publish the proposed rule, Agricultural Bioterrorism Protection Act of 2002; Biennial Review and Republication of the Select Agent and Toxin List.

Modeling and Monitoring

APHIS uses epidemiologic and economic models to better understand historical events, estimate consequences, and inform strategic, logistical, and budgetary decisions by evaluating varying interventions related to animal health. In 2022, the Agency continued to develop and/or update disease-spread and control models for African Swine Fever (ASF), bluetongue virus (BTV), FMD, highly pathogenic avian influenza, and virulent Newcastle Disease. In collaboration with the ARS, APHIS continued to develop modeling applications and disease-spread scenarios in the InterSpread Plus model to explore the impact of alternative control strategies on the severity and duration of

simulated, national-level ASF and FMD outbreaks. New developments in the ASF national model include the addition of slaughter plant facilities, the addition of a boar stud production type to support a risk assessment, and the creation of an instance of the national model that includes Puerto Rico. APHIS and ARS used these model scenarios to inform planning for emergency response, and to evaluate the effectiveness of applying network-based controls during simulated FMD outbreaks. In 2022 APHIS applied these models to guide decision-making and support resource planning associated with ASF outbreaks in the Caribbean and HPAI outbreaks in North America.

SAFE TRADE AND INTERNATIONAL TECHNICAL ASSISTANCE

Current Activities

APHIS monitors animal and plant health throughout the world and uses this information to set effective agricultural import policies to prevent the introduction of foreign animal and plant pests and diseases. APHIS and the Department of Homeland Security cooperate to enforce these policies at U.S. ports of entry. APHIS also develops and conducts pre-clearance programs to ensure that foreign agricultural products destined for the United States do not present a risk to U.S. agriculture. The Agency engages in cooperative programs to control pests of imminent concern to the United States and to strengthen foreign plant protection and quarantine organizations. The Agency also provides scientific and technical support in resolving sanitary (animal) and phytosanitary (plant) trade barriers.

APHIS negotiates animal and plant health certification requirements, assists U.S. exporters in meeting foreign regulatory requirements, ensures requirements are proportional to risk without being excessively restrictive, and provides any necessary technical information to support the safety of U.S. agricultural products destined for foreign markets.

Selected Examples of Recent Progress in Facilitating Safe Trade:

1. Agriculture Import/Export

APHIS works with other Federal agencies, States, foreign governments, industry, and academia to protect U.S. agriculture while facilitating the safe trade of animals and animal products. APHIS' animal health experts ensure that U.S. import requirements safeguard U.S. livestock health and negotiate requirements for the export of U.S. animals and animal products worldwide. These requirements are based on compliance with international standards, sound scientific principles, and fair-trading practices for animals and animal products. In addition, APHIS sets quarantine, testing, and other requirements under which animals and animal products can be imported or exported. These requirements help ensure that global markets can be accessed, expanded, or maintained with little or no risk to U.S. animal production and human health. APHIS also outlines activities to support aquatic livestock imports and exports through the development of the Aquaculture Business Plan and the 2021-2023 National Aquaculture Health Plan and Standards.

APHIS conducts activities related to the 2008 Farm Bill amendments to the Lacey Act, which prohibit the importation of any plants, with limited exceptions, that are taken or traded in violation of domestic or international laws. The Act requires a declaration for imported shipments of most plants or plant products. A 2012 study by the United Nations Environmental Programme estimated the value of illegal logging, including processing, to be between $30 to $100 billion dollars, or 10 to 30 percent of the global wood trade. The Lacey Act amendments are designed to help combat this illegal logging by encouraging importers to research their supply chains and be aware of the laws governing products they purchase in other countries. APHIS' role is to evaluate and implement existing regulations, provide guidance to importers regarding the required declaration, perform compliance checks, provide enforcement agencies with declaration information to assist their investigations, and maintain declaration records.

Imports

To facilitate imports, APHIS evaluates the animal health status of regions that wish to export animals and/or animal products to the United States. This evaluation process minimizes the risk of introducing foreign animal diseases through importation and is consistent with international trade requirements. In 2022, APHIS completed several evaluations and published regulatory actions based on those evaluations in the Federal Register. These include notices to recognize Bolivia and Ireland as negligible risk for bovine spongiform encephalopathy (BSE). These regulatory actions account for numerous downgrades of status for trade implemented due to various disease outbreaks in other countries. To ensure countries have appropriate surveillance, prevention, and control measures in place, APHIS conducts site visit around the world to minimize the likelihood of introducing foreign animal diseases into the United States. APHIS resumed site visits in 2022 that were delayed or halted in the previous two years due

to COVID-19 travel restrictions. These included Mexico for tuberculosis, Costa Rica for classical swine fever, Colombia for foot and mouth disease, and Panama and Brazil for Newcastle disease.

APHIS continues to ensure that import regulations are effective and science-based, and to work with U.S. businesses and importers to facilitate safe trade. For example, APHIS worked with States in 2022 to better understand State-level disease control options and how they can support trade. The Agency implemented a customer-friendly veterinary permitting assistant tool to support the new integration of electronic e-File program for all animal permitting needs. Additionally, APHIS issued 22,256 import permits for live animals, animal products, organisms, and vectors in 2022. These include new permits, renewals, and amendments.

Exports

To open, re-open, and maintain U.S. access to worldwide export markets, APHIS negotiates science-based conditions with trading partners for various commodities that protect their country while also facilitating trade. In 2022, APHIS negotiated or re-negotiated 17 export protocols for animal products (7 new markets, 1 re-opened markets, 5 expanded markets, and 4 retained markets). This includes retaining market access for poultry exports in numerous countries that imposed restrictions due to outbreaks of avian influenza and Newcastle disease.

In 2022, APHIS opened, expanded, retained, or reopened 118 live animal export markets. To facilitate the export of animals and animal products, APHIS coordinated the certification of 329,344 health documents and 2,663 facility approvals. APHIS also assisted export markets by participating in industry stakeholder meetings on obtaining new market access, provided technical support to the Office of the U.S. Trade Representative for World Trade Organization (WTO) cases, coordinated, or supported audits with trade partners with whom we have requested new market access, and engaged in bilateral trade meetings with Taiwan, Mexico, the United Kingdom, and the European Union. In addition, APHIS developed information packages and questionnaire responses from various countries to maintain, expand, or open export markets as well as to release held shipments.

APHIS continued to increase the number of live animal health export certificates issued electronically this year by expanding the system capabilities for the Agency's online Veterinary Export Health Certification System (VEHCS). VEHCS capabilities include digital signature, multiple user roles, a certificate upload feature, certificate re-issuance, inclusion of supporting documents and payment information, and is working to expand the number of countries and commodities for which electronic certification is available. APHIS issued a notice to the WTO in 2020 indicating the acceptance of electronic USDA Accredited Veterinarian signature for the issuance of all live animal export health certificates submitted to APHIS for endorsement. APHIS' digital endorsement for live animal export certificates is currently accepted by 39 countries.

Lacey Act

In 2022, APHIS received approximately 1.2 million Lacey Act declarations electronically or on paper (the vast majority were received electronically through the Department of Homeland Security's Customs and Border Protection's (CBP) Automated Cargo Environment (ACE) system). Since implementing the 2008 amendments to the Lacey Act, APHIS has added products to the declaration requirement/enforcement schedule in phases. On October 1, 2021, APHIS implemented phase six, which expanded the Lacey Act declaration requirement to items such as new wooden pallets and containers, essential oils, and certain musical instruments made of wood, among other items. APHIS originally announced phase 6 in the Federal Register on March 2020, with an effective data of October 1, 2020, but delayed the implementation date by a year to allow pallet producers and essential oil importers time to adjust practices as needed to be able to meet the Lacey Act requirements in response to concerns raised by industry representatives. Based on these concerns, APHIS is proactively beginning outreach for the next implementation phase (phase 7), which will cover all remaining non-composite wood products for which declarations are not already required. Due to the complexity involved in the production of composite products and the likelihood of additional rulemaking for declaration requirements, they will be addressed in phase 8, which APHIS anticipates will be the final implementation phase. APHIS began informal outreach to stakeholders as well as site visits to understand the details of composite product construction, in order to understand the difficulties for the industry in meeting current declaration requirements. In 2022, APHIS developed a tool to designate Lacey Act noncompliance risk scores for over 800 commodities that are imported into the United States. This tool will help inform compliance efforts by allowing the program to focus on high-volume, high-risk commodities. In 2022, APHIS issued more than 200 letters of noncompliance for importers whose declarations contain errors. This non-punitive outreach tool informs filers that there are likely errors in their declaration, that corrections should be made in future filings, that enforcement action could be taken on future filings, and provides contact information for

questions or concerns. APHIS and its Federal partners (including other USDA agencies, CBP, U.S. Department of Justice, and the U.S. Fish and Wildlife Service) continued to expand and improve Lacey Act compliance programs by developing plans for and conducting documentation reviews of importers, continuing development of wood identification technologies, and considering alternatives to seizing and forfeiting shipments due to the time and cost involved.

In 2020, APHIS received supplemental funding under the United States-Canada-Mexico trade agreement to carry out enforcement of the Lacey Act Amendments related to trade in plant and plant products between the United States and Mexico. In 2022, APHIS procured software that will enable the Lacey Act program to conduct in-depth analysis of Lacey Act declaration data and integrate it with other data sets, such as CBP data on imports and lists of threatened plant species, among others. This capability will allow APHIS to identify non-compliant importers, identify suspicious documentation, and conduct risk-based analyses of declaration data. APHIS will focus analyses on species of concern in Mexico or that may be transshipped through Mexico. Additionally, APHIS provided funding to USDA's Forest Service through an interagency agreement to identify tree species that are protected in the wild but also grown commercially on farms to help inform analysis and compliance efforts. Protected trees are sometimes listed on Lacey Act declaration forms. Trading of these species is often illegal if harvested from natural habitats, but legal when cut from planted forests. Information on planted forests is sparsely available. The goal of the project is to collect, and map planted forest data focusing on South American species that could be routed into or through Mexico. The outcome will be an updated spatial database of planted trees that will assist APHIS in Lacey Act enforcement related to the USMCA. It will also provide data for the Arbor Harbor development group working on wood identification projects and other partners involved in Lacey Act enforcement, including the U.S. Department of Justice, the U.S. Fish and Wildlife Service, as well as and non-governmental organizations involved in forest conservation.

2. Overseas Technical & Trade Operations

Through the Overseas Technical and Trade Operations (OTTO) program, APHIS facilitates market access for U.S. farmers and ranchers to export their products to other countries by addressing animal and plant health-related issues that impede or prevent trade of U.S. agricultural products. APHIS uses its technical expertise to develop science-based: (1) Agreements with other countries to promote U.S. exports and (2) Internationally recognized scientific standards and guidelines for animal and plant health regulations to help ensure implementation of uniform sanitary and phytosanitary (SPS) trade regulations globally. To accomplish these goals, the Agency collaborates with USDA's Foreign Agricultural Service (FAS), the Office of the U.S. Trade Representative (USTR), and other Federal technical agencies to ensure a coordinated effort on trade-related issues and provide direct benefits to U.S. producers. These efforts facilitated the export of U.S. agricultural products, which totaled $177 billion in calendar year 2021, an increase of 18 percent over the previous year (FAS' 2021 United States Agricultural Export Yearbook).

APHIS uses its strong scientific base and team of technical experts located in the United States and abroad to advocate on behalf of U.S. agriculture and successfully resolve SPS trade barriers. APHIS technical experts build strong working relationships with host-country counterparts and use their scientific knowledge to address counterpart concerns, confirm that U.S. commodities are safe to import and remove trade barriers for American agricultural exports. These conversations take place via ongoing discussions, technical bilateral meetings, and multilateral fora. APHIS has scientists, including veterinarians, entomologists, botanists, and plant pathologists, stationed throughout the world in more than 30 countries who collaborate with their foreign counterparts on animal and plant health issues to support U.S. exports and the establishment of science-based international animal and plant health standards that facilitate trade and reduce animal and plant health-related risks.

Examples of APHIS' 2022 successes in creating new market access include: bovine meat and bone meal to Peru worth an estimated $5 million per year; live sheep and goats to Senegal worth an estimated $800,000; bovine, ovine, and caprine genetics to Tunisia with an initial estimated value of $500,000; porcine semen to Malaysia worth an estimated $1 million; wheat to Fiji worth an estimated $3 million; and blackberry plants to Colombia worth an estimated $1-2 million per year. APHIS also works to expand U.S. producers' access to export markets and to retain markets that are threatened due to changing requirements in other countries or pest and disease outbreaks in the United States. APHIS worked with the Philippines to reaffirm highly pathogenic avian influenza related criteria for shipment of U.S. poultry and poultry products, retaining a market worth $138 million in calendar year 2021. Likewise, APHIS worked with Brazil to retain access for U.S. eggs that originated from counties without avian influenza detections in 2022, retaining a market that was worth $26 million in calendar year 2021. Showing the success of APHIS' efforts over the last several years to implement agreements regarding regionalization for animal

disease emergencies, many trading partners did not impose restrictions on U.S. poultry products from counties that did not experience avian influenza outbreaks in 2022. Additionally, APHIS proactively established an African swine fever (ASF) protection zone in Puerto Rico and the U.S. Virgin Islands. Major export markets for U.S. pork like the Philippines, Australia, New Zealand, and Singapore have now officially recognized this ASF protection zone and will not suspend trade from the mainland United States if ASF is detected in either Puerto Rico or the U.S. Virgin Islands. APHIS continued working on a longstanding issue—U.S. potatoes to Mexico—and reached an agreement with its counterparts in Mexico in 2022 to expand access to the market for U.S. producers. Exports of potatoes grew 35 percent from January to August 2022 compared to that same period in 2021. Total exports of U.S. potatoes to Mexico were worth $60 million in 2021.

APHIS must continually address SPS issues to ensure continued smooth trade for U.S. exporters even for markets that are open to U.S. agricultural products. APHIS works with foreign counterparts to clarify or streamline certification requirements, making it easier and less costly for U.S. exporters to move their products overseas. When shipments are delayed at foreign ports, APHIS negotiates the overseas process to get products released and moving again. APHIS successfully secured the release of 261 shipments worth more than $94 million in 2022. Examples of these detained shipments that were released through our interventions on the ground included a shipment of soybeans to Egypt worth $3 million, breeding horses to Chile worth more than $10 million, and frozen poultry products to China worth $5 million.

Building relationships in emerging markets often involves field visits, or training of foreign government officials to build their capacity to put in place scientifically sound SPS requirements. Through May 2022, in-person visits and trainings continued to be impacted by travel restrictions related to COVID-19. APHIS resumed in-person visits after that time. During the fiscal year, APHIS' Representation, Foreign Visitors and Protocol Office hosted 5 virtual connections related to agricultural trade and U.S. regulatory processes, which were attended by 107 foreign officials from Canada, Mexico, and the Philippines. The Office also hosted three in-person meetings attended by 29 participants from Taiwan, Japan, Argentina, Paraguay, and Uruguay. APHIS fulfilled 23 requests for subject matter experts, primarily for trainings and webinars. These efforts reached 235 participants from 41 countries in Africa, Europe, Asia, and Latin America. Through cooperative agreements with Texas A&M University, Kansas State University, University of Delaware, and Tuskegee University, APHIS delivered technical seminars, discussions, and workshops to 124 animal and plant health officials representing 38 countries in Asia, Africa, Europe, and Latin America. These activities focused on high containment techniques for laboratories, poultry diseases, and SPS standards and risk analysis. These opportunities help other countries improve their regulatory capacity and prevent the spread of serious animal diseases and plant pests that could jeopardize the safe trade of agricultural products and importation into the United States.

APHIS emphasizes use of scientific principles as a basis for international trade decisions to help ensure the same rules apply to countries around the world and foster a safe, successful trading environment. To achieve this level playing field and ensure pest and disease mitigation, APHIS works with international standard-setting bodies such as the World Organisation for Animal Health (WOAH), formerly abbreviated as OIE, and the International Plant Protection Convention (IPPC) to develop SPS standards and guidelines for trade and encourages other countries to adopt these internationally recognized and science-based regulatory guidelines. APHIS increases U.S. agricultural exports by advocating for science-based international standards acceptable to the United States, and then using those standards when negotiating for market access for U.S. products. This safeguards domestic production from foreign diseases and pests, while promoting safe trade of U.S. agricultural commodities. In 2022, APHIS participated in the effort by the Commission on Phytosanitary Measures (the IPPC's governing board) to adopt 11 international standards and a recommendation to help harmonize pest prevention measures for reducing contaminating pests in regulated articles and unregulated goods. Additionally, APHIS is participating in key IPPC committees, including those focused on strategic planning for the organization and a task force focused on preventing pests and disease in sea containers. In the animal health arena, WOAH adopted 70 international standards in 2022 in areas such as disease surveillance and notification, disease diagnostics and control.

APHIS continued its comprehensive succession planning efforts, with special emphasis on developing the Foreign Service cadre and implementing an annual overseas rightsizing effort. The recruitment, assessment, and developmental process emphasized applicants' animal and plant health science backgrounds while also increasing new officers' knowledge of all APHIS mission areas, USDA partners such as FAS, and understanding of U.S. embassy protocols. The training program further develops Foreign Service trainees' (FSTs) diplomatic, cross-cultural, and leadership skills. Through this succession effort, APHIS is augmenting its current overseas Foreign Service cadre, many of whom are eligible for retirement in the next 5 to 10 years. The succession effort helps ensure that APHIS has trained staff to support U.S. exports and overseas animal and plant health programs. As a result of

this program, APHIS has deployed four new Foreign Service personnel in the past year to Brazil, China, India, and Peru. APHIS will be deploying new Foreign Service personnel in 2023 as a part of the 2022 foreign service trainee class. These 15 foreign service personnel will be deployed to Belgium, China, Dominican Republic, Egypt, Japan, Mexico, Panama, Philippines, South Africa, Thailand, and Vietnam. APHIS has also established a Fellowship Program to bring students with advanced degrees into the Foreign Service. The current class includes five students who will graduate in Spring of 2023 and 2024. Upon graduation, they will be completing the foreign service trainee program and will be deployed to their overseas assignments. In addition, APHIS has established a workforce planning process to evaluate resource allocation overseas, assess which locations are optimal, and determine the necessary staffing required to support the Agency's mission, strengthening APHIS' ability to address SPS and other issues overseas in traditional and emerging markets. Through this process, APHIS identified east Africa as an area of focus and is adding a locally employed staff member in Kenya in 2023.

Agricultural trade is essential for the U.S. export market and may be subject to costly disruptions from animal and plant health barriers. APHIS' technical trade, capacity building, and regulatory activities support export opportunities for U.S. producers while providing fruit, vegetables, and animal protein sources to international markets. The Agency will continue to cultivate international trade opportunities for America's animal and plant products while safeguarding U.S. agriculture from pests and diseases.

ANIMAL WELFARE

Current Activities

The Agency ensures the humane care and treatment of certain animals and horses as required by the Animal Welfare Act of 1966 as amended (7 U.S.C. 2131-2159), and the Horse Protection Act (HPA) of 1970 as amended (15 U.S.C. 1821-1831) through inspection, education, and enforcement efforts. Animal welfare activities include inspection of certain establishments that handle animals intended for research, exhibition, wholesale pet trade, or transported in commerce. During these inspections, APHIS reviews the animals, premises, facilities, husbandry practices, programs of veterinary care, records, and animal handling procedures. APHIS also administers the HPA, as amended, which prohibits the showing, sale, auction, exhibition, or transport of sore horses. Program personnel evaluate the performance of industry-licensed inspectors and conduct unannounced inspections at horse shows, exhibitions, sales, and auctions.

Selected Examples of Recent Progress in Animal Welfare:

1. Animal Welfare

APHIS' Animal Welfare Program has the unique Federal role of ensuring the humane care and treatment of animals covered by the Animal Welfare Act (AWA) through inspection, learning opportunities, and enforcement efforts. More than fifty years ago, in 1966, the AWA was signed into law. Since that time, APHIS, acting through the Animal Care Program and its predecessors, has protected millions of regulated animals used in research, exhibition, and the pet trade as well as those transported in commerce. In 2022, the program oversaw 13,376 licensees and registrants, including the addition of approximately 2,500 new registrants as part of online pet transportation services.

Licensing Activities

The AWA requires all facilities that use animals regulated under the Act to obtain a license or registration with APHIS. Prior to issuing a license, APHIS works closely with potential applicants to ensure they understand the requirements of the AWA regulations and standards and demonstrate compliance with them. The Agency develops customized materials and presentations to focus on specific aspects at each facility, and, by regulation, allows facilities up to three inspections to demonstrate compliance prior to issuing a license. In 2022, APHIS conducted 2,604 pre-licensing inspections, licensing 778 new customers and re-licensing 1,458 customers under the new 3-year licensing rule. The Agency determines initial compliance by conducting unannounced inspections within three months of issuing the license. At the first unannounced inspection, 95 percent of these newly licensed facilities were in substantial compliance, with no critical AWA citations on the inspection report.

For licensed and registered facilities, APHIS inspectors perform primarily unannounced inspections to assess compliance with the AWA. During inspections, Agency officials examine and inspect all areas of animal care and treatment covered under the AWA. The Agency reviews the animals, premises, facilities, husbandry practices, program of veterinary care, records, and animal handling procedures. In 2022, APHIS conducted 10,595 inspections and found 90 percent of all facilities to be in substantial compliance with the AWA. Inspection activities continued

to be impacted by the COVID-19 pandemic. Several regulated species are susceptible to COVID-19 transmission from humans and therefore the Agency took appropriate measures to safeguard employees and animals.

Permitting Activities

In August 2014, APHIS amended the AWA to require that dogs imported into the United States for resale are healthy, vaccinated, and are over six months of age, with limited exceptions. Since November 2014, importers, prior to import, are required to demonstrate proof of age, vaccination, and health of dogs imported for resale. In 2022, APHIS issued 2,192 permits covering 8,114 dogs entering the United States. In 2022, the Agency increased communications with stakeholders to improve understanding of the requirements for importation of live dogs, and time required for permit processing and issuance.

The Agency continues to collaborate with U.S. Customs and Boarder Protection (CBP) to address suspected incidents of importing underaged dogs and the illegal entry of dogs into the United States. The Agency has implemented enforcement procedures for importers who violate the AWA, as well as created procedures to refer problematic importers for investigation. These efforts have further facilitated the safe and timely entry of dogs into the United States, while making an impact on monitoring illegal live dog importation and holding those importers who do not follow the AWA accountable.

Registered Research Facilities Activities

Of the 13,376 regulated entities, nearly 1,000 are comprised of research facilities (RFs) registered under the AWA. APHIS collaborates with the National Institutes of Health (NIH) and the Food and Drug Administration (FDA) to help oversee the welfare of animals used in research. While each Agency has distinct authorities and areas of responsibility, we work together to ensure laboratory animals receive the level of care required under Federal regulations. All three Agencies require research facilities to have an Institutional Animal Care and Use Committee (IACUC). This oversight body is empowered to conduct facility inspections, investigate complaints of inhumane animal care, and approve or suspend animal research activity.

In addition to conducting more than 1,248 unannounced inspections of research facilities in 2022, all USDA-registered research facilities and Federal research facilities are required to submit an Annual Report that documents its use of animals for research, testing, teaching, and experimentation. The reports identify the number of animals used or held for all such activities. In 2022, APHIS processed 799 annual reports, of which more than 70 percent were submitted online. Online reporting has increased annually since launching the online portal in 2020.

Since 2016, USDA's Agricultural Research Service (ARS) has voluntarily registered its animal research facilities with APHIS to promote animal welfare and establish the fully functioning IACUC. APHIS has registered 39 ARS research facilities under the AWA. APHIS monitors the health and welfare of animals housed at ARS facilities using our unannounced inspection process. In 2022, APHIS conducted 59 inspections at all ARS facility sites. Of those inspected in 2022, all but 2 facilities were found in compliance during the unannounced inspection process.

Enforcement Activities

When APHIS inspectors discover conditions or records that are noncompliant with the regulations, the Agency may establish a deadline for corrective action and increase the frequency of unannounced inspections to determine whether the facility made the necessary modifications. Continued, serious noncompliance may warrant an investigation that can result in sanctions ranging from monetary penalties to suspension or revocation of the facility's license, after notice and an opportunity for a hearing.

To support animal welfare, the Agency initiated 262 cases for alleged violations of the AWA, issued 204 official warnings, issued 18 pre-litigation settlements resulting in the collection of $176,245 in stipulated penalties, obtained 17 administrative orders resulting in the assessment of $133,000 in civil penalties, and suspended or revoked 7 licenses. In one case, APHIS negotiated a pre-litigation settlement agreement in the amount of $25,650 to resolved alleged violations of the AWA standards including the failure to protect and prevent discomfort to animals kept outdoors by providing natural or artificial shelter appropriate to the local climatic conditions. In another case, working with the Office of the General Counsel, APHIS obtained a Default Decision revoking the respondent's AWA license and assessing a civil penalty of $53,600 for multiple violations of the AWA.

Regulatory Changes

The 21st Century Cures Act directs several Federal agencies to reduce administrative burden on investigators while maintaining the integrity and credibility of research findings and the protection of research animals. On November 24, 2021, APHIS published a final rule that reduces duplicative requirements and administrative burden on more than 1,000 AWA registered biomedical facilities, while maintaining scientific integrity and humane animal care. The Agency considered input obtained from the proposed rule published in September 2020 while developing a final rule.

On December 3, 2021, APHIS published a final rule that lifted a stay and made minor changes to the contingency plan regulations. The previous rule, which was published in December 2012 and immediately placed in stay, requires licensed and registered facilities to maintain contingency plans for the handling of animals during emergencies and training of personnel. In 2021, APHIS conducted additional review to further consider the impact of contingency plan requirements on regulated entities, in addition to evaluating the impact of regulatory changes that occurred since 2012, such as the *de minimus* exemption. The lifting of the stay and the revisions better ensure that entities responsible for animals regulated under the AWA are prepared to safeguard the health and welfare of such animals in the event of possible emergencies or disasters.

The AWA authorizes the regulation of birds not bred for use in research. In fall 2020, APHIS held a series of virtual listening sessions to gather information to assist in the development of regulations that will ensure the humane care and treatment of birds, consistent with the AWA. The Agency has since considered public input from stakeholders and published a proposed rule on February 22, 2022, that would implement appropriate regulations and standards for birds covered under the Act. APHIS received over 19,100 comments, which were utilized to inform the development of a final rule, which is on schedule to be published by the court-ordered deadline of February 22, 2023.

APHIS has drafted an advanced notice of proposed rulemaking that would signal to licensees and registrants, the public, and other stakeholders the Agency's intention to pursue amendments to regulations and standards for animals covered under the AWA in three areas: public handling of dangerous animals at licensed exhibitors, training of personnel who handle dangerous animals in these settings, and environmental enrichment to promote the psychological well-being of all species covered under the AWA. APHIS took into consideration: concerns raised by members of the public and animal advocacy groups, a recent Office of Inspector General audit report on licensed exhibitors, non-compliances identified during inspections, inspector surveys of facilities with human-animal interactions, Agency data on complaints, recently litigated cases, and review of relevant literature. Comments received will be used to inform development of a proposed rule to be published in 2023.

2. Horse Protection

Since 1970, APHIS has enforced the Horse Protection Act (HPA), a Federal law aimed at ending the cruel and inhumane practice of soring and preventing unfair competition by making it unlawful to show, sell, or transport sore horses. Soring is a practice in which people apply caustic chemicals and/or mechanical devices to a horse's pasterns, which cause the horse to experience pain or distress while walking or moving. This practice is used primarily in training Tennessee Walking Horses, racking horses and related breeds to produce a high stepping gait, which is prized at some competitive horse shows and other events. USDA conducts oversight of the program through evaluation of the performance of industry-licensed inspectors and conducting unannounced inspections at horse shows, exhibitions, sales, and auctions.

Inspection Activities

Under the HPA, the management of horse shows, exhibitions, sales, and auctions are responsible for ensuring that sored horses do not unfairly compete alongside horses that are not sore. If a horse is found to be sore, management has the responsibility of disqualifying them from participating in HPA-covered events. Management may use third-party inspectors that USDA-certified horse industry organizations (HIOs) train and license to inspect horses for compliance with the HPA. These third-party inspectors are known as Designated Qualified Persons (DQPs).

APHIS attends a select number of HPA-covered events each year to observe DQP performance and inspect horses for HPA compliance. In 2022, horse show attendance by the agency and related inspections increased back to similar levels from prior to the COVID-19 pandemic. In 2022, APHIS attended 41 horse events, inspected 1,300 horses, and identified 323 instances of suspected noncompliance with the HPA. The DQPs attended 214 HPA events and inspected 47,744 horse entries. In total, DQPs identified 635 HPA non-compliances, and management disqualified 587 entries.

Both APHIS and HIOs conducted sampling of horses to determine any use of prohibited substances. Together, the agency and horse industry sampled 1,578 horses for prohibited substance testing and found that nearly half the samples tested were positive for prohibited numbing agents. APHIS continued to monitor for prohibited objects through digital radiograph imaging, implemented use of iris scan technology and pursued ultrasound technology and on-site testing for prohibited substances.

APHIS also provided training to Agency inspectors and DQPs to promote consistency in compliance inspections, increasing direct communication with management to ensure they receive updates on USDA's HPA Disqualification List. APHIS provided full inspection report data, including noncompliant items identified by type and number of horses management disqualified from participating in HPA-covered events, on the APHIS website: https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/SA_HPA

Enforcement Activities

In regard to enforcement actions, APHIS worked with OGC to obtain an administrative order disqualifying one person from participating in activities regulated under the Horse Protection Act for a period of 8 months.
In addition, APHRE initiated nine new cases for alleged violations of the Horse Protection Act (HPA). These 9 new cases have been referred to OGC for administrative action. Civil penalties and fines related to these cases are still pending at this time.

Regulatory Changes

In 2022, APHIS began drafting a proposed rule to address additional information provided by an audit conducted by the Office of Inspector General, as well as a review provided by the National Academy of Sciences. The proposed rule would make substantive changes to strengthen current regulations, including eliminating the role of DQPs as 3rd-party inspectors and assign inspection authority solely to qualified APHIS officials and employees. It would also remove all regulatory requirements for HIOs that operate shows and employ the DQPs. The Agency anticipates publication of the proposed rule in fall 2022. Comments received will be used to inform a final rule to be published in 2023.

AGENCY MANAGEMENT

Current Activities
The Agency Management programs support the daily operations of APHIS and provide for a safe and secure work environment. These programs provide the information technology, space, and telecommunications infrastructure that gives Agency employees the tools they need to carry out their responsibilities. These programs also oversee and implement precautionary security measures for continued mission operations while ensuring the safety of APHIS people and facilities. In addition, these programs support APHIS' contribution to the U.S. Department of State's continuing implementation of the Capital Security Cost Sharing Program, which provides safe and secure workplaces for all U.S. government employees located overseas.

Selected Examples of Recent Progress in Agency Management:

1. APHIS Information Technology and Infrastructure

APHIS' Information Technology Infrastructure (AITI) is comprised of the hardware, software, cloud computing and cyber-security infrastructure that provides Agency employees with office automation tools, Internet access, and access to mission-critical information technology (IT) programs and administrative applications. APHIS maintains, enhances, and operates the IT infrastructure to support Agency business, conduct research and analysis, carry out administrative processes, record program activities, and deliver program services. AITI objectives and priorities are to continually improve sharing of information across the Agency; integrity and accessibility of information, processes, and resources available to assist programs in emergencies; and APHIS' cyber-security. APHIS uses AITI funding to maintain annual software license and hardware agreements, cloud services, and for regular life-cycle replacement of enterprise hardware.

The 2022 accomplishments listed below support these objectives.

License Renewal

APHIS supported approximately 9,700 users including contractors with license renewals so they can access and legally use the enterprise software in conducting business.

Availability

APHIS supported internal and external stakeholders by providing optimal levels of service. The Agency continued to maintain 99.97 percent availability for its key computing systems in 2022. The AITI program also maintained applications availability outside of the normal operational hours, on weekends, and holidays to ensure availability of systems.

Cloud Services

As a requirement of the Federal government's Data Center Optimization Initiative, APHIS has completed migration of all business applications from on-site data centers to the remote cloud servers. To date, APHIS remains in phase three of its cloud migration plan. This phase focuses on further program data consolidation and enabling the ongoing development of cloud applications for new program mission needs and modernization efforts. The Agency planned to complete the consolidation phase of the plan in 2022, however internal migration interruption delays has pushed completion into 2023.

APHIS employees continued utilizing the ability to telework with limited access to physical office sites in 2022. As a result, cloud services have allowed the Agency to continue monitoring and accessing business applications remotely as well as offer seamless IT support.

Cyber-Security

APHIS maintained the current version of National Institute of Standards and Technology and Federal Information Security Management Act testing standards to continue protecting our cyber security infrastructure and reduce system vulnerabilities. APHIS also introduced an Agency led intrusion prevention security system called Checkpoint, further increasing security protection. In 2022, this security system continued its success in providing technological threat insight, allowing the Agency to detect and block thousands of attempts of unauthorized access, daily, to APHIS systems at a faster and more accurate rate.

Security Monitoring

The Agency annually renews licensing for the upgraded security monitoring system that tracks improper use of personally identifiable information data stored in the APHIS infrastructure. This action helps protect confidential information that could potentially identify a specific individual such as citizenship, legal status, gender, race and/or ethnicity. Renewing this software enable the Agency to identify vulnerabilities in APHIS forms that contain bank account, credit card, driver license, passport, social security, and telephone numbers as well as date of birth details. The Agency's security branch continued to work with the human resources division to mitigate the identified vulnerabilities.

2. Physical Operational Security

APHIS oversees and implements precautionary measures to ensure continued, efficient mission operations, and protection from disruption, degradation, or destruction of its facilities through the Physical and Operational Security (POS) program.

The POS program, as a newly realigned portion of the Emergency and Regulatory Compliance Services (ERCS), has the continued responsibility for the oversight of safety programs, physical security, and Agency-wide readiness in response to agricultural and all-hazard emergencies. The program uses a government-wide approach to agricultural health issues affecting the Nation through preparedness, personnel security, and an array of safety initiatives. This includes providing year-round security measures, such as physical security upgrades, alarms, badging and identification systems, guard services, security assessments, safety and risk assessments, workplace violence training, and investigations of both internal and external threats. These measures protect APHIS employees, visitors, and stakeholders from harm, acts of terrorism, and violence. In addition, this program supports part of the

USDA's contribution to the U.S. Department of State's continuing implementation of the Capital Security Cost Sharing program, which provides safe and secure workplaces for all government employees located overseas.

The POS program provides numerous security trainings to Agency employees. In 2022, the program provided training to more than 741 employees, including seminars relating to active shooter response, situational awareness, de-escalation, and travel safety. The program also provided multiple security briefings for employees who work along the U.S.-Mexico border or in foreign countries.

APHIS investigates, educates, assesses, and mitigates internal and external security threats directed at agency facilities, programs, and personnel. For example, APHIS focuses on employee security at or near the Mexican border, investigating threats and responding to requests for protection for APHIS employees who enforce regulations in this challenging environment. In 2022, APHIS investigated 51 external threats to its employees and 43 workplace violence incidents.

The Homeland Security Presidential Directive-12 (HSPD-12) and Interagency Security Committee (ISC) directives create the standard for secure and reliable forms of identification for facility and network access and compliance regarding physical security at Federal facilities. In 2022, the POS program completed physical security assessments at 15 facilities using the updated ISC criteria and USDA reporting format. As a result, the POS program provided security upgrades and repairs to these facilities and an additional 18 facilities. In addition, the POS program is responsible for issuing, activating, or updating personal identification verification cards for APHIS and other Federal personnel and served 12,637 Federal employees in 2022.

APHIS security specialists investigate threats and respond to requests for protection throughout the country for APHIS veterinarians and inspectors who are enforcing regulations in challenging environments. In support of safety precautions for APHIS employees who enforce the Animal Welfare Act (AWA) and Horse Protection Act (HPA), the POS program provided security during 29 inspections of regulated AWA entities, and 69 HPA events.

The program also works with other USDA agencies, the U.S. Department of Justice, U.S. Department of Homeland Security, the U.S. Department of State, and local law enforcement agencies to ensure that the appropriate organization takes the lead, contributes to program costs, and integrates security where employees are co-located overseas. APHIS maintains a presence overseas to facilitate agricultural trade and monitor pest and disease threats. The Security Embassy Construction Counterterrorism Act's Capital Security Cost Sharing Program requires the Agency to help fund the construction of new Embassy compounds based on the number of authorized positions. The POS program worked with the U.S. Department of State to establish a security baseline for APHIS facilities overseas. In 2022, APHIS had approximately 300 full-time employees based in countries around the world. This program provides safe and secure diplomatic facilities for the Agency's overseas personnel.

3. Rental and Department of Homeland Security Payments

This account supports the Agency's costs associated with General Services Administration (GSA) leased facilities and funds approximately 220 locations associated with GSA leases and Department of Homeland Security (DHS) payments. The funding allows APHIS programs to continue carrying out activities that safeguard the health and value of U.S. agriculture and natural resources, including surveillance for animal and plant pests and diseases, pest and disease eradication programs, diagnostic and methods development work at laboratories, animal welfare inspections, and wildlife damage management activities, without diverting fiscal resources from operations to cover these costs. APHIS continues efforts to reduce and consolidate its office space. In 2022, APHIS reduced space by 10,813 rentable square feet (RSF), on top of a reduction of 30,411 RSF in 2021. This equates to a 1.2 percent reduction in space over the past two fiscal years.

This account also funds the DHS/Federal Protective Service (FPS) basic and building specific security costs. In 2020, DHS/FPS began implementing their modified security billing process that was fully implemented by the end of 2022. The current process uses the previous 5-years of actual security costs to derive an average basic security assessment billed to the agencies annually. These basic security costs, which include activities such as law enforcement, security alarm monitoring and dispatch, are projected to increase by 34 percent in 2023, and decrease by six percent in 2024. In addition to the basic security costs, agencies are billed security costs for building specific services required to implement and maintain security requirements in accordance with standards set by the Interagency Security Committee, including contract guards and security equipment. Final costs for 2023 and 2024 for these specific security costs are not yet finalized, however, DHS/FSP has indicated that APHIS should anticipate

an estimated 34 percent rate increase from current year pricing for these services. The increase is due to inflationary increases in costs for labor, supplies, and material.

GENERAL PROVISIONS

Selected Examples of Recent Progress in Programs Funded by General Provisions

1. Cogongrass

Cogongrass is an invasive perennial weed that is a prolific seed producer and forms an extensive rhizome network. The primarily wind-dispersed seeds spread easily along rights-of-way and in other disturbed areas encouraging population expansion. Cogongrass readily invades pine plantations and is believed to create chemical interference that decreases pine production. Moreover, cogongrass is difficult to control because the rhizomes are drought, fire, and herbicide tolerant. APHIS estimates that this species has the potential to spread across 82 percent of the United States. In 2022, APHIS provided $2.983 million to Alabama, Georgia, Mississippi, and South Carolina to support survey, outreach, and control activities related to cogongrass infestations in these States.

ACTIVITIES FUNDED BY TRANSFERS FROM COMMODITY CREDIT CORPORATION

Selected Examples of Recent Progress in Transfers from Commodity Credit Corporation:

1. African Swine Fever

African Swine Fever (ASF) is a highly contagious and deadly viral disease of domestic and wild pigs. There is no treatment or vaccine available. Currently, the only way to stop it is to depopulate all affected or exposed swine herds. Early detection is the key to controlling, containing, and eliminating ASF. While ASF has never been found in the United States and does not threaten public health, an introduction would devastate U.S. pork producers, their communities, and the economy, as well as the security of the pork supply. According to a 2019 Iowa State University study, an outbreak in the United States could cost the swine industry $14 billion over a two-year period and as much as $50 billion over 10 years.

Protecting the health of domestic livestock herds to ensure profitability and supporting trade is a high priority for the Department. USDA confirmed ASF in the Dominican Republic (DR) in July 2021 and in Haiti in September 2021. APHIS received $500 million in emergency funds at the end of 2021 to assist with the response to these detections, establish a protection zone in Puerto Rico and the U.S. Virgin Islands, and take actions to prevent the introduction of the disease in the United States. Assisting with an eradication program in the DR and Haiti while simultaneously bolstering domestic efforts will provide the best protection against further ASF spread in the region.

Domestic Prevention Efforts

APHIS has numerous interlocking safeguards in place to prevent ASF from entering the United States and has been working closely with States and industry to develop and refine plans in case of an outbreak. These safeguards include a surveillance program to rapidly detect ASF and serve as an early warning system; increased testing capabilities through the National Animal Health Laboratory Network to handle large volumes of samples; enhanced work with the Department of Homeland Security's U.S. Customs and Border Protection (CBP) at ports of entry targeting cargo, passengers and products from ASF-affected countries; increased detector dog teams to sniff out illegal products at key U.S. commercial sea and airports; and added import restrictions on pork and pork products from ASF-affected countries. APHIS' focus on domestic preparedness emphasizes surveillance and diagnostics, traceability, garbage feeding controls, depopulation tools and methods, and enhancing pre-clearance and arrival inspections. These priorities were identified through direct discussions with the industry and States and in close collaboration with the National Pork Producers Council. APHIS also continued to conduct antigen- and antibody-based surveillance for ASF in feral swine in Florida, Georgia, Louisiana, and Texas. In 2022, the Agency tested more than 1,350 samples for ASF. These States are considered the highest risk for an ASF introduction due to the frequent movement of people and cargo, as well as known feral swine in the State.

APHIS continued to enforce an ASF protection zone in Puerto Rico and the U.S. Virgin Islands under the World Organization for Animal Health in 2022. This Protection Zone, along with existing comprehensive import restrictions and safeguards, strengthen the Agency's ability to protect the U.S. swine herd while avoiding trade

restrictions. APHIS conducts an ongoing pre-departure inspection program in Puerto Rico to prevent pests and diseases from entering the continental United States in passenger baggage and cargo and works with CBP to conduct similar inspections in the U.S. Virgin Islands. To support the ASF protection zone in Puerto Rico and the U.S. Virgin Islands, APHIS enhanced pre-departure activities by adding temporary staff, canine detector teams, and x-ray machines, as well as conducting training for staff in inspecting for animal products (as the main focus in Puerto Rico had previously been plant pests and diseases). The Agency also increased ongoing Smuggling Interdiction and Trade Compliance (SITC) market surveys in the protection zone to identify potential regulated or prohibited product and ensure its removal from the marketplace. SITC also conducts trade verification activities at express courier locations in the continental United States as a backstop to inspection activities in the protection zone. Additionally, APHIS conducts outreach activities throughout the protection zone to ensure awareness of the movement restrictions on pork and pork products. When inspectors find prohibited pork products, they dispose of them in accordance with approved safeguarding practices. Since the establishment of the protection zone, APHIS has intercepted and destroyed approximately 1,000 pounds of pork and pork products in the zone--products that otherwise would have reached the U.S. mainland, threatening swine production in the Continental United States. In addition, APHIS staff removed over 2,500 feral swine in Puerto Rico continued to opportunistically sample and test for possible ASF introductions.

International Efforts

In 2022, APHIS assisted the DR and Haiti in their eradication and response efforts, including providing advice and assistance on surveillance, quarantine, depopulation, and disposal methods; providing testing support; and bolstering in-country testing capacity. In the DR, APHIS supported ASF control and eradication efforts through on-the-ground technical assistance and providing funding to nongovernmental organizations that assisted with operations. To increase producer cooperation and more timely disease reporting, the response effort includes indemnity payments for depopulated swine. APHIS and the DR Ministry of Agriculture signed a Memorandum of Understanding establishing a framework for control and eradication, including an enhanced surveillance strategy to identify infected farms, depopulate swine from affected areas, and clean and disinfect affected premises. To implement these activities, the Agency established an incident command structure to coordinate with the DR's incident command team.

Further, APHIS is enhancing regional surveillance in the Caribbean to ensure the disease will be detected outside of the DR and Haiti; as of the end of 2022 there were no detections of ASF. The Agency also coordinated, organized, and communicated enhanced feral swine removal operations in the Caribbean to prevent the introduction and spread of the disease.

2. Bovine Tuberculosis

In 2022, APHIS obligated $1.8 million in Commodity Credit Corporation funds (CCC) on tuberculosis (TB) eradication activities. In 2022, APHIS identified six TB affected herds: four in Hawaii, one in Michigan's Modified Accredited Free Zone, and one with shared operation in Texas and New Mexico. These six herds were placed under herd management plans. APHIS uses a mix of depopulation and test-and-removal strategies to address bovine TB-affected herds. These strategies consider herd size, potential indemnity costs, State and owner preferences, herd genetics, and the probability of removing infection. These six herds were all placed under herd management plans and were either depopulated or are in various stages of a test-and-remove protocol.

The detection of these herds demonstrates the effectiveness of APHIS' surveillance system. To respond to TB detections, APHIS works closely with State animal health officials to quickly identify any cattle that may have come into contact with the infected herds and conduct thorough trace back investigations. In addition, the States work closely with the herd owners involved, as well as the State dairy industry, to ensure the disease is quickly contained, and affected owners can return to normal business practices as soon as possible.

3. Highly Pathogenic Avian Influenza

In 2022, the Secretary provided APHIS approximately $794 million in emergency funding to address nationwide detections of highly pathogenic avian influenza (HPAI). HPAI is an internationally reportable disease when in commercial flocks. It is a serious disease that requires rapid response because it is highly contagious, often fatal to poultry, and can spread rapidly from flock to flock, causing a loss of farm income and potential negative trade impacts.

On February 8, 2022, APHIS confirmed the presence of HPAI in a commercial turkey flock in Dubois County, Indiana. This was the first confirmed case of HPAI in U.S. commercial poultry since 2020. As of September 30, 2022, APHIS confirmed the presence of HPAI in 474 premises in 40 States. In addition, APHIS confirmed 2,650 detections in wild birds in at least 87 species across 45 States and Washington D.C. APHIS promptly reports HPAI detections to the World Organization for Animal Health (OIE) as required by international agreements and informs international trading partners.

The United States has the strongest AI surveillance program in the world, and APHIS has been working with its partners to respond to detections by following Federal and State HPAI response plans, which include implementing quarantine restrictions, depopulating affected flocks, eliminating the virus from affected premises, and conducting surveillance in surrounding areas. APHIS' approach includes ensuring appropriate responses to detections and education through enhanced biosecurity outreach to prevent further spread from wild birds to poultry. The Agency's goal is to quickly contain and eradicate the disease, protecting our poultry industry, and, in turn, the American consumer.

APHIS was still detecting in commercial and backyard birds by the end of 2022. For context, the 2014-2015 HPAI outbreak resulted in 225 confirmed commercial or backyard outbreaks in 15 States, and over 50 million birds culled over the span of six months. The current outbreak has been more complex in terms of the duration of the response (currently ongoing as the outbreak re-enters the high-risk period with winter wild bird migration), the number of States affected (40 as of September 30, 2022) and resultant simultaneous requests for resources, and in terms of more diverse types of premises infected compared to 2014-2015. In late August 2022, detections were decreasing, with most activities focused on cleaning and disinfecting facilities in preparation for restocking. However, a fall rebound began occurring, likely because of the fall migratory influx of birds moving south. APHIS is continuing to monitor resident and migratory birds and will continue to encourage biosafety and vigilance throughout the fall migration season.

Most countries continue to act in accordance with our bilateral agreements and their own regulations. APHIS continues to provide HPAI updates on counties that have completed their restriction periods to our trade partners. In addition, the Agency continues to work with trade partners to reduce restrictions but is encountering difficulties due to the scope of the outbreak.

4. Farm Bill – Plant Protection Act, Section 7721

The Agricultural Act of 2014 consolidated two of APHIS' Farm Bill programs under Section 10007: Plant Pest and Disease Management and Disaster Prevention Program and the National Clean Plant Network (NCPN). This authority was codified in Section 7721 of the Plant Protection Act (PPA). For 2022, PPA 7721 provided $75 million for the consolidated program. These funds are subject to the sequestration of mandatory funds ($4.275 million in 2022). Through the program, APHIS funds projects that enhance our ability to safeguard agriculture and facilitate safe agricultural trade. Cooperators nationwide use this funding to strengthen pest exclusion systems, optimize domestic pest management and eradication programs, keep commodities moving in commerce without spreading pests and diseases, and expand market opportunities abroad for U.S. products. This work is critical to the USDA mission on many fronts, helping American agriculture thrive, across the country and around the world. Since 2009, USDA has supported more than 4,800 projects and provided nearly $740 million in funding through the Plant Pest and Disease Management and Disaster Prevention Program, including projects funded in 2022. Collectively, these projects allow USDA and its cooperators to strengthen and safeguard the nation's agricultural infrastructure against invasive plant pest and diseases. In addition, the NCPN provides reliable sources of pathogen-free planting stock of high-value specialty crops. Since 2009, the NCPN, through its cooperative agreements program, has provided approximately $65 million in support of 47 initiatives at 34 clean plant centers or programs in 20 States and U.S. Territories. These initiatives span commodities ranging from fruit trees, grapes, citrus, berries, hops, sweet potato, and roses.

Plant Pest and Disease Management

APHIS and cooperators have identified six major strategic goal areas (the first with two sub-goals) to implement Plant Pest and Disease Management efforts: 1a) enhancing plant pest/disease analysis; 1b) enhancing plant pest survey; 2) targeting domestic inspection activities at vulnerable points; 3) enhancing pest identification tools and technology; 4) safeguarding nursery production; 5) conducting targeted outreach and education; and 6) enhancing mitigation and rapid response capabilities. The program funded 520 projects in 2022, supporting a variety of Federal, State, academic, Tribal, and private entity stakeholders.

Enhance Plant Pest/Disease Analysis, Goal 1A

Under this goal, APHIS supports projects that compile, synthesize, or evaluate data to inform or enhance risk and pathway analysis, surveillance methodology, or resource prioritization. Examples include the development of analytical models to identify and prioritize exotic pests for survey and response and improving risk modeling and monitoring for invasive fruit pests. In 2022 the program supported a project to predict dispersal risk following major weather events to guide plant and pest rapid response efforts, with an emphasis on hurricanes, tropical storms, and other strong winds, to improve survey strategies for early detection of exotic pests. APHIS will integrate the resulting risk maps into risk-based models and survey designs to provide a comprehensive risk assessment and enhance mitigation measures before serious outbreaks. Overall, in 2022, the program provided approximately $2 million for 23 projects in this goal area.

Enhance Plant Pest Survey, Goal 1B

Under this goal, APHIS supports surveys for multiple, high-risk pests not known to be established in the United States and pests of concern to cooperators. These surveys protect and help small growers and nursery owners avoid control costs through a more rapid and thorough detection of pests that threaten their operations. One key project is the National Survey Supply Program that oversees timely procurement and delivery of quality survey supplies, such as traps and lures, to APHIS, State, and Tribal cooperators. In 2022, the National Survey Supply Program distributed 379,825 plant pest trap and lure units to 50 States and 3 Territories, including approximately 126 different products to support the various detection activities and surveys that APHIS and State cooperators conduct. The surveys supported in this goal area complement those conducted under the Pest Detection program (Cooperative Agricultural Pest Survey) and have expanded the number and scope of pest survey activities across the United States, as well as help demonstrate our country's freedom from certain high-risk pests. In 2022, APHIS supported a total of 229 unique pests targeted for survey in all 50 States and five Territories. These included commodity surveys of apple, grape, stone fruit, palm, solanaceous, small fruit and berries, and other orchard crops, as well as surveys for defoliators, exotic woodborers, bark beetles and other forest pests, cyst nematodes, mollusks, and pathway surveys covering multiple agricultural systems. Overall, the program provided approximately $14 million for 188 projects in this goal area in 2022.

Target Domestic Inspection Activities at Vulnerable Points, Goal 2

Under this goal, APHIS supports domestic inspection activities at high-risk sites (e.g., warehouses and parcel facilities), inspects regulated articles moving interstate, and uses trained canine detection teams to improve detection capabilities. Developing these cooperative efforts with State agriculture regulatory agencies helps minimize impacts to producers and distributors of agricultural commodities. In 2022, the program continued to support canine team efforts in California, where 11 teams work at Express Couriers and U.S. Postal Service offices in 32 of 58 counties in the State, and in Florida, where 54 teams work at Express Couriers in 3 counties. With their keen sense of smell, dogs can detect hidden agricultural products at an accuracy rate higher than 85 percent. The program uses canine teams to enhance capacity for early detection and better response to exotic pests found during surveys; increases liaisons between State and Federal cooperators by reviewing, developing, and implementing educational programs; provides additional resources at high-risk areas within the State for inspection; and benefits inspections at parcel service locations to enhance interdiction efforts. Overall, the program provided approximately $6.25 million for 15 projects in this goal area in 2022.

Enhance Pest Identification Tools and Technology, Goal 3

Under this goal, APHIS supports the ongoing development of improvements in pest identification and detection. This includes improved identification capacity and taxonomic understanding of groups of organisms, taxonomic support for surveys targeting high consequence pests, and the development of pest detection technology. Through this goal area, the program supported a project to provide molecular diagnostic tools to determine strain and mating status of fruit fly incursions. This new method will replace the current imperfect and laborious inspection and dissections methods used to determine if emergency response activities are needed in response to exotic fruit fly detections. The program provided approximately $6.25 million for 105 projects in support of this goal in 2022.

Safeguard Nursery Production, Goal 4

Under this goal, APHIS supports projects to develop science-based best management practices and risk mitigation practices to exclude, contain, and control regulated pests from the nursery production chain, and to develop and harmonize audit-based nursery certification programs. These activities help small producers and distributors

establish best management practices for mitigating pest risks, reducing operational costs, and enhancing the value of nursery stock they produce. Examples of projects funded in 2022 include using next generation sequencing to verify virus-free status of legacy materials in a nursery certification program in Oregon. This certification program ensures the plant materials are free from pests and diseases of economic and regulatory importance by providing a mechanism and funding to test materials, which will establish source material at a Clean Plant Network site for future propagation. This will ensure the materials are free from pests and diseases and available for consumers. The program also continued supporting projects to evaluate the potential for using sterile insect testing, mating disruption, and other integrated pest management tools to eradicate box tree moth (BTM). Investment in development of integrated pest management methods and detection tools for BTM will allow APHIS, State agriculture officials, and the nursery industry to implement efforts to control or slow the spread of the pest. The program provided approximately $1.5 million for 14 projects in this goal area in 2022.

Conduct Targeted Outreach and Education, Goal 5

Under this goal, APHIS works to engage the public in early detection efforts by strengthening existing volunteer networks. APHIS emphasizes efforts that can lead to behavior changes among the public and the regulated community to prevent the introduction or spread of high-consequence pests into and throughout the United States. 2022 projects in this goal area include a project addressing capacity needs in Native American Tribes by enhancing awareness and knowledge to prevent the introduction and spread of high consequence pests into and throughout Tribal lands in Washington. Several projects continued in 2022 including nationwide campaigns raising awareness of invasive species, such as the PlayCleanGo Campaign to stop the spread of invasive species through recreational activities, the Hungry Pests campaign that educates and engages the public on preventing the spread of invasive pests, a variety of projects in multiple States targeting awareness of forest pest outreach, northern giant hornet (formerly referred to as Asian giant hornet) community outreach and education, and multiple outreach campaigns for spotted lanternfly (SLF). Overall, the program provided $3.5 million for 52 projects in this goal area in 2022.

Enhance Mitigation and Rapid Response Capabilities, Goal 6

Under the goal of enhancing mitigation capabilities, APHIS provides technical assistance prior to, during, and immediately following a plant pest outbreak, develops new mitigation tools and strategies, and increases emergency preparedness through the development of New Pest Response Guidelines and Incident Command System training. Some of these efforts provide continued support for developing new methods or treatments for economically significant pests including SLF response, khapra beetle, wood boring and bark beetles, and coffee berry borer, among others. These efforts also support the development of potato varieties resistant to the pale cyst nematode. APHIS continued to provide funding under this goal area to the Washington State Department of Agriculture (WSDA) to address the northern giant hornet. WSDA continued trapping but did not detect any hornets in 2022. Under this goal area, the program also supported rapid response to a variety of pest and disease outbreaks, including Oriental fruit fly and Mexican fruit fly outbreaks in California, citrus yellow vein clearing virus in California, BTM in New York, and SLF in Delaware and Ohio. APHIS also supported the nationwide effort to survey for and control SLF throughout the East Coast, including Pennsylvania, Virginia, New Jersey, New York, West Virginia, North Carolina, and Maryland. Overall, the program provided $28.8 million for 123 projects in this goal area in 2022.

National Clean Plant Network (NCPN)

In 2022, APHIS used $7.5 million in PPA 7721 funds to provide NCPN support to qualified clean plant centers through a cooperative agreements program. The application process allowed stakeholders to offer input into projects proposed for funding through pre-proposals, which are designed to help clean plant centers prioritize and harmonize their resourcing requests. As a result, APHIS entered into 28 cooperative agreements with clean plant centers and related entities in 16 States and Puerto Rico. The clean plant centers that receive NCPN funding use the resources to: 1) diagnose for harmful pathogens that cause disease in covered specialty crops; 2) apply therapeutic measures to eliminate these pathogens; 3) establish plantings of clean plant ‘starter’ material and make this material available to nurseries and growers; 4) work with nurseries and growers in education/outreach programs to communicate the economic value to industry of using clean nursery stock; 5) advance quality management initiatives to further strengthen confidence in program processes and products, and 6) engage in the process of establishing and governing a network of collaborative clean plant centers. These activities result in clean plant centers providing additional sources of healthy planting stock for fruit trees, grapes, citrus, berries, and hops, sweet potato, and roses. This healthy planting stock is available to nurseries, growers, breeders, and others, ensuring that they have access to clean plant material necessary to sustain their businesses, maintain productivity, and improve the quality of their products.

Annual deliverables from clean plant centers include:

Fruit Trees – Maintain approximately 900 clean fruit tree accessions in foundations (collections of pathogen-tested plant materials) that have delivered about 60,000 cuttings and 320,000 seeds on an annual basis.

Grapes – Maintain approximately 1,000 selections of clean grapevine accessions in foundations and distribute more than 60,000 clean grape-wood cuttings, buds, plants, or seed to industry per year.

Berries – Maintain 350 accessions in tissue culture and screenhouse foundations. Annual nursery sales of 800 million plants in California and 200 million in Florida are from plants originally sourced from NCPN centers.

Citrus – Maintain approximately 2,700 clean citrus tree accessions in foundations and deliver about 575,000 units of budwood and seed annually. Almost all commercial citrus nursery stock is derived from NCPN material.

Hops – Maintain 50 clean hop selections in foundations that are used to accommodate about 30 percent of the world's need for clean hops. The program distributes about 930 propagative units to industry annually; each unit can be expanded rapidly to provide thousands of plants for planting.

Sweet potato – Maintain about 440 sweet potato accessions and deliver over 930,000 clean plant units including seed, slips, plants, and tissue culture plant annually.

Roses – Maintain over 850 rose selections in foundations and associated collections and distribute over 80,000 clean scion and rootstock cuttings annually.

5. Farm Bill – Animal Disease Prevention and Management, Section 12101

The Animal Disease Prevention and Management Program (ADPMP) was authorized by Section 12101 of the Agriculture Improvement Act of 2018 (P.L. 115-334). It created two new animal health programs - the National Animal Disease Preparedness and Response Program (NADPRP) and the National Animal Vaccine and Veterinary Countermeasures Bank (NAVVCB) - and expanded on the National Animal Health Laboratory Network (NAHLN). The bill provided the first four years of funding ($120 million for 2019 to 2022) upfront as no-year funding, and provides $30 million in mandatory funding each year thereafter, beginning in 2023. APHIS has the discretion to distribute the total funding among the three programs, provided that NADPRP receive at least $5 million per year through 2022, and $18 million per year beginning in 2023. The no-year funding provision provides APHIS with the flexibility to allocate funding in the most effective manner to safeguard American agriculture. For the NAVVCB, Congress directed the Agency to prioritize the acquisition of sufficient quantities of foot-and-mouth disease (FMD) vaccine antigen concentrate. The funds provided to the NAHLN in the Farm Bill are in addition to appropriated funds that go to USDA to support the NAHLN. These three programs are critical in supporting APHIS' efforts to protect the health and improve the quality, productivity, and economic viability of U.S. livestock, helping farmers and ranchers provide high-quality agricultural products to domestic and international consumers. The NAHLN Coordinating Council, the NADPRP Consultation Board, and other leaders in animal health and laboratory diagnostics provide recommendations for the types of projects that are necessary and are targeted to where they can make the most impact.

The NADPRP addresses the increasing risk of the introduction and spread within the United States of animal pests and diseases affecting the economic interests of the U.S. livestock and related industries, including the maintenance and expansion of export markets. APHIS offers annual competitive funding opportunities and enters into cooperative agreements with States, universities, industry groups, and other entities to carry out high-value projects to improve animal disease emergency preparedness efforts. The Agency consults with stakeholders to identify annual funding priority topics, nominate proposal reviewers, and provide input on funding recommendations. This consultation is accomplished through the NADPRP Consultation Board and through APHIS' regular interactions with stakeholders at livestock sector meetings and meetings with State animal health officials. The NADPRP Consultation Board is comprised of 16 animal health leaders who represent the program's eligible entities, including State animal health officials, livestock industry organizations, universities, and Tribal organizations. In December 2021, the Agency provided $7.6 million for 36 projects focused on supporting animal movement decisions during a disease outbreak, enhancing States' emergency vaccination plans, and outreach and education involving animal disease prevention, preparedness and response. These projects were led by state animal health authorities in 21 States, land-grant universities and industry/veterinary organizations. In addition, APHIS supported and monitored progress on 85 projects that continued into 2022. NADPRP-funded projects have addressed critical gaps in national, regional, and State preparedness for high consequence animal disease outbreaks. Significant impact areas of the

NADPRP program include (1) implementing programs to increase livestock and poultry producer's use of biosecurity practices on all types of livestock operations; (2) strengthening State disease response plans and outbreak response training, including incident management, quarantine controls, disease control vaccination, managing information and communications, and activities to re-start livestock and poultry businesses after an outbreak; (3) outreach, education, and training on safe and humane livestock depopulation and carcass disposal to halt disease spread and testing new technologies to support these activities, and (4) outreach and education to help livestock owners prevent and prepare for disease outbreaks. APHIS has invested $22.1 million on NADPRP projects since the program began in 2019.

The NAVVCB has significantly increased the U.S, stockpile of FMD vaccine, its top priority, and provides the flexibility to stockpile other countermeasures and diagnostics to serve as an insurance policy in case of an outbreak of a high-consequence foreign animal disease. APHIS awarded contracts to private companies to help supply the vaccine to the Bank. While APHIS is confident in its ability to exclude FMD from the country, vaccines are an important part of the Agency's strategy to eradicate the disease and can be a critical tool to allow America's farmers and ranchers to recover quickly should the disease be introduced into the United States. The use of vaccines will depend on the circumstances of the incursion and will require careful coordination with affected animal industries. Vaccination helps control the spread of infection by reducing the amount of virus shed by animals and controlling clinical signs of illness. While an outbreak would temporarily disrupt international markets, vaccination would allow animals to move through domestic production channels. APHIS will leverage the infrastructure of the National Veterinary Stockpile for the distribution of vaccine, should it be needed. In 2022, the Agency invested $16.9M in the NAVVCB, including $13.8M in additional FMD vaccine antigen concentrate; $504,600 for diagnostic test kits for high consequence animal diseases; and $2.6M in new contracts to purchase classical swine fever vaccine for APHIS' National Veterinary Stockpile. The Agency also supported planning for the transition of the NAVVCB from the Plum Island Animal Disease Center (PIADC) in New York to the new National Bio and Agro-Defense Facility (NBAF) in Kansas. APHIS has invested $58.6M in the NAVVCB since its inception in 2019.

The NAHLN is a nationally coordinated network and partnership of Federal, State, and university-associated animal health laboratories that provide animal health diagnostic testing to detect endemic and high-consequence pathogens in the nation's food animals. This effort is vital to protecting animal health, public health, and the U.S. food supply. The NAHLN laboratories serve as an early warning system for detecting animal diseases and pathogens, and they provide surge capacity during an outbreak and recovery response. Rapidly diagnosing and detecting the extent of an outbreak plays a key role in limiting the impact on producers. In December 2021, APHIS provided $4.4 million to support 21 new NAHLN projects in 14 States to enhance early the detection of high-consequence animal diseases and improve emergency response capabilities at NAHLN veterinary diagnostic laboratories. In addition, the Agency supported and monitored progress on 74 projects that continued from 2021 into 2022. APHIS has invested $16.9 million in Farm Bill funds to enhance NAHLN network capabilities since 2019, including $14.5 million in competitive awards and $2.5 million in non-competitive awards for operational support.

Also in December 2021, APHIS provided $4.3 million to support seven NADPRP/NAHLN joint projects focused on developing and evaluating point-of-care FAD diagnostic tests to enhance the nation's ability to quickly detect high-consequence FADs and accelerate response and containment efforts. This was the first joint competitive funding opportunity provided by NAHLN and NADPRP. The NADPRP Consultation Board and NAHLN Coordinating Council strongly supported this collaborative initiative that addresses a high priority for all stakeholders.

6. Farm Bill – Feral Swine Eradication and Control Pilot Program, Section 2408

The Feral Swine Eradication and Control Pilot Program (FSCP) was authorized by Section 2408 of the Agriculture Improvement Act of 2018 (P.L. 115-334). The Farm Bill provided $75 million in mandatory funding for fiscal years 2019 through 2023. This funding is equally divided between the Natural Resources Conservation Service (NRCS) and APHIS to carry out the pilot program.

The objective of FSCP is to pilot collaborative efforts that address the threat feral swine pose to agriculture, native ecosystems, and human and animal health. Feral swine are an invasive species that damage agricultural crops, degrade natural systems, and carry diseases that can be passed on to livestock and humans. Feral swine occur across the United States, but the heaviest concentrations are found in sections of the Southeastern region and stretch as far west as Texas and Oklahoma with high populations also found in California.

Pilot areas were identified collaboratively by NRCS and APHIS personnel in consultation with State technical committees. FSCP is delivered within pilot areas through three coordinated components. First, APHIS works

directly to control feral swine populations. Second, NRCS provides funding to partner organizations to provide technical and financial assistance to agricultural producers for on-farm trapping and other means of feral swine control. Partner organizations also provide other services including pre- and post-project damage assessments and other means to assess progress in control efforts. Finally, NRCS provides technical and financial assistance for restoration of damage caused by feral swine after those populations have been controlled.

Delivery of FSCP is prioritized to those States that have the highest and most damaging feral swine populations. While feral swine do have a wide distribution, APHIS has an existing program for controlling the species that has proved effective in addressing emerging populations in conjunction with States. The pilot program builds upon and expands work already underway by APHIS' National Feral Swine Damage Management Program to remove feral swine while reducing damages in areas with high population densities in partnership with local government, the private sector, industry, and academia.

Since 2019, USDA has funded 34 projects in 12 States (Alabama, Arkansas, Florida, Georgia, Hawaii, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, and Texas). These projects focus on addressing issues with a high density of feral swine. Projects can last for one to three years, and all projects are expected to conclude at the end of 2023. As of the end of 2022, all projects are ongoing. The Agency is also collecting data on the types and number of agriculture and property resources protected, as well as damage data to those resources, as part of the effort to best determine the economic impacts of feral swine. Specific to Farm Bill projects, APHIS is currently protecting an estimated 4.9 million acres of crops, range/pastureland, timber, and other natural resources from feral swine damage. In addition, an estimated 421,000 head of livestock are being protected. These figures will continue to be evaluated through the completion of the projects.

Table APHIS-21. Summary of key 2022 CCC/Farm Bill funded activities

	Emergency/Activity	Total Available in 2022	Total Obligations in 2022
1	African Swine Fever	$500,000,000	$100,679,116
2	Bovine Tuberculosis	13,673,138	1,823,812
3	Highly Pathogenic Avian Influenza	793,660,209	433,061,851
4	Farm Bill – Plant Protection Act, Section 7721	70,725,000	69,932,326
5	Farm Bill – Animal Disease Prevention and Management, Section 12101	49,834,853	34,204,103
6	Farm Bill – Feral Swine Eradication and Control Pilot Program, Section 2408.	21,095,702	9,118,425
	Total[a]	$1,448,988,902	$648,819,634

a/ Total Available includes account recoveries, where applicable.

OTHER APPROPRIATED FUNDED ACTIVITIES

Selected Examples of Recent Progress in – American Rescue Plan

1. American Rescue Plan

In 2021, Congress provided USDA $300 million through the American Rescue Plan (ARP) Act to conduct monitoring and surveillance of susceptible animals for SARS-CoV-2, addressing the longstanding need to strengthen our ability for early detection of emerging and zoonotic diseases in animals. APHIS is leading efforts to better understand and address SARS-CoV-2 in animals, bringing together our experts on wildlife diseases, livestock, companion, and zoo animals, and partnering with other agencies that protect human and environmental health to take a One Health approach to the global problem of SARS-CoV-2. These efforts include learning more about the virus, which animals it affects, and how it is spreading to new locations or species. APHIS is using the funding provided to build national capacity to potentially prevent or limit the next zoonotic disease outbreak, or the next global pandemic.

Leveraging partnerships and external innovations, tools, and capacity are critical to the success of the ARP program. In 2022, APHIS announced a funding opportunity of up to $24 million for research grants through the National Institute of Food and Agriculture and the National Science Foundation. These funds will make grants available to eligible state and federal agencies, academia, private organizations or corporations, and individuals. This funding opportunity will leverage both prior and new One Health partnerships while working toward the goal of preventing or minimizing the next pandemic. Additionally, these grants will support research that directly aligns with APHIS' American Rescue Plan strategic framework and provide an expedited method of funding key activities to: address gaps in surveillance and investigation activities for SARS-CoV-2 in animals, including farmed animals, captive wildlife, free-ranging wildlife, and companion animals; expand knowledge of susceptibility of species to SARS-CoV-2 to improve understanding of potential roles or routes of transmission; develop surveillance tools and strategies for the rapid detection and characterization of emerging and re-emerging pathogens to support an early warning system to prevent or limit future SARS-CoV-2 outbreaks; and identify risks, effective interventions, and other measures to prevent transmission of SARS-CoV-2 at the human-animal interface and/or impacts to the food supply.

In addition to the funding opportunity announcement, APHIS is conducting multiple ARP projects focused on understanding how the SARS-CoV-2 virus behaves in different animals, how it moves between animals and people, and what we can do to interrupt the chain of transmission. In 2022, APHIS initiated 18 projects that incorporate animal surveillance, testing, research, and preventative efforts. Through these projects, APHIS continued to study the susceptibility of certain mammals to SARS-CoV-2 to help identify species that may serve as reservoirs or hosts for the virus such as white-tail deer and mink, as well as understand the origin of the virus, and predict its impacts on wildlife and livestock animals and the risks of cross-species transmission. Additionally, the information gathered from surveillance efforts will assist in implementing management strategies that will ultimately reduce the potential of the virus from entering wildlife species, livestock, and companion animals, and prevent transmission to other animals or people. In 2022, APHIS began developing human dimension studies to identify the most strategic intervention tools that people would adopt to reduce the transmission of SARS-CoV-2. APHIS will continue these projects and activities in 2023, and beyond.

In 2022, APHIS launched a new website to help stakeholders and the public stay up to date on the Agency's ongoing SARS-CoV-2 surveillance projects: https://www.aphis.usda.gov/aphis/ourfocus/onehealth. The website provides valuable data on testing and surveillance and, over time, will provide an important One Health link by sharing guidance based on the outcomes of ARP work and linking to valuable information from other One Health partners. Visitors of the site can read background information on the ARP and APHIS' ARP Strategic Framework, as well as summaries of ARP-funded surveillance projects and other activities.

ACCOUNT 2: BUILDINGS AND FACILITIES

APPROPRIATIONS LANGUAGE

The appropriations language follows (new language underscored; deleted matter enclosed in brackets):
Buildings and Facilities

For plans, construction, repair, preventive maintenance, environmental support, improvement, extension, alteration, and purchase of fixed equipment or facilities, as authorized by 7 U.S.C. 2250, and acquisition of land as authorized by 7 U.S.C. 2268a, $3,175,000, to remain available until expended.

LEAD-OFF TABULAR STATEMENT

Table APHIS-22. Lead-Off Tabular Statement (In dollars)

Item	Amount
Estimate, 2023	$3,175,000
Change in Appropriation	0
Budget Estimate, 2024	3,175,000

PROJECT STATEMENTS

Table APHIS-23. Project Statement on Basis of Appropriations (thousands of dollars, FTE)

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.	FTE Inc. or Dec.	Chg Key
Discretionary Appropriations:											
Buildings and Facilities	$3,175	-	$3,175	-	$3,175	-	$3,175	-	-	-	
Subtotal	3,175	-	3,175	-	3,175	-	3,175	-	-	-	
Total Adjusted Appropriation	3,175	-	3,175	-	3,175	-	3,175	-	-	-	
Total Appropriation	3,175	-	3,175	-	3,175	-	3,175	-	-	-	
Recoveries, Other	1,884	-	-	-	-	-	-	-	-	-	
Balance Available, SOY	43,938	-	43,695	-	29,087	-	28,762	-	-$325	-	
Total Available	48,996	-	46,870	-	32,262	-	31,937	-	-325	-	
Balance Available, EOY	-43,695	-	-29,087	-	-28,762	-	-28,437	-	+325	-	
Total Obligations	5,301	-	17,783	-	3,500	-	3,500	-	-	-	

Table APHIS-24. Project Statement on Basis of Obligations (thousands of dollars, FTE)

Item	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE	Inc. or Dec.
Discretionary Obligations:									
Buildings and Facilities	$5,301	-	$17,783	-	$3,500	-	$3,500	-	-
Total Obligations	5,301	-	17,783	-	3,500	-	3,500	-	-
Balances Available, EOY:									
Discretionary									
Buildings and Facilities	3,560	-	1,283	-	958	-	633	-	-$325
General Provision 743 Fruit Fly Rearing Facility	40,135	-	27,803	-	27,803	-	27,803	-	-
Total Bal. Available, EOY	43,695	-	29,087	-	28,762	-	28,437	-	-325
Total Available	48,996	-	46,870	-	32,262	-	31,937	-	-325
Recoveries	-1,884	-	-	-	-	-	-	-	-
Bal. Available, SOY	-43,938	-	-43,695	-	-29,087	-	-28,762	-	+325
Total Appropriation	3,175	-	3,175	-	3,175	-	3,175	-	-

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND FTE

Table APHIS-25. Geographic Breakdown of Obligations and FTE (thousands of dollars, FTE)

State/Territory/Country	2021 Actual	FTE	2022 Actual	FTE	2023 Estimated	FTE	2024 Estimated	FTE
Colorado	$105	-	-	-	-	-	$125	-
Florida	65	-	$107	-	$100	-	150	-
Iowa	52	-	706	-	100	-	50	-
Maryland	402	-	115	-	150	-	200	-
New York	1,236	-	1,236	-	150	-	225	-
Texas	3,442	-	15,619	-	3,000	-	2,750	-
Obligations	5,301	-	17,783	-	3,500	-	3,500	-
Bal. Available, EOY	43,695	-	29,087	-	-	-	-	-
Total, Available	48,996	-	46,870	-	3,500	-	3,500	-

CLASSIFICATION BY OBJECTS

Table APHIS-26. Classification by Objects (thousands of dollars,)

Item No.	Item	2021 Actual	2022 Actual	2023 Estimated	2024 Estimated
	Other Objects:				
25.2	Other services from non-Federal sources	$3,435	$17,783	$3,500	$3,500
25.3	Other goods and services from Federal sources	1,866	-	-	-
	Total, Other Objects	5,301	17,783	3,500	3,500
99.9	Total, new obligations	5,301	17,783	3,500	3,500

JUSTIFICATION

Buildings and Facilities: $3,175,000 available in 2023.

The Buildings and Facilities (B&F) program addresses facility needs in support of the Agency's mission to protect the health and value of agriculture and natural resources nationwide. The program's goal is to systematically address the Agency's needs for maintaining and repairing existing facilities, as well as constructing new facilities. APHIS' Facility Condition Index (FCI) drives the projects; the FCI is the sum of the costs of needed repairs divided by the replacement value of the facility. APHIS strives to maintain an FCI for facilities assessed of less than 0.10, meaning that the cost to make repairs is less than 10 percent of the estimated replacement value for the facility.

This program serves a vital role in maintaining APHIS' facilities so that employees can continue to carry out their responsibilities in a safe and efficient manner. The commitment to maintain the condition and functionality of facilities is an ongoing process that demands significant management of capital resources. The program manages the implementation of scheduled facility improvements, safety, construction, and maintenance. Contractors perform inspections and tests to substantiate that the supplies or services furnished under the contract conform to contract requirements. In addition, a design firm validates that the work aligns with approved plans and specifications. APHIS typically identifies on-site certified personnel to perform the contracting services. The Agency's engineering staff assist with the development of project plans, attend on-site construction progress meetings/reviews, and APHIS collects performance data through contractor reports and on-site verification.

In 2022, APHIS awarded 18 design/construction tasks associated with projects at a cost of approximately $5.43 million and completed 21 construction projects. Approximately 50 percent of these projects were major renovations, and the remaining were for minor repairs. Examples of these major or minor renovation projects include replacing the HVAC system (Building 6414) and the Combined Underground Utility Upgrades at Moore Air Base, Mission, TX, upgrading the incinerator at the New York Animal Import Center (NYAIC) in Rock Tavern, New York, and the construction of a Bio-Archive Storage facility at the National Wildlife Research Center, Ft. Collins, CO.

The B&F program allows APHIS to centrally coordinate and prioritize these types of projects. Without necessary maintenance and repairs to facilities there could be program delays, environmental impacts, and noncompliance with State and local laws and codes. Many of APHIS' facilities have specialized functions that support various Federal, State, and local government programs, stakeholders, and customers. B&F projects ensure that APHIS' programs can be conducted at safe, secure, sustainable, and high-performing facilities.

Approximately 99 percent of B&F funding supports indefinite delivery, indefinite quantity contracts (e.g., architect and engineering support), and construction contracts. These contracts, which provide indefinite supplies or services during a fixed period, help streamline the contract process and expedite service delivery. The remaining funds support operating costs.

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STATUS OF PROGRAMS

The Buildings and Facilities (B&F) appropriation funds major, nonrecurring construction projects in support of program activities, recurring construction, alterations, and repairs of existing facilities. The goal of the B&F program is to systematically address the Agency's needs for maintaining and repairing existing facilities as well as new construction. This program serves a vital role in maintaining APHIS' facilities so that employees can carry out their responsibilities safely and efficiently. Maintaining facility condition and functionality is an ongoing process that demands significant management of capital resources. Many of APHIS' facilities have specialized functions that support various Federal, State, and local government programs, as well as stakeholders and customers. B&F projects ensure that APHIS' programs are conducted at safe, secure, sound, sustainable, and high-performance facilities that support the Agency's mission.

APHIS' B&F program maximizes its efficiency through comprehensive construction projects. The Agency spends approximately 99 percent of its funding on indefinite delivery, indefinite quantity and construction contracts. These contracts, which provide an indefinite quantity of supplies or services during a fixed period, help streamline the contract process and expedite service delivery. Remaining B&F funds support information technology projects (i.e., Facilities Capital Planning and Management software).

Facilities Condition Assessment

APHIS assigns each facility with a Facility Condition Index (FCI), which is the sum of the costs of needed repairs divided by the replacement value of the facility and uses the FCI scores to determine each year's projects. APHIS strives to maintain an FCI for facilities assessed of less than 0.10, meaning that the cost to make repairs is less than 10 percent of the estimated replacement value for the facilities.

Since 2000, APHIS has used a comprehensive Facilities Condition Assessment (FCA) program to better understand the condition of facilities, strategically maintain them by identifying deficiencies and funding needs, stabilize the facilities repair backlog, predict maintenance needs, and implement financial management and capital asset improvement efforts. To implement this FCA program, a consulting firm is tasked with assessing the relative condition of assets and facilitating comparisons both within and among APHIS' facilities. This firm calculates an FCI for each facility by program. The effects of COVID-related travel restrictions reduced facility assessment efforts in 2021, but efforts were made to resume normal assessment procedures in 2022. As a result, APHIS completed 2 FCA's and awarded 4 contractual FCA requests.

Summary of Current Projects

The B&F program implements scheduled improvements, and conducts security, construction, and maintenance activities. Contractors perform inspections and tests to substantiate that the supplies or services furnished under the contract conform to its requirements. In addition, a third-party design firm validates that the work aligns with approved plans and specifications. APHIS typically identifies on-site certified personnel to perform the Contracting Officer's Representative services. The Agency's engineering staff attends construction progress meetings, and APHIS collects performance data through contractor reports and on-site verification.

As of October 2022, APHIS' B&F appropriation supported seventeen active projects. In 2022, APHIS awarded 18 design/construction tasks associated with projects at a cost of approximately $5.43 million and completed 21 construction projects. Approximately 50 percent of these projects were major renovations, and the remaining were for minor repairs. Construction progress and final inspection reports are performed to ensure construction modifications are in accordance with the design plans and in compliance with Federally operated facility requirements.

Some of the ongoing renovation projects include replacing the HVAC system (Building 6414) and the Combined Underground Utility Upgrades at Moore Air Base, Mission, TX, , upgrading the incinerator at the New York Animal Import Center (NYAIC) in Rock Tavern, New York, and the construction of a Bio-Archive Storage facility at the National Wildlife Research Center, Ft. Collins, CO. Progress on these projects in 2022, are summarized below:

Moore Air Base, Building 6414 HVAC System
This project includes replacing existing chilled water piping and air handling units that have reached their life expectancy for optimal usage. The construction contract was awarded in 2021, construction began in 2022, and is expected to be complete by the end of 2023.

Moore Air Base, Combined Underground Utility Upgrades
This project will address the needed repairs for an 80+ year old infrastructure so that current and future Agency mission operations may continue. The scope of this project includes the installation of a new sanitary sewer system, electrical upgrades, and changes to an antiquated communication infrastructure at this facility in Mission, TX. A construction contract was awarded for this project in 2022.

NYAIC Incinerator Upgrades
The NYAIC is an animal quarantine center used to screen birds and hoof stock entering the country. In 1980, two gas-fired incinerators were installed to destroy animal bedding and similar type waste. Recent revisions to the air emission standards upheld by the New York State Department of Environmental Conservation, state that incinerators and crematories installed prior to January 1, 1989 must meet a more stringent air emission requirement. If the new standards are not met, NYAIC could possibly be fined and/or the incinerators shutdown until compliance is achieved. APHIS is proactively upgrading the incinerators. The construction contract for this project was awarded in 2021 and construction was completed in 2022.

Bio-Archive Storage facility at the National Wildlife Research Center
Congress provided funding to the National Wildlife Research Center to expand chronic wasting disease research efforts. The construction of a new Bio-Archive Storage facility will provide the ability to maintain an archive of biological samples from extensive surveillance efforts and samples for diseases of national significance for both trade and human health. A design-build contract was awarded for this project in 2022.

AGENCY-WIDE PERFORMANCE

Introduction

OBPA leads the Department in performance management including, evaluation, evidence, and risk management; it also chairs the Performance, Evaluation, Evidence Committee (PEEC) and the Enterprise Risk Management (ERM) committee. APHIS is a member of both the PEEC and ERM committees which is comprised of individuals from different Mission Areas and backgrounds throughout USDA. The impact of different perspectives and expertise allows for improvements regarding buy-in across the Department, augments technical expertise, and creates a greater diversity of perspectives. Partnerships with the Chief Data Officer and Statistical Officer allow for greater insight and advisement on data access, data quality, and statistical methods. APHIS' Policy and Program Development unit spearheads its efforts in Strategic Planning, Performance, Evidence and Evaluation, and Enterprise Risk Management, works directly with OBPA and senior leadership, and actively engages with both internal and external stakeholders.

Alignment to USDA 2022 – 2026 Strategic Plan

APHIS activities contribute to the success of USDA's overall mission to provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues using sound public policy, the best available science, and effective management, to the benefit of all Americans. APHIS is responsible for achieving and measuring results with respect to the following 2022 – 2026 Strategic Goal and Objectives:

Strategic Goal 2: Ensure that America's agricultural system is equitable, resilient, and prosperous
Objective 2.1: Protect agricultural health through minimizing the impact of major pests, diseases, and wildlife conflicts

Summary of Performance

A more detailed report of the performance plan can be found at https://www.usda.gov/our-agency/about-usda/performance. The following table summarizes the results for the Departmental Key Performance Indicators (KPIs) for which APHIS is responsible.

Table APHIS-27. KPI-Animal and Plant Health

Strategic Objective 2.1		2022	2023	2024
Wildlife Disease Sampling	Results	16	-	-
2.1.1 Number of zoonotic and agricultural diseases sampled in wildlife	Target	Baseline	17	18

Strategic Objective 2.1		2022	2023	2024
Climate Suitability Mapping	Results	16	-	-
2.1.2 Number of priority pests for which climate suitability maps have been completed	Target	Baseline	24	32

Expected Performance Progress Towards the Achievement of Strategic Objectives:
Strategic Objective 2.1: Protect agricultural health through minimizing the impact of major pests, diseases, and wildlife conflicts.

- **Wildlife Disease Sampling:** This KPI represents the number of zoonotic and agricultural diseases for which APHIS has developed methods and procedures to sample in wildlife.
    - In 2024, APHIS will develop methods and procedures to sample for new zoonotic or agriculturally significant diseases in wildlife, for a total of 18 diseases. APHIS currently reports on 16 diseases in wildlife populations, including African swine fever, avian influenza, chronic wasting disease, rabies variants, and SARS-CoV-2. APHIS will add new sampling methods based on those diseases that pose the highest risk to agricultural health or human health, in the case of zoonotic diseases.

- **Climate Suitability Maps:** This KPI represents the number of maps APHIS has completed related to climate suitability for high-risk pests and diseases.

    - In 2024, APHIS will continue developing climate suitability maps for high-risk pests and diseases, for a total of 32 maps by the end of 2024. APHIS will determine which pests to prioritize based on continuing analysis of the risks. APHIS will continue to work with state partners and other map users to improve the usefulness of the maps, including providing a user guide that illustrates how the maps can be used to inform survey planning.
    - APHIS customizes each pest model, and some models require more time than others due to data gaps and variability in pest biology. For example, plant pathogens have complex life cycles that are difficult to incorporate in climate suitability models; therefore, the Agency plans to develop a framework for addressing some of these challenges. Additionally, the maps include varying levels of uncertainty about pest establishment. APHIS continues to evaluate how users interpret the maps and how to improve communication so that they can be accurately applied.