Contents

Purpose Statement 20-1
Statement of Available Funds and Staff Years 20-7
Permanent Positions by Grade and Staff Year Summary 20-9
Motor Vehicle Fleet and Aircraft Data 20-10
Shared Funding Projects 20-12
Salaries and Expenses
- Appropriations Language and Explanation of Changes 20-14
- Lead-off Tabular Statement 20-16
- Project Statements 20-17
- Justifications 20-21
- Summary Proposed Legislation 20-56
- Geographic Breakdown of Obligations and Staff Years 20-58
- Classification by Objects 20-60
- Status of Programs 20-61

Buildings and Facilities
- Appropriations Language and Explanation of Changes 20-122
- Lead-off Tabular Statement 20-123
- Project Statements 20-123
- Justifications 20-124
- Geographic Breakdown of Obligations and Staff Years 20-125
- Classification by Objects 20-126
- Status of Programs 20-127

Summary of Budget and Performance 20-129

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.

Together with its stakeholders, APHIS 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 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 bio-terrorism, invasive species, diseases of wildlife and livestock, and conflicts between humans and wildlife. The Agency also manages and resolves sanitary (animal) and phytosanitary (plant) trade barriers and addresses certain issues relating to the humane treatment of animals. Finally, APHIS ensures that biotechnology-derived agricultural products are safe for release in the environment.

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

Safeguarding and Emergency Preparedness/Response

In addition to APHIS' domestic monitoring, APHIS monitors animal and plant health throughout the world and uses the 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 ensure that these policies are enforced at U.S. ports of entry. These policies prevent the entry of many invasive pests, including crop, pollinator, woodland, and livestock pests. 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. APHIS certifies plants and plant products for export to other countries and regulates imports and exports 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. APHIS also actively engages State, Tribal, and local governments, and industries to advance their emergency preparedness and response capabilities.

Through its Wildlife Services program, APHIS protects agriculture from detrimental animals through identification and demonstration of the most appropriate methods of control. APHIS also develops methods to control animals and pests that are detrimental to agriculture, wildlife, and public safety. The Agency's regulatory structure brings the benefits of genetic research to the marketplace, while protecting against the release of potentially harmful organisms into the environment. APHIS also 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 in coordination with other groups in APHIS to support plant protection programs of the Agency and its cooperators at the State, national, and international levels.

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. This is done through negotiating access to new markets, preserving existing markets, and expanding existing markets. 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 Organizations 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
21 U.S.C. 136-136a	User Fees
31 U.S.C. 1535	Agency Agreements
31 U.S.C. 9701	Offsetting collections and miscellaneous Receipts
7 U.S.C. 3291(a)	Authority to provide technical assistance and training
7 U.S.C. 5680	Farm Security and Rural Investment Act of 2002-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	The Animal Health Protection Act
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

Animal Health (continued):

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 FMD 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. 1581-1611	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. 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. 426-426d	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

There were 5,695 permanent full-time employees as of September 30, 2017. Of the total, 1,195 full-time employees were located at headquarters. APHIS manages programs on a national basis through 2 regional offices and 433 field offices, including area offices, work stations, 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 FYs 2017 – 2018 include those listed below. If an audit has no specific recommendations for APHIS, the audit will not be included in this listing for APHIS.

OIG Audits – In Progress

#33099-01-23	Texas Boll Weevil Eradication Foundation Grant. Audit work is on-going.
#50024-01-22	USDA Controls over Purchase Card Use. Audit includes APHIS and other USDA agencies. USDA's Office of Procurement and Personnel Management is the lead for this audit. Audit work is on-going.
#50099-03-21	USDA's Management Over the Misuse of Government Vehicles. Audit includes APHIS and other USDA agencies. Audit work is on-going.
#50701-01-21	USDA Activities for Agro-terrorism Prevention, Detection and Response. Audit includes APHIS and other USDA agencies. Audit work is on-going.

OIG Audits – (OIG Audits with Issued Reports)

#01601-01-21	National Organic Program - International Trade Arrangements and Agreements. Audit is of Agricultural Marketing Service's National Organic Program. Audit report was issued with no recommendations for APHIS.
#11601-01-41	Departmental Oversight of Final Action on OIG Audit Recommendations. OIG is auditing the Office of the Chief Financial Officer's closure of OIG recommendations made to APHIS and other USDA agencies. OIG report was issued with no recommendations for APHIS.
#33601-01-31	APHIS Animal Welfare Act - Marine Mammals. OIG report was issued in May 2017 with 6 recommendations. APHIS is implementing the recommendations.
#33601-01-41	APHIS Oversight of Research Facilities. OIG report was issued in December 2014 with 15 recommendations. Of the 15 recommendations, 14 recommendations are closed. Recommendation #15 is still pending implementation.
#50016-01-23	Implementation of Suspension and Debarment Tools in USDA. OIG report was issued with no recommendations for APHIS.
#50401-11-11	USDA Consolidated Financial Statements for FYs 2015 and 2016. Audit includes APHIS and other USDA agencies. OIG report was issued with no recommendations for APHIS.
#50501-12-12	Federal Information Security Modernization Act. Audit includes APHIS and other USDA agencies. OIG report was issued with no recommendations for APHIS.
#50601-01-32	Controls Over APHIS' Introduction of Genetically Engineered Organisms. OIG report was issued in September 2015 with 13 recommendations. APHIS has implemented and received official closure on 10 of the 13 recommendations. Recommendations #2, 3 and 8 are pending implementation.
#50601-04-31	USDA Response to Antibiotic Resistance. OIG report was issued in March 2016 with 6 of the 19 recommendations for APHIS. APHIS is implementing the recommendations.
#50601-08-TE	Controls Over APHIS Issuance of Genetically Engineered Organisms Release Permits. OIG report was issued in December 2005 with 28 recommendations. Of the 28 recommendations, 25 are closed. Recommendations #1-3 remain open.
#50610-16-TE	Controls Over Genetically Engineered Animal and Insect Research. OIG report was issued in May 2011 with 8 recommendations. Of the recommendations, 7 are closed. Recommendation #2 remains open.

GAO Audits – In Progress

#100285	Foreign Ownership of Government-leased Space. Audit includes APHIS and other USDA and non-USDA agencies. Audit work is on-going.
#100294	Safety of Imported Beef from Countries with a History of FMD. Audit includes APHIS and other USDA agencies. Audit work is on-going.
#100751	Biological Threat Characterization. Audit includes APHIS and other USDA and non-USDA agencies. Audit work is on-going.
#100849	Federally Owned Aircraft. USDA's Office of Procurement and Personnel Management is the lead office. Audit is government-wide. Audit work is on-going.
#100924	Federal Facilities Risk Assessment Processes. The audit is of USDA's Agricultural Research Service. APHIS was included in this audit. Audit work is on-going.
#101039	U.S. Foreign Assistance to Inter-American Multilateral Organizations. Audit includes APHIS and other USDA agencies. Audit work is on-going.

GAO Reports – (Audits with Issued Reports)

#100220	Land Mobile Radio Procurement and Interoperability. Audit is government-wide (excluding the Department of Defense). GAO report was issued with no recommendations for APHIS.
#100267	Federal Actions to Monitor and Control Antibiotic Resistance in Food Animals. Audit includes APHIS and other USDA and non-USDA agencies. GAO report was issued in March 2017 with 1 recommendation for APHIS. APHIS is implementing the remaining recommendation.
#100332	Financial Management, Oversight, and Transparency Policies Review. APHIS prepared the Statement of Action on January 10, 2017. GAO report was issued in December 2016 with 3 recommendations for APHIS. APHIS is in process of implementing recommendations.
#100668	Highly Pathogenic Avian Influenza. Audit includes APHIS and other USDA agencies. GAO report was issued in May 2017 with 1 recommendation for APHIS. APHIS is implementing the recommendation.
#101016	Comparative Oversight of High-Containment Laboratories. Audit includes APHIS and other non-USDA agencies. GAO report was issued in October 2017 with 6 recommendations for APHIS. APHIS is implementing the recommendations.
#197248	Agencies Use of Do Not Pay Initiative. Audit includes APHIS and other USDA agencies. GAO report was issued 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 final report in April 2016 with 5 recommendations. APHIS and the other agencies are implementing the recommendations.
#361223	Antibiotic Use in Food and Animals. Audit includes APHIS and other non-USDA agencies. GAO report was issued in September 2011 with 3 recommendations. APHIS implemented all 3 recommendations.
#361330	Agricultural Quarantine Inspections. GAO report was issued in September 2012 with 3 recommendations for APHIS. APHIS implemented all 3 recommendations.

#361562	Federal Veterinarian Workforce. The audit includes the Office of Personnel Management. GAO report was issued in May 2015 with 1 recommendation for APHIS. The recommendation remains open.
#361589	Genetically Engineered Crops. The audit includes APHIS and USDA's National Agricultural Statistics Service. GAO report was issued in April 2016 with 3 recommendations. APHIS is implementing the recommendations.
#361615	Emerging Swine Diseases. GAO report was issued in December 2015 with 3 recommendations. APHIS is implementing the recommendations.
#450973	Agricultural Quarantine Inspection Fees. The audit includes APHIS and other non-USDA agencies. GAO report was issued in March 2013 with 13 recommendations. APHIS implemented all 13 recommendations.
#460640	Improved Oversight of Dangerous Pathogens to Mitigate Risk. GAO report was issued in September 2016 with 4 recommendations for APHIS and several non-USDA Agencies. APHIS is implementing the recommendations.

Available Funds and Staff Years (SYs)
(Dollars in Thousands)

Item	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Salaries and Expenses:								
Discretionary Appropriations	$894,415	4,732	$946,212	4,827	$939,786	4,827	$739,151	3,954
Citrus Greening a/	5,500	-	5,500	-	5,463	-	-	-
Sub-Total Disc Funding	899,915	4,732	951,712	4,827	945,249	4,827	739,151	3,954
Mandatory Appropriations: Farm Bill	58,250	15	58,188	15	70,050	15	75,000	15
Agricultural Quarantine Inspection User Fees:								
Total Collections	686,629	1,250	760,857	1,250	765,909	1,325	765,000	1,325
Buildings and Facilities:								
Discretionary Appropriations	3,175	-	3,175	-	3,153	-	2,852	-
Fruit Fly Rearing Facility a/	-	-	47,000	-	46,681	-	-	-
Trust Funds:								
Mandatory Funding	7,137	50	9,612	50	9,004	50	9,087	50
Foreign Service National Separation Liability Trust	896	-	-	-	400	-	400	-
Transfers In	-	-	23,901	1	-	-	-	-
Transfers Out	-449,857	-	-534,515	-	-539,000	-	-539,325	-
Adjusted Appropriation	1,206,145	6,047	1,319,930	6,143	1,301,446	6,217	1,052,165	5,344
Balance Available, SOY	399,030	642	321,557	492	415,469	498	396,304	523
Other Adjustments (NET)	44,836	-	39,673	-	-	-	-	-
Total Available	1,650,011	6,689	1,681,160	6,635	1,716,916	6,715	1,448,469	5,867
Lapsing Balances	-3,628	-339	-1,313	-285	-	-	-	-
Balance Available, EOY	-321,557	-492	-415,469	-498	-396,304	-523	-279,253	-523
Subtotal Obligations, APHIS	1,324,826	5,858	1,264,378	5,852	1,320,612	6,192	1,169,216	5,344
Obligations under other USDA appropriations:								
Agricultural Marketing Service:								
for administrative and technical support	7,445	-	7,276	-	7,594	-	7,619	-
Agricultural Research Service:								
for administrative and technical support	4,099	-	4,557	-	4,181	-	4,193	-
Economic Research Service :								
for administrative and technical support	7	-	16	-	7	-	7	-
Food Safety and Inspection Service								
for administrative and technical support	365	-	426	-	372	-	373	-
Food & Nutrition Service:								
for administrative and technical support	32	-	-	-	32	-	32	-
Foreign Agricultural Service:								
for administrative and technical support	3,497	-	5,590	-	3,567	-	3,578	-
Forest Service:								
for administrative and technical support	880	-	541	-	897	-	900	-
Grain Inspection, Packers and Stockyards Admin.:								
for administrative and technical support	1,645	-	1,648	-	1,678	-	1,683	-
National Appeals Divison:								
for administrative and technical support	16	-	-	-	16	-	16	-
National Institute of Food and Agriculture:								
for administrative and technical support	24	-	-	-	25	-	25	-
Natural Resources Conservation Service:								
for administrative and technical support	925	-	-	-	944	-	946	-
Risk Management Agency:								
administrative and technical support	-	-	30	-	-	-	-	-
Total, Agriculture Appropriations	18,934	-	20,084	-	19,314	-	19,372	-

Item	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Other Federal Funds:								
DOD, U.S. Air Force	11,309	-	9,174	-	11,536	-	11,571	-
DOD, Air National Guard	3,422	-	3,588	-	3,491	-	3,501	-
DOD, U.S. Navy	5,525	-	6,155	-	5,636	-	5,653	-
DOD, U.S. Marine Corps	1,002	-	1,210	-	1,022	-	1,025	-
DOD, U.S. Army	1,012	-	1,563	-	1,032	-	1,035	-
DOD, U.S. Army Corp of Engineers	1,655	-	1,632	-	1,689	-	1,694	-
DOD, Defense Threat Reduction Agency	803	-	528	-	819	-	822	-
Department of Energy	201	-	224	-	205	-	206	-
Department of Health and Human Services	18	-	106	-	19	-	19	-
DHS: for Coast Guard and other services and support	1,186	-	615	-	1,211	-	1,215	-
Federal Emergency Management Agency	25	-	156	-	25	-	25	-
National Aeronautics and Space Administration	300	-	267	-	306	-	307	-
USDOI, Geological Survey, National Park Service, Office of Insular Affairs	1,602	-	1,626	-	1,634	-	1,639	-
USDOI, Bureau of Land Management & Reclamation: for administrative and technical support	512	-	444	-	523	-	524	-
USDOI, Fish and Wildlife Services: for natural resources and endangered species	2,931	-	2,797	-	2,990	-	2,999	-
USDOT: Federal Aviation Administration	1,170	-	1,295	-	1,193	-	1,197	-
Department of State: for miscellaneous services	157	-	86	-	160	-	161	-
Department of Veterans Affairs	26	-	22	-	27	-	27	-
Environmental Protection Agency for miscellaneous services	1,197	-	1,255	-	1,221	-	1,225	-
GSA: for miscellaneous services	1	-	14	-	1	-	1	-
Other Federal Funds	731	521	376	479	746	481	748	481
Total, Other Federal Funds	34,786	521	33,133	479	35,485	481	35,594	481
Non-Federal Funds:								
Funds from organizations, states, and local entities for wildlife, plant, and animal services support	52,010	568	60,886	635	52,679	634	52,837	634
Import-Export User Fees	45,369	354	46,798	370	45,907	370	46,044	370
Phytosanitary Certificate User Fees	20,015	133	19,448	141	20,417	141	20,478	141
Reimburseable Overtime	8,042	82	8,360	82	8,204	82	8,229	82
Veterinary Diagnostics User Fees	5,525	52	7,402	56	5,636	57	5,653	57
Other User Fees	2	-	464	-	2	-	2	-
Non-Federal	1,031	-	-	-	1,052	-	1,052	-
Subtotal, Reimburseable Salaries and Expenses	185,714	1,710	196,575	1,763	188,695	1,765	189,261	1,765
Total Obligations, Animal and Plant Health Inspection Service	$1,510,540	7,568	$1,460,952	7,615	$1,509,307	7,957	$1,358,477	7,109

a/ The Consolidated Appropriations Act 2016, included $5.5M in one-time funding via a General Provision 764 for control, management and associated activities directly related to a multiple-agency response to citrus greening. The Consolidated Appropriations Act 2017, included $5.5M in one time funding via a General Provision 757 for control, management and associated activities directly related to a multiple-agency response to citrus greening and General Provision 743 under Buildings and Facilities for fruit fly rearing facilities in Texas. Assuming a full year continuing resolution in FY 2018, the General Provisions 757 and 743 are repeated.

Permanent Positions by Grade and Staff Year Summary

Item	2016 Actual			2017 Actual			2018 Estimate			2019 President's Budget		
	Hdqts	Field	Total	Hdqts	Field	Total	Hdqts	Field	Total	Hdqts	Field	Total
SES	30	9	39	29	10	39	29	10	39	29	10	39
GS-15	69	63	132	75	61	136	75	61	136	75	61	136
GS-14	321	280	601	326	301	627	327	309	636	321	285	606
GS-13	281	502	783	288	514	802	289	520	809	279	501	780
GS-12	191	964	1,155	204	996	1,200	206	1,027	1,233	181	960	1,141
GS-11	93	787	880	85	769	854	85	769	854	63	613	676
GS-10	2	7	9	-	8	8	-	8	8	-	8	8
GS-09	72	469	541	84	458	542	85	460	545	56	336	392
GS-08	8	259	267	6	259	265	8	275	283	8	275	283
GS-07	63	588	651	61	648	709	62	655	717	49	626	675
GS-06	18	244	262	9	204	213	9	204	213	3	167	170
GS-05	8	163	171	9	139	148	9	139	148	7	20	27
GS-04	6	32	38	9	20	29	9	20	29	9	18	27
GS-03	2	13	15	-	14	14	-	14	14	-	14	14
GS-02	-	-	-	-	-	-	-	-	-	-	-	-
Other Graded Positions	14	108	122	10	99	109	10	99	109	10	99	109
Ungraded Positions												
Total Perm. Employment EOY	1,178	4,488	5,666	1,195	4,500	5,695	1,203	4,570	5,773	1,090	3,993	5,083
Staff Year Estimate	1,473	6,095	7,568	1,482	6,133	7,615	1,548	6,409	7,957	1,383	5,726	7,109

Size, Composition and Cost Motor Vehicle and Aircraft Fleet

1. Size, Composition, and Cost of 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, which entail 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.

To maximize the life span of vehicles, operators are required to keep historical maintenance records and submit the vehicles' operational and cost data for review and reporting at least once a year. Periodic maintenance surveys and reviews of consolidated vehicle fleet data ensure optimal use of each vehicle in the fleet.

Replacement criteria. APHIS replaces vehicles in accordance with Title 41, CFR § 102–34.280. Agency programs replace and retire vehicles using data on utilization, age, condition, and funding availability. APHIS has implemented efforts to both increase the number of alternative fuel vehicles and extend the life cycle of each vehicle.

Reductions to the motor vehicle fleet. APHIS ended FY 2017, with 4,541 vehicles (leased and owned), which is a decrease of 647 vehicles. APHIS sold 966 vehicles and acquired new vehicles which will reduce the monthly maintenance down time on our fleet.

Changes to the motor vehicle fleet. For FY 2019, there are no significant changes expected to the APHIS fleet. We will maintain and control the inventory through the General Service Administration's (GSA) Federal Automotive Statistical Tool (FAST) reports. Annual operating costs are expected to increase due to the anticipated increase in the cost of fuel and maintenance.

Within the FY 2018 level, the Agency expects to reduce the number of: sedans/station wagons by 5; light duty vans by 3; light duty sport utility vehicles by 35; light duty trucks by 27; and medium duty sport utility vehicles by 2, while increasing the number of medium duty trucks by 12. There is no planned change in the number of medium duty vans or heavy duty trucks.

Replacement of passenger motor vehicles. For FY 2019, the Agency proposes replacing 7 of the 258 vehicles currently in the Agency fleet that APHIS' technical personnel use in the field. Vehicles designated for disposal meet the GSA's standards for replacement by having mileage of 60,000 or more, or by being three years of age or older.

Process Improvements. In FY 2017, APHIS developed samples on how to use the lifecycle model to perform owning verses leasing cost analysis when procuring a new vehicle. The analysis will help determine which option would be the most cost effective.

Impediments to managing the motor vehicle fleet. Currently there are no impediments to APHIS being able to manage its motor vehicle fleet.

Size, Composition, and Annual Operating Costs of Vehicle Fleet

Fiscal Year	Number of Vehicles by Type*									Annual Operating Costs ($ in 000)
	Passenger Motor Vehicles (e.g. Sedans & Station Wagons)	Light Duty Vehicles				Medium Duty Vehicles		Heavy Duty Vehicles	Total Number of Vehicles	
		Vans	SUVs	Trucks		Buses	Trucks, Vans and SUVs			
				4x2	4x4					
2016	327	182	1,111	444	2,510	-	601	13	5,188	17,572
Change	-57	-62	-119	-131	-539	-	+257	+4	-647	+2,249
2017	270	120	992	313	1,971	-	858	17	4,541	19,821
Change	-5	-3	-35	-7	-20	-	+10	-	-60	+197
2018	265	117	957	306	1,951	-	868	17	4,481	20,018
Change	-7	-	-9	-1	-4	-	-4	-	-25	+69
2019	258	117	948	305	1,947	-	864	17	4,456	20,087

* Numbers include vehicles owned by the Agency and leased from GSA.

2. Size and Composition of Aircraft Fleet

APHIS uses aircraft to: conduct aerial resource and surveillance surveys, aerial application tests, methods development and testing, and equipment demonstration and testing; control and/or eradicate destructive plant pests to keep them from attacking agricultural crops; and, alleviate or control wildlife damage to agricultural products.

The Appropriations Act provides APHIS with authority to acquire up to five aircraft of which two shall be for replacement; the Agency replaces aircraft when necessary to maintain fleet safety and efficient operating conditions.

The APHIS aircraft fleet consists of 7 operable aircraft for domestic plant pest and disease management programs, and 61 aircraft used for the wildlife damage management programs. Of the 61 aircraft used for the wildlife damage management programs: 53 are owned, 4 are borrowed from State cooperators, and 4 are rented. Of the 53 owned aircraft, 9 of them are non-operational. APHIS uses the non-operational aircraft for parts.

Shared Funding Projects
(Dollars in thousands)

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
Working Capital Fund:				
Administration:				
HR Enterprise System Management	$86	$86	$105	$152
Integrated Procurement Systems	1,618	1,619	1,655	1,667
Mail and Reproduction Services	140	212	208	209
Material Management Service Center (Beltsville Center)	943	934	858	868
Procurement Operations Division	29	27	40	48
Subtotal	2,815	2,878	2,865	2,943
Communications:				
Creative Media and Broadcast Center	207	81	654	568
Correspondence Management:				
Office of the Executive Secretariat	772	1059	953	1,029
Finance and Management:				
Financial Management Services	6,412	7,254	7,059	7,686
Internal Control support Services	123	177	153	152
National Finance Center/USDA	2,128	2,212	2,425	2,437
Subtotal	8,663	9,643	9,638	10,276
Information Technology:				
Client Technology Services	198	3,853	3,571	3,584
National Information Technology Center/USDA	7,344	12,716	12,389	12,389
Enterprise Network Services	1,275	1,236	1,503	1,925
Subtotal	8,817	17,805	17,463	17,898
Total, Working Capital Fund	21,275	31,466	31,574	32,713
Department-Wide Reimbursable Program:				
1890's USDA Initiatives	229	285	266	266
Advisory committee Liaison Services	6	5	5	5
Classified National Security Information	82	87	76	76
Continuity of Operations Planning	145	157	150	150
Emergency Operations Center	169	180	166	166
Facility and Infrastructure Review and Assessment	31	35	32	32
Faith-Based Initiatives and Neighborhood Partnerships	28	31	28	28
Hispanic-Serving Institutions National Program	127	150	140	140
Honor Awards	5	-	5	5
Human Resources Transformation (Inc. Diversity Council)	111	128	124	124
Identity & Access Management (HSPD-12)	490	516	477	477
Medical Services	12	11	11	11
People's Garden	47	50	47	47
Personnel Security Branch	120	133	97	97
Pre-authorizing Funding	269	261	262	262
Retirement Processor/Web Application	42	45	42	42
TARGET Center	104	113	103	103
USDA 1994 Program	50	61	55	55
Virtual University	144	155	141	141
Total, Department Shared Cost Programs	2,212	2,402	2,227	2,227

	2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
E-Gov:				
Budget Formulation and Execution Line of Business	6	6	8	8
Enterprise Human Resources Integration	142	142	153	153
E-Rulemaking	45	55	69	57
E-Training*	195	-	-	-
Financial Management Line of Business	11	10	10	10
Geospatial Line of Business	16	13	13	13
Grants.gov	28	1	1	1
Human Resources Line of Business	20	20	23	23
Integrated Acquisition Environment	138	135	138	149
Freedom of Information Act	-	-	-	2
Total, E-Gov	602	382	413	415
Agency Total	24,089	34,250	34,214	35,355

* Moved to Working Capital Fund in FY 2017

The estimates include appropriation language for this item as 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), [$939,786,000]$739,151,000, of which [$474,000]$469,000, 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 [$11,442,000]$7,000,000, to remain available until expended, shall be used for the cotton pests program [for]including cost share purposes or for debt retirement for active eradication zones; of which [$37,600,000]$30,272,000, to remain available until expended, shall be for Animal Health Technical Services; of which [$692,000]$696,000 shall be for activities under the authority of the Horse Protection Act of 1970, as amended (15 U.S.C. 1831); of which [$54,964,000]$33,883,000, to remain available until expended, shall be used to support avian health; of which [$4,222,000]$4,243,000, to remain available until expended, shall be for information technology infrastructure; of which [$165,369,000]$139,500,000, to remain available until expended, shall be for specialty crop pests; of which, [$8,766,000]$7,809,000, to remain available until expended, shall be for field crop and rangeland ecosystem pests; of which $15,775,000, to remain available until expended, shall be for zoonotic disease management; of which $40,688,000, to remain available until expended, shall be for emergency preparedness and response; of which [$53,633,000]$25,000,000, to remain available until expended, shall be for tree and wood pests; of which [$5,684,000]$3,965,000, to remain available until expended, shall be for the National Veterinary Stockpile; 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; of which $10,600,000, to remain available until expended, shall be used to carry out the science program at the National Bio- and Agro-defense Facility located in Manhattan, Kansas; 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; 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 operation and maintenance of aircraft and the purchase of not to exceed five, of which two shall be for replacement only: Provided further, That in addition, in emergencies which threaten any segment of the agricultural production industry of this country, 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 [2018]2019, 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, 8 - 13, and 17 - 18) deletes 2018 appropriation amounts and replaces it with the 2019 requests.

The second change (line 7) deletes the word for and replaces the word with including.

The third change (lines 14 – 16 and 21 – 23) in language is to address the need for zoonotic disease management, emergency preparedness and response, and National Bio and Agro-Defense funding to remain available until expended.

The fourth change (line 42) in language deletes 2018 and replaces it with 2019.

Salaries and Expenses

Lead-Off Tabular Statement
Current Law

Budget Estimate, 2019	739,151,000
2018 Annualized Continuing Resolution	939,786,000
Change in Appropriation	-200,635,000

Salaries and Expenses

Project Statement
Appropriations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	or Dec.	SYs	Amount	SYs
Discretionary Appropriations:										
Safeguarding and Emergency Preparedness/Response										
Animal Health Technical Services	$35,339	64	$37,857	156	$37,600	156	-$7,328	-	$30,272	156
Aquatic Animal Health	2,253	22	2,253	13	2,238	13	-2,238	-13	-	-
Avian Health	55,340	196	55,340	247	54,964	247	-21,083	-95	33,881	152
Cattle Health	91,500	551	91,500	473	90,879	473	-4,553	-	86,326	473
Equine, Cervid & Small Ruminant Health	19,500	120	20,000	120	19,864	120	-3,364	-18	16,500	102
National Veterinary Stockpile	3,973	1	5,723	7	5,684	7	-1,719	-	3,965	7
Swine Health	24,800	130	24,800	146	24,632	146	-4,879	-16	19,753	130
Veterinary Biologics	16,417	109	16,417	101	16,306	101	+80	-	16,386	101
Veterinary Diagnostics	36,540	190	39,540	151	39,271	151	+2,759	+7	42,030	158
Zoonotic Disease Management	9,523	45	16,523	64	16,411	64	-636	-	15,775	64
Subtotal, Animal Health	295,185	1,428	309,953	1,478	307,848	1,478	-42,960	-135	264,888	1,343
Agricultural Quarantine Inspection (Appropriated)	27,900	369	29,330	372	29,131	372	-29,131	-372	-	-
Cotton Pests	11,520	58	11,520	51	11,442	51	-4,442	-	7,000	51
Field Crop & Rangeland Ecosystems Pests	8,826	58	8,826	77	8,766	77	-957	-5	7,809	72
Pest Detection	27,446	145	27,446	190	27,260	190	-4,866	-6	22,394	184
Plant Protection Methods Development	20,686	141	20,686	131	20,546	131	-4,899	-11	15,647	120
Specialty Crop Pests	158,000	688	166,500	718	165,369	718	-25,869	-41	139,500	677
Tree & Wood Pests	54,000	319	54,000	301	53,633	301	-28,633	-95	25,000	206
Subtotal, Plant Health	308,378	1,778	318,308	1,840	316,146	1,840	-98,796	-530	217,350	1,310
Wildlife Damage Management	101,177	628	103,376	589	102,674	589	-56,343	-208	46,331	381
Wildlife Services Methods Development	18,856	163	18,856	125	18,728	125	+92	-	18,820	125
Subtotal, Wildlife Services	120,033	791	122,232	714	121,402	714	-56,251	-208	65,151	506
Animal & Plant Health Regulatory Enforcement	16,224	142	16,224	116	16,114	116	+79	-	16,193	116
Biotechnology Regulatory Services	18,875	92	18,875	96	18,747	96	+92	-	18,839	96
Subtotal, Regulatory Services	35,099	234	35,099	212	34,861	212	+171	-	35,032	212
Contingency Fund	470	5	477	5	474	5	-5	-	469	5
Emergency Preparedness & Response	16,966	90	40,966	199	40,688	199	-	-	40,688	199
Subtotal, Emergency Management	17,436	95	41,443	204	41,162	204	-5		41,157	204
Subtotal Safeguarding and Emergency Preparedness/Response	776,131	4,326	827,035	4,448	821,419	4,448	-197,841	-873	623,578	3,575
Safe Trade and International Technical Assistance										
Agriculture Import/Export	15,099	94	15,599	81	15,493	81	-423	-	15,070	81
Overseas Technical & Trade Operations	22,114	86	22,114	55	21,964	55	+108	-	22,072	55
Subtotal Safe Trade and International Technical Assistance	37,213	180	37,713	136	37,457	136	-315	-	37,142	136
Animal Welfare										
Animal Welfare	28,410	220	28,810	232	28,614	232	-258	-	28,356	232
Horse Protection	697	6	697	6	692	6	+4	-	696	6
Subtotal, Animal Welfare	29,107	226	29,507	238	29,307	238	-255	-	29,052	238
Agency Wide Programs										
APHIS Information Technology Infrastructure	4,251	-	4,251	-	4,222	-	+21	-	4,243	-
Physical/Operational Security	5,146	-	5,146	5	5,111	5	+25	-	5,136	5
Rental and DHS Security Payments	42,567	-	42,560	-	42,271	-	-2,271	-	40,000	-
Subtotal, Agency Management	51,964	-	51,957	5	51,604	5	-2,225	-	49,379	5
Subtotal, Appropriated	894,415	4,732	946,212	4,827	939,786	4,827	-200,635	-873	739,151	3,954
General Provision 764 - Citrus Greening……	5,500	-	-	-	-	-	-	-	-	-
General Provision 757 - Citrus Greening……	-	-	5,500	-	5,463	-	-5,463	-	-	-
Subtotal, Discretionary Appropriated	899,915	4,732	951,712	4,827	945,249	4,827	-206,098	-873	739,151	3,954
Authority from Offsetting collections	176,570	1,685	201,731	1,685	188,627	1,785	+1,886	-	190,513	1,785

Program	2016 Actual		2017 Actual		2018 Estimate		Inc.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	or Dec.	SYs	Amount	SYs
Mandatory Funding:										
Farm Bill, Section 10007	62,500	15	62,500	15	75,000	15	-	-	75,000	15
Sequester P.L. 113-6…Farm Bill	-4,250	-	-4,313	-	-4,950	-	+4,950	-	-	-
Subtotal, Farm Bill	58,250	15	58,187	15	70,050	15	+4,950	-	75,000	15
Trust Funds	7,131	50	9,613	50	9,000	50	-	-	9,000	50
Trust Funds Sequester Restored P.L. 113-6	96	-	89	-	91	-	-91	-	-	-
Foreign Service National Separation Liability Trust	896	-	-	-	400	-	-	-	400	-
Agricultural Quarantine Inspection User Fees:										
Total Collections	686,354	1,250	767,682	1,250	765,000	1,325	-	-	765,000	1,325
Less: Transfer to DHS	-449,857	-	-534,515	-	-539,000	-	-325	-	-539,325	-
Sequester P.L. 113-6 ...AQI	-44,574	-	-51,399	-	-50,490	-	+50,490	-	-	-
Sequester Restored…AQI User Fees	44,849	-	44,574	-	51,399	-	-51,399	-	-	-
Subtotal, AQI User Fees (APHIS)	236,772	1,250	226,342	1,250	226,909	1,325	-1,234	-	225,675	1,325
Subtotal, Mandatory Funding	303,145	1,315	294,232	1,315	306,450	1,390	+3,625	-	310,075	1,390
Total Appropriations	1,379,629	7,732	1,447,674	7,827	1,440,325	8,002	-200,587	-873	1,239,739	7,129
Transfers In:										
CCC	-	-	23,901	1	-	-	-	-	-	-
Departmental	102	-	150	-	-	-	-	-	-	-
Transfers Out:										
Subtotal, Transfers	102	-	24,051	1	-	-	-	-	-	-
Balance Available, SOY	590,774	792	485,876	642	529,075	549	-57,067	+45	472,008	594
Sequester P.L. 113-6…Trust Funds	-89	-	-91	-	-87	-	+87	-	-	-
Recoveries Trust Funds	159	-	149	-	-	-	-	-	-	-
Recoveries	42,728	-	39,029	-	-	-	-	-	-	-
Total Available	2,013,303	8,524	1,996,688	8,470	1,969,314	8,551	-257,567	-828	1,711,747	7,723
Lapsing Balances	-25,094	-314	-8,458	-306	-	-	-	-	-	-
Balance Available, EOY	-485,876	-642	-529,075	-549	-472,008	-594	+77,351	-20	-394,657	-614
Total Obligations	1,502,333	7,568	1,459,155	7,615	1,497,306	7,957	-180,216	-848	1,317,090	7,109

Salaries and Expenses

Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	or Dec.	SYs	Amount	SYs
Discretionary Obligations:										
Safeguarding and Emergency Preparedness/Response										
Animal Health Technical Services	$37,010	64	$34,997	139	$38,445	156	-$2,173	-	$36,272	156
Aquatic Animal Health	2,241	21	2,239	13	2,238	13	-2,238	-13	-	-
Avian Health	50,788	195	56,541	247	55,115	247	-11,680	-95	43,435	152
Cattle Health	88,979	460	95,767	457	92,827	473	-6,001	-	86,826	473
Equine, Cervid & Small Ruminant Health	19,464	115	19,725	115	19,826	120	-3,226	-18	16,600	102
National Veterinary Stockpile	3,495	1	5,132	7	6,836	7	-371	-	6,465	7
Swine Health	24,798	128	24,800	146	24,632	146	-4,879	-16	19,753	130
Veterinary Biologics	16,414	99	16,404	98	16,306	101	+80	-	16,386	101
Veterinary Diagnostics	36,540	172	36,649	144	39,157	151	+3,873	+7	43,030	158
Zoonotic Disease Management	9,484	43	10,525	60	16,408	64	+2,367	-	18,775	64
Subtotal, Animal Health	289,213	1,298	302,779	1,426	311,790	1,478	-24,248	-135	287,542	1,343
Agricultural Quarantine Inspection (Appropriated)	27,900	356	29,314	359	29,131	372	-29,131	-372	-	-
Cotton Pests	12,504	57	11,439	31	11,768	51	-3,368	-	8,400	51
Field Crop & Rangeland Ecosystems Pests	8,973	59	9,043	53	8,876	77	-567	-5	8,309	72
Pest Detection	27,396	143	27,421	135	27,260	190	-4,866	-6	22,394	184
Plant Protection Methods Development	20,685	129	20,654	129	20,546	131	-4,899	-11	15,647	120
Specialty Crop Pests	170,409	631	165,658	595	166,800	718	-8,800	-41	158,000	677
Tree & Wood Pests	53,052	259	52,760	250	56,815	301	-29,015	-95	27,800	206
Subtotal, Plant Health	320,920	1,634	316,287	1,552	321,195	1,840	-80,645	-530	240,550	1,310
Wildlife Damage Management	99,608	543	102,147	589	103,339	589	-55,008	-208	48,331	381
Wildlife Services Methods Development	18,897	143	18,816	115	18,622	125	+398	-	19,020	125
Subtotal, Wildlife Services	118,506	686	120,963	704	121,961	714	-54,610	-208	67,351	506
Animal & Plant Health Regulatory Enforcement	16,224	126	16,191	108	16,114	116	+79	-	16,193	116
Biotechnology Regulatory Services	18,862	88	18,814	96	18,747	96	+92	-	18,839	96
Subtotal, Regulatory Services	35,086	214	35,006	204	34,861	212	+171	-	35,032	212
Contingency Fund	1,577	5	121	0	1,000	5	-	-	1,000	5
Emergency Preparedness & Response	16,966	90	23,025	119	44,988	199	+6,342	-	51,329	199
Subtotal, Emergency Management	18,543	95	23,146	119	45,988	204	+6,342	-	52,329	204
Subtotal Safeguarding and Emergency Preparedness/Response	782,268	3,927	798,181	4,005	835,794	4,448	-152,989	-873	682,804	3,575
Safe Trade and International Technical Assistance										
Agriculture Import/Export	15,074	91	15,559	78	15,493	81	-423	-	15,070	81
Overseas Technical & Trade Operations	22,114	60	22,056	55	21,964	55	+108	-	22,072	55
Subtotal Safe Trade and International Technical Assistance	37,188	151	37,615	133	37,457	136	-315	-	37,142	136
Animal Welfare										
Animal Welfare	28,177	202	28,777	205	28,614	232	-258	-	28,356	232
Horse Protection	695	6	692	6	692	6	+4	-	696	6
Subtotal, Animal Welfare	28,872	208	29,469	211	29,307	238	-255	-	29,052	238
Agency-Wide Programs										
APHIS Information Technology Infrastructure	4,043	-	4,357	-	4,740	-	-447	-	4,293	-
Physical/Operational Security	5,137	-	5,136	5	5,111	5	+25	-	5,136	5
Rental and DHS Security Payments	42,567	-	42,553	-	42,271	-	-2,271	-	40,000	-
Subtotal, Agency Management	51,748	-	52,046	5	52,122	5	-2,693	-	49,429	5
General Provision 764	637	-	4,832	-	-	-	-	-	-	-
General Provision 757	-	-	99	-	5,401	-	-5,401	-	-	-
Subtotal, Discretionary	900,713	4,286	922,242	4,354	960,080	4,827	-161,652	-873	798,427	3,954

Program	2016 Actual		2017 Actual		2018 Estimate		Inc.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	or Dec.	SYs	Amount	SYs
Mandatory Obligations:										
Agricultural Quarantine Inspection User Fees	226,945	1,232	242,743	1,286	245,000	1,300	-	+25	245,000	1,325
Farm Bill	55,069	15	57,353	12	70,216	15	+4,784	-	75,000	15
Trust Funds	8,603	24	10,070	45	9,000	50	-	-	9,000	50
Foreign Service National Separation Liability Trust	26	-	870	-	400	-	-	-	400	-
Subtotal, Mandatory	290,643	1,271	311,036	1,343	324,616	1,365	+4,784	+25	329,400	1,390
Other Obligations:										
CCC	119,943	301	24,894	155	21,700	-	-21,700	-	-	-
Obligations from Offsetting collections	185,714	1,710	196,575	1,763	188,695	1,765	+566	-	189,261	1,765
Homeland Security, HUB Relo, & Department	92	-	164	-	2	-	-2	-	-	-
H1N1	3,107	-	160	-	2,214	-	-2,214	-	-	-
Refunds for equipment sold	2,122	-	4,084	-	-	-	-	-	-	-
Subtotal, Other	310,977	2,011	225,877	1,918	212,611	1,765	-23,349	-	189,261	1,765
Total, Obligations	1,502,333	7,568	1,459,155	7,615	1,497,306	7,957	-180,218	-848	1,317,089	7,109
Lapsing Balances	25,094	314	8,458	306	-	-	-	-	-	-
Balance Available, EOY	485,876	642	529,075	549	472,007	594	-77,350	+20	394,657	614
Total, Available	2,013,303	8,524	1,996,688	8,470	1,969,313	8,551	-257,567	-828	1,711,746	7,723
Transfers In:										
CCC	-	-	-23,901	-1	-	-	-	-	-	-
Departmental	-102	-	-150	-	-	-	-	-	-	-
Transfers Out:										
Subtotal, Transfers	-102	-	-24,051	-1	-	-	-	-	-	-
Sequester P.L. 113-6	89	-	91	-	87	-	-87	-		-
Balance Available, SOY	-590,774	-792	-485,876	-642	-529,075	-549	+57,068	-45	-472,007	-594
Recoveries: Other (Net)	-42,887	-	-39,178	-	-	-	-	-	-	-
Total, Appropriation	1,379,629	7,732	1,447,674	7,827	1,440,325	8,002	-200,586	-873	1,239,739	7,129

Justification of Increases and Decreases
Salaries and Expenses

APHIS will use available funding remaining from the Secretary's transfer of funds to the Agency during the highly pathogenic avian influenza outbreak to facilitate the transition to lower funding levels proposed in the FY 2019 budget.

(1) A net decrease of $197,841,000 and 873 staff years for Safeguarding and Emergency Preparedness/Response

A net decrease of $42,960,000 and 135 staff years for Safeguarding and Emergency Preparedness/Response – Animal Health

(a) A decrease of $7,328,000 and 0 staff years for the Animal Health Technical Services program ($37,600,000 and 156 staff years available in 2018).

APHIS' Animal Health Technical Services (AHTS) program develops and enhances the tools available for acquiring and managing vital animal health information. Incorporating national surveillance data standards into data management applications enables animal health information to be compiled nationally, thus leveraging the work of animal health professionals nationwide to meet local, State and national veterinary health objectives. Private veterinarians, trained and accredited through APHIS' National Veterinary Accreditation Program (NVAP), help producers meet export requirements and disease program standards, allowing U.S. animals and animal products to compete in the global economy. Agency developed and shared disease transmission and spread models allow improved planning and management of animal health incidents.

The national animal disease traceability (ADT) framework allows Federal, State, Local, Tribal, and private animal health professionals to work together to quickly identify diseased animals, trace their movements, and control disease spread to protect U.S. livestock. The National Agricultural Statistics Services valued production of the U.S. livestock industry at approximately $65 billion in 2016. APHIS' ADT system helps reduce the number of animals involved in an investigation, reduces the time to respond, and decreases the cost to producers. Moreover, this system assures trading partners that USDA is committed and able to rapidly contain an animal disease event. APHIS administers test exercises to States to assess their ADT program's effectiveness. As a result of these State partnerships, the time required to find traceability information has decreased by an average of 76 percent since 2014, from 163 hours to 39 hours.

The AHTS program develops new information management systems, while maintaining and improving existing data systems. APHIS also makes these systems available to States and Tribal Nations to support their traceability plans and other animal health activities. For example, the AHTS program provides an animal health surveillance system to all States that do not have private surveillance systems. Due to the large number of data sources, efficient data integration is vital to improving traceability response times. APHIS continues to make integration of animal traceability data a top priority. With the support of these information management systems, States have access to their own records of test results and vaccination of animals for program diseases. The AHTS program also supports the Select Agents program by maintaining the National Select Agent Registry (NSAR) database. The Select Agents program ensures the safe and secure importation and interstate transport of all other animal pathogens through inspecting and registering select agents affecting animal health. The NSAR database contains all the statutory required information (e.g., names of persons, location, and identification) for registered entities to possess, use, or transfer select agents and toxins.

In addition, APHIS' NVAP offers an educational module to the more than 66,000 highly-trained accredited veterinarians in the program, significantly expanding public outreach. 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 renewal of accreditation provide increased knowledge of animal disease surveillance, prevention, zoonosis, judicious use of antimicrobials, animal welfare, and disaster preparedness. APHIS currently hosts 28 web-based supplemental training modules for accredited veterinarians. Since FY 2011, accredited veterinarians have

completed more than 460,000 web modules, with more than 30,000 modules completed at veterinary conferences nationwide.

This program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world by quickly controlling the spread of animal diseases to protect the U.S. livestock industry.

Overall, base funding for the Animal Health Technical Services 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.

Reduce funding for traceability activities and animal health information technology investments (-$7,328,000 and 0 staff years)

At the requested funding level, APHIS will reduce Federal contributions provided through cooperative agreements in support of State ADT activities. Additionally, APHIS will reduce funding for information technology projects while continuing to address the highest priority technology investments in FY 2019.

(b) A decrease of $2,238,000 and 13 staff years for Aquatic Animal Health program ($2,238,000 and 13 staff years available in 2018).

The Aquatic Animal Health program protects the health and value of U.S. farm-raised aquatic animals and natural resources by carrying out activities consistent with the National Aquatic Animal Health Plan (NAAHP), which calls for surveillance and testing of high-consequence aquatic animal diseases. The NAAHP helps the Federal government develop policies and programs to address aquatic animal diseases for the benefit of aquaculture and aquatic animal resources. Together, USDA, the U.S. Department of Commerce, and the U.S. Department of the Interior implement the plan.

APHIS works with the National Aquaculture Association on the Commercial Aquaculture Health Program Standards (CAHPS). The goal of CAHPS is to support improved health management, protection and expansion of aquaculture business opportunities, promotion and facilitation of trade, and improved resource protection. The CAHPS establishes plans for biosecurity, surveillance, and response related to animal health events; well-managed surveillance planning is the foundation for animal health activities. In addition, CAHPS establishes a non-regulatory framework to improve and verify the health of farm-raised aquatic animals to provide leverage in trade negotiations. The aquaculture industry and State governments use this framework to maintain or enhance their aquatic animal health programs. This effort positions commercial producers to better compete in domestic and international trade markets, valued at $1.6 billion in 2016 (USDA Census of Agriculture), and helps the aquaculture industry demonstrate adherence to sound aquatic animal health practices. The Aquatic Animal Health program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world.

Historically, this program has relied on various institutions for conducting aquatic animal diagnostic testing with limited oversight of testing accuracy. In recent years, however, APHIS has added various aquatic diseases to the National Animal Health Laboratory (NAHLN) repertoire of standardized testing. In conjunction with this standardized testing, APHIS developed and administered protocols and proficiency tests for infectious salmon anemia virus, spring viremia of carp virus, and viral hemorrhagic septicemia virus. Incorporating these pathogens into the NAHLN has helped standardize aquatic animal pathogen testing and build our Nation's capacity to respond to aquatic animal disease outbreaks, support surveillance, and maintain/expand U.S. export markets and other regulatory purposes that are accessible, timely, accurate, and consistent.

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.

Reduction for Aquatic Animal Health efforts (-$2,238,000 and 13 staff years)

APHIS proposes to eliminate the Federal role in the Aquatic Animal Health program. In collaboration with the industry and States, APHIS has established the framework for managing animal health needs in the aquaculture industry, most notably through the CAHPS. The varied sectors within the aquaculture industry can now use this framework to establish voluntary programs as the industry deems necessary. State governments can also use these frameworks to maintain or enhance their aquatic animal health programs.

(c) A decrease of $21,083,000 and 95 staff years for the Avian Health program ($54,964,000 and 247 staff years available in 2018).

The Avian Health program protects the U.S. poultry industry, valued at $39 billion in 2016 (USDA - National Agricultural Statistics Service) while facilitating trade in poultry and poultry products. Estimated during the historic avian influenza (AI) outbreak, the industry value represents a reduction of approximately 20 percent from the previous year. This program consists of the surveillance, prevention, and control of avian diseases; disease threat planning and response; international health activities; and modeling activities. APHIS' surveillance programs detect foreign, zoonotic, and domestic diseases that could substantially impact domestic production and the economy. Surveillance information can facilitate trade and protect 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 being moved or traded. In addition, APHIS uses models to improve the understanding of historical events, estimate consequences, and inform decisions by evaluating the effectiveness of varying interventions.

This program has the expertise and infrastructure to work with avian health industries, universities, and State and Federal partners to collect, analyze, and disseminate vital avian health information to those who might take action. To ensure the poultry industry maintains its competitiveness worldwide, it is essential to quickly detect and address endemic, emerging, and foreign disease threats. To quickly detect avian diseases, APHIS conducts surveillance in domestic poultry, the Live Bird Marketing System (LBMS), and wild birds. APHIS' Avian Health surveillance program focuses on the early detection of highly pathogenic avian influenza (HPAI) and low pathogenic avian influenza (LPAI) in commercial and live bird markets through the activities of the National Poultry Improvement Plan (NPIP) and the LBMS, respectively.

The 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 NPIP has 49 States participating in the AI prevention and control program, with participation from more than 95 percent of commercial broiler, turkey, and egg industries, as well as the entire poultry breeding industry. The LBMS consists of live poultry markets in the United States, as well as the poultry distributors and poultry production premises that supply those markets. It is a means of providing fresh poultry meat to consumers. In most cases, growers deliver live poultry to LBMS establishments and consumers select the bird(s) of their choice. As of September 30, 2017, 38 States and the U.S. Virgin Islands had live bird markets that participate in the Agency's AI prevention and control program. State cooperators help conduct surveillance and diagnostic activities for the LBMS. LBMS testing is vital to preventing and controlling the disease in markets, and among production premises and poultry distributors that supply those markets. These prevention and control activities are designed to quickly diagnose disease, improve biosecurity conditions, and minimize the effects of AI on the LBMS and commercial poultry industry.

In addition, APHIS supports wild bird surveillance for HPAI. In FY 2017, the Agency coordinated the collection and analysis of more than 33,000 wild bird samples to assess the potential risk of HPAI to the commercial poultry industry. To guard against future AI outbreaks, APHIS is working with the poultry industry to strengthen its biosecurity plans. The Agency plays a key role in providing producers with biosecurity practices and principles to prevent the introduction and spread of infectious diseases, as well as an oversight system for the implementation of biosecurity principles.

Overseas, APHIS facilitates agricultural trade, works with agricultural officials, monitors agricultural health, and supports efforts in sanitary and phytosanitary standard-setting. In addition, the Agency works

with the USDA Foreign Agricultural Service and the U.S. Trade Representative's Office to maintain a coordinated approach to resolving avian health issues that affect U.S. exports. Further, APHIS coordinates with the World Organisation for Animal Health and other organizations to assist with disease prevention, management, and eradication activities in HPAI-affected regions. In FY 2017, APHIS delivered more than 20 capacity building activities in the areas of biosecurity, poultry disease diagnostics, quality assurance in the laboratory, poultry and wildlife surveillance, and sampling collection. Assisting other countries in emergency preparedness reduces the risk of the disease spreading from overseas to the United States. To open markets for U.S. poultry, APHIS negotiates protocols for trade of poultry and related products. When markets close to certain States or regions in response to LPAI detections, APHIS provides science-based rationales to reopen markets, coordinates informational visits and exchanges, facilitates the U.S. industry's access to foreign decision-makers, and participates in negotiations.

This program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world by quickly detecting and then addressing economically significant avian diseases that impact the value and marketability of U.S. poultry and poultry products.

APHIS sponsors and staffs the Crisis Management Center for Animal Health at the Food and Agriculture Organization (FAO) of the United Nations in Rome, Italy. The Agency provides two full-time veterinarians for this Center, which helps countries respond to and contain animal disease threats. 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 from becoming widespread and evolving into pandemics. In addition, APHIS ensures that U.S. trading partners adhere to the Sanitary and Phytosanitary rules of the World Trade Organization and other international standards-setting organizations, as the United States and FAO-Rome expand their cooperating relationships and establish new partnerships.

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.

Reduction for avian health activities (-$21,083,000 and 95 staff years)

At the proposed funding level, APHIS will reduce surveillance, prevention, and control activities. The Agency will continue to work with States and industry to maximize available resources and address the highest priority avian health activities. APHIS will also reduce Federal contributions supporting State avian health activities, and rely on States to fund those activities. The amount of the reduction will vary by State depending on the potential for diseases of concern and program priorities across the country.

(d) A decrease of $4,553,000 and 0 staff years for the Cattle Health program ($90,879,000 and 473 staff years available in 2018).

The Cattle Health program protects and improves the quality, productivity, and economic viability of the U.S. cattle and bison industry, valued at $100 billion in 2016 (National Agricultural Statistics Service, USDA). 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 to prevent the spread of any newly detected disease in the United States as well as endemic domestic cattle and bison diseases of concern. To accomplish these goals, APHIS conducts activities related to surveillance and monitoring, disease prevention, and disease investigation and outbreak response actions. In addition, APHIS maintains regulations, national program standards, and guidelines that direct cattle health activities at the Federal, State, and Tribal level. Maintaining these standards is a vital Federal responsibility that supports interstate and international commerce by providing assurances about the health of animals and products being moved or traded.

APHIS conducts surveillance and monitoring activities for diseases to protect the health of U.S. cattle and facilitate trade. Surveillance information within the Cattle Health program verifies that certain diseases do not exist in the cattle population, thus facilitating trade and protecting public health. For example, surveillance information on bovine spongiform encephalopathy (BSE) has been instrumental in allowing the United States to maintain export markets for all beef, which were worth approximately $5.2 billion in

FY 2015 (Foreign Agricultural Service).

In FY 2017, APHIS conducted surveillance for diseases of concern including bovine tuberculosis (TB), brucellosis, and BSE. APHIS' surveillance and disease prevention 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 at less than 0.001 percent. All 50 States, including the District of Columbia, Puerto Rico, and the U.S. Virgin Islands, have also been designated as Class Free for brucellosis since July 2009. A State receives a Class Free status when all cattle and/or bison herds within the State remain free of the brucellosis infection for at least 12 months. Bovine brucellosis remains endemic in the United States around the Greater Yellowstone Area in wild bison and elk. In FY 2017, the program tested and vaccinated approximately 4 million calves and 25,000 adult cattle for brucellosis, and certified approximately 403 herds as brucellosis-free cattle herds. In addition, the Agency's BSE surveillance effort is able to detect one BSE case in one million adult cattle with 95 percent confidence, which exceeds the international standard required by the World Organisation for Animal Health.

APHIS, with cooperation from the State of Texas, also maintains a permanent quarantine zone on the Texas/Mexican border to prevent cattle fever tick (CFT) from spreading within the United States. Cattle fever is a disease ticks transmit that caused losses to the 1906 cattle industry equivalent to more than $3.5 billion in today's dollars. Since white tail deer and exotic nilgai act as a carrier for the pests, the risk of ticks crossing the Rio Grande River and leaving quarantines areas continue. The program increased its mitigations by working to restrict wildlife movement, treating additional white tail deer populations with ivermectin treated corn and increasing the use of new vaccines that fight tick infestations. This program's goal for FY 2019, is to continue to eliminate all CFT outbreaks that occur outside the quarantine area within 12 months.

APHIS also conducts preventive programs to exclude exotic pests and diseases from the country. The Agency works with neighboring countries to prevent the entrance of cattle diseases such as bovine TB, foot and mouth disease, and BSE, as well as invasive livestock pests such as screwworm. USDA estimates that the benefits for U.S. livestock producers remaining free of screwworm to be approximately $796 million a year, resulting in $2.8 billion a year in general benefits to the wider economy. APHIS partners with screwworm-free nations to maintain import protocols and quarantine processes to prevent infested animals from entering the United States. In addition, APHIS works with the Panamanian government to maintain a screwworm prevention barrier at the Darien Gap and to be prepared to respond to outbreaks in the United States, such as the recent Florida Keys event. In FY 2017, APHIS responded to a screwworm outbreak in Florida. In partnership with the Florida Department of Agriculture and Consumer Services, U.S. Fish and Wildlife Service, and the U.S.-Panama Commission for the Eradication and Prevention of Screwworm, APHIS successfully eradicated the disease in approximately 6 months.

This program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world by protecting and improving the quality, productivity, and economic viability of the U.S. cattle and bison industry. APHIS will continue to detect, prepare for, and respond to cattle health issues in FY 2019, reducing the likelihood of disease spread that would result in larger and more serious disease outbreaks.

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.

Reduce Federal contributions in support of cattle health activities (-$4,553,000 and 0 staff years)

At the requested funding level, APHIS will reduce Federal contributions provided through cooperative agreements in support of cattle health activities including surveillance, monitoring, preparedness, and disease response.

(e) A decrease of $3,364,000 and 18 staff years for the Equine, Cervid and Small Ruminant Health program ($19,864,000 and 120 staff years available in 2018).

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. ECSRH conducts surveillance, investigates and responds to disease outbreaks, and carries out disease prevention and preparedness activities when animal health issues are identified. APHIS also works with international and domestic trading partners to facilitate safe trade in equine, cervids, and small ruminants and their products and ensure that cases of diseases of trade concern are reported to the World Organisation for Animal Health. The ECSRH program conducts surveillance activities for the following diseases: contagious equine metritis, Eastern equine encephalitis, Western equine encephalitis, equine herpes virus, equine piroplasmosis, equine infectious anemia (EIA), vesicular stomatitis virus, bovine tuberculosis (TB), chronic wasting disease (CWD), scrapie, and West Nile virus.

The ECSRH protects the equine industry by helping State animal health officials monitor equine diseases that threaten animal and human health, such as EIA and equine piroplasmosis. The U.S. equine industry is a $40 billion enterprise with an estimated $104 billion of indirect economic impact (American Horse Council, 2012). Biting arthopids transmit EIA and equine piroplasmosis diseases, and no vaccine is currently available, making surveillance efforts more meaningful. EIA surveillance efforts have been very successful. The rate of reactors among the tested equine population has declined from 3.8 percent in 1972 to 0.00004 percent in 2017. In FY 2017, positive detections identified during routine surveillance for equine infectious anemia, and equine piroplasmosis led to investigations and responses to those diseases in all cases identified.

To aid in the eradication of TB, the ECSRH program provides a voluntary herd accreditation program for captive cervids and requires testing of cervids before interstate movement. In FY 2017, the program tested approximately 12,000 animals and identified 20 TB suspects. Testing program species for these purposes contributes to national TB surveillance and enhances the detection of bovine tuberculosis. In addition, routine tuberculin skin testing of cattle, bison, and cervids as required by national or State regulations also contributes to national TB surveillance. Data from live animal testing by accredited veterinarians contribute to national TB surveillance and increase the level of detection. The ECSRH program also manages disease prevention activities related to CWD. 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 and the program tested 23,053 farmed cervids for CWD.

Scrapie is a fatal, degenerative disease that affects the central nervous system of sheep and goats. The industry loss due to scrapie is estimated to be $10 to $20 million annually, not including lost market opportunities due to export restrictions. The National Scrapie Eradication Program's efforts focus on improving the health of the national sheep flock and goat herd, relieving sheep and goat producers of economic losses due to scrapie, and increasing international marketing opportunities. Since 2003, the percentage of cull sheep sampled at slaughter that tested positive for classical scrapie has decreased significantly. In FY 2017, none of the cull sheep tested positive at slaughter.

This program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world by detecting foreign, emerging, zoonotic, and domestic diseases that could substantially impact the economy.

Overall, base funding for the Equine, Cervid, and Small Ruminant 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.

Eliminate Federal contributions for cervid health program efforts (-$3,364,000 and 18 staff years)

In collaboration with industry and State partners, APHIS developed and implemented a voluntary herd certification program for CWD. However, CWD continues to spread within the United States. APHIS significantly scaled back its CWD program several years ago due to higher priority animal health needs and the lack of tools to reduce the spread and eradicate CWD. APHIS continues to be faced with these

challenges. Therefore, APHIS proposes to eliminate the Federal contributions for the cervid health program in FY 2019.

(f) A decrease of $1,719,000 and 0 staff years for the National Veterinary Stockpile program ($5,685,000 and 7 staff years available in 2018).

The National Veterinary Stockpile (NVS) is a component of APHIS' Surveillance Preparedness and Response Services Logistics Center and serves as the primary source of materials, supplies, and equipment for the response to, control of, and containment of significant animal disease outbreaks. NVS has two primary objectives: to deploy - within 24 hours of approval - countermeasures against the most damaging foreign and domestic animal diseases including highly pathogenic avian influenza, foot-and-mouth disease, exotic Newcastle disease, and classical swine fever; and, to assist States, Tribes, and Territories with planning, training, and exercising the rapid request, receipt, processing, and distribution of NVS countermeasures during an animal health event. In preparation for the response to an incident, the NVS program works with States, Tribes, and Territories to develop their logistical plans, conduct logistical training, and organize full-scale logistical exercises.

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 of the diseases on APHIS' high-consequence diseases list. The NVS program also gathers input from Federal agencies on commercially available countermeasures such as vaccines, criteria for deploying countermeasures, and determine 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 program monitors new technologies and conducts market research to enhance capabilities in the areas of depopulation, disposal, and decontamination. In FY 2017, the NVS program deployed an approved contractor foam depopulation crew and depopulated infected broiler breeder flocks in Tennessee, all within 24 hours of notification.

The program facilitates planning and training exercises to identify resource gaps and improve State National Veterinary Stockpile plans. In FY 2017, the NVS conducted State preparedness training exercise in Kansas, Ohio, Tennessee, Virginia, and West Virginia. As a result, the animal health officials in these States are better prepared to respond logistically to animal disease outbreaks. In addition to outreach activities, the NVS program partners with other Agency personnel to conduct training to improve communication, collaboration, and integration during a logistics emergency response. These activities enabled the Agency, as well as participating stakeholders and partners, to refine their preparedness procedures.

This program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world by deploying supplies and equipment in response to animal disease outbreaks. Without NVS' efforts, disease outbreak response efforts would quickly deplete State resources and overwhelm industry, leading to larger and more serious animal disease outbreaks. In FY 2019, the NVS will continue to deploy countermeasures against the most damaging animal diseases, and assist States, Tribes and Territories with preparing countermeasures during an animal health event.

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.

Reduce emergency preparedness tools and tactics ($1,719,000 and 0 staff years)

At the requested funding level, APHIS will continue to focus on higher priority countermeasures against the most dangerous and damaging foreign and domestic animal diseases, but will reduce purchases of lower priority countermeasures.

(g) A decrease of $4,879,000 and 16 staff years for the Swine Health program ($24,632,000 and 146 staff years available in 2018).

APHIS' Swine Health program protects the health and improves the quality, productivity, and economic viability of the swine industry. The 2016 production value of the swine industry was approximately $17 billion (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 conducts surveillance activities to detect foreign, emerging, zoonotic, and domestic swine diseases that could substantially affect domestic producers and the national economy. As part of a comprehensive integrated surveillance approach, the Agency collects swine samples from various surveillance streams for multiple diseases to detect various 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. Surveillance testing supports the swine industry by assuring trading partners and other stakeholders of the status of swine diseases in the United States and demonstrates that the United States is free from and can rapidly detect FADs.

APHIS' comprehensive surveillance approach includes the use of a risk-based methodology that targets high-risk samples. In FY 2017, APHIS tested samples for pseudorabies virus (PRV), swine brucellosis, influenza A virus – swine (IAV-S), and classical swine fever (CSF). This testing continued to confirm that all commercial swine herds were free from PRV and swine brucellosis, and that CSF remains eradicated from the United States. The Agency tests samples for IAV-S to help the swine industry by reporting on variation in the virus and determining the types and influenza that affect swine. In test-positive cases, APHIS and State partners investigate and quarantine infected herds, conduct routine tests to determine prevalence in the herd, and perform whole herd depopulation or removal of infected animals through a test-and-removal strategy to eliminate the disease from these herds. These efforts protect commercial herds that may be exposed to infected backyard herds. Because APHIS has eliminated PRV and swine brucellosis from all U.S. commercial swine herds, the Agency continues to modernize the regulatory framework and surveillance activities to reflect a comprehensive, risk-based, and science-based monitoring/swine surveillance program to support trade efforts while reducing the burden on States and producers.

APHIS has the responsibility under the Swine Health Protection Act to license and inspect swine production facilities that feed cooked garbage to swine, and to conduct searches for unlicensed facilities that may feed raw garbage to swine. This practice could transmit infectious diseases such as African swine fever, foot-and-mouth disease, 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.

In FY 2017, public health officials reported 64 human variant influenza cases linked to swine exposure in multiple States. State public health and animal health officials, with support from APHIS and the Centers for Disease Control and Prevention, investigated all outbreaks. The Agency helped States and industry identify the isolates from the swine associated with these outbreaks, if warranted. Joint animal health and public health investigations support the One Health concept and strengthen APHIS's ability to respond when both animal and human health might be compromised.

This program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world by preventing and/or mitigating the spread of agricultural pests and diseases. It has the expertise and infrastructure to work in collaboration 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. In FY 2019, the program will continue 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.

Reduction for surveillance activities (-$4,879,000, and 16 staff years)

APHIS uses comprehensive integrated surveillance to target high-risk swine samples. This approach has enabled the Agency to eliminate significant diseases in commercial swine. At the proposed funding level, the Agency will reduce funding for lower risk surveillance activities. For example, APHIS would eliminate its sow/boar surveillance program. The Agency has conducted this surveillance primarily as part of continuing pseudorabies and swine brucellosis surveillance. However, commercial swine have been free of both of these diseases for many years. In addition, APHIS will reduce funding it provides to support State swine health activity; continue to fill only the highest priority vacancies; and reduce or delay other operating expenses. The Agency will continue to address the highest program priorities within the provide funding level.

(h) An increase of $80,000 and 0 staff years for the Veterinary Biologics program ($16,306,000 and 101 staff years available in 2018).

APHIS' Center for Veterinary Biologics (CVB) regulates veterinary biological products under the Virus-Serum-Toxin Act to ensure that they are pure, safe, potent, and effective. Organizations develop these products to prevent, diagnose, and treat animal diseases in a wide variety of animal species. These products are critical for protecting American agriculture, facilitating trade, and enhancing agricultural economic opportunities. 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 plays an essential role in protecting animal health and agriculture. It is the most effective way to ensure that only quality, Federally-licensed, veterinary biological products are available to U.S. consumers and U.S. export markets.

APHIS licenses and inspects facilities to ensure that all veterinary biologics produced and distributed in, or 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 veterinary biologics, farmers and animal health officials found products to be ineffective or contaminated with harmful diseases, including foreign animal diseases (FADs). 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 for the licensing process, decreased the amount of information required under specific circumstances, and implemented electronic submissions for most required submissions. In FY 2017, APHIS received 186 applications for new and renewal licenses/permits, and issued 48 licenses/permits for the prevention, diagnosis, management, or cure of existing or new/emerging animal diseases. In addition, the Agency licensed 93 manufacturers and permittees for approximately 1,745 active veterinary biological product licenses/permits for the control of 223 animal diseases. Also in FY 2017, APHIS conducted 66 on-site inspections, 12 percent of which supported a new establishment/facility or product license for the industry. In addition, the Agency investigates cases of possible regulation violations and receives adverse event reports regarding veterinary biological products. These events, which may or may not be caused by the product, occur after the product is used. APHIS gathers this information to better learn how products are used in field conditions and applied to the evaluation process to assure that pure, safe, potent, and efficacious products are available.

APHIS is now providing single-tier labeling for veterinary biologics. This simpler format better communicates product performance to the user, saves time and money for the manufacturer, and makes U.S. labeling more consistent with other products in international markets. Single-tier labeling responds to a desire by the American Veterinary Medical Association and veterinarians for more complete product efficacy and safety information. The product's efficacy descriptions changed from a system that reflected any of four levels of effectiveness to a single, uniform label claim. APHIS' National Centers for Animal

Health (NCAH) Portal allows real-time communication and data exchange between APHIS and biologics manufacturers, eliminating the time and costs of deliveries. By the end of FY 2017, 72 percent of licensed firms were using the Portal. This resulted in the CVB receiving 95 percent of marketing documents, 93 percent of biographical summaries, 64 percent of licensing correspondence, and 32 percent of inspection and compliance correspondence via the NCAH Portal.

The United States and foreign countries require import and export certificates to certify that products are prepared according to the Virus-Serum-Toxin Act. In FY 2017, APHIS reviewed/processed 2,460 Certificates of Licensing and Inspection, and reviewed/processed 1,091 export certificates for veterinary biological products. The Agency processed all export certificates within 4 days, and certificates of licensing and inspection within 28 days. Timely processing helps ensure that markets are accessible for manufacturers who export their product. APHIS also helped to ensure there were no FAD events related to the importation of 129 million biologics products. APHIS annually inspects an average of at least 50 biologics sites to assure compliance. More than 99 percent of the unlicensed entities investigated either move towards licensure of the product in question or cease the objectionable activity.

In FY 2017, APHIS provided expertise and training at a joint Institute for International Cooperation in Animal Biologics education program, whose goal is to educate industry and foreign officials on U.S. regulatory processes. It promotes U.S. policy as a regulatory model for established and developing markets, and improves the worldwide marketability of USDA-licensed biologics. APHIS also participated in harmonization efforts with major trading partners including Japan and the European Union through the International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products. In addition, CVB participates in the Veterinary International Conference on Harmonization's (VICH) Outreach Forum, which promotes the use of VICH harmonized guidelines in countries with developing regulatory systems for veterinary medicinal products.

The Veterinary Biologics program supports USDA's goal to promote American agricultural products and exports by ensuring that veterinary biologic products that enter the market are pure, safe, and effective for use in protecting animal health. The program will continue this important work in FY 2019.

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.

Program Increase (+$80,000 and 0 staff years)

The requested funding will be used to cover minor increased operating costs for the program.

(i) A net increase of $2,759,000 and 7 staff years for the Veterinary Diagnostics program ($39,271,000 and 151 staff years available in 2018).

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 at Plum Island, New York. The NVSL is an international reference laboratory for significant animal diseases such as highly pathogenic avian influenza and foot-and-mouth disease (FMD). It provides diagnostic test services ranging from a single test to comprehensive laboratory services covering many pathogens for suspected domestic and foreign animal disease (FADs) outbreaks. 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 and by serving as a vital early warning system for foreign and emerging animal diseases.

The NVSL is often on the forefront of emerging and re-emerging diseases including Seneca Valley A virus (Senecavirus A [SVA]) and West Nile virus. Their diagnostic testing and confirmation of surveillance samples improves the security of the nation's livestock. In FY 2017, the NVSL managed more than 488,500 diagnostic tests and approximately 43,100 accessions (one or more diagnostic samples received from the same submitter on the same day). Also in FY 2017, NVSL conducted 2,027 accessions to support FAD investigations. Since 2014, APHIS has experienced a seven fold increase in investigations largely

due to the emergence of SVA. SVA is an infectious but non-fatal disease that primarily affects pigs. Because SVA symptoms mimic FMD, APHIS must provide a diagnosis to rule out FMD in each investigation.

This program supports the NAHLN by providing national leadership and coordination of laboratories and other services such as training, infrastructure support, and disease testing reimbursement. Specifically, line item funds support NAHLN laboratories, NAHLN program staff and infrastructure costs; the APHIS Laboratory Portal, which provides secure 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 labs use to maintain qualifications for participating in the network. As of the end of FY 2017, NAHLN consisted of 59 State, Federal, and university veterinary diagnostic laboratories in 42 States. These laboratories work with the NVSL to test for economically devastating and/or potentially zoonotic diseases. The program has made it a priority to increase the number of NAHLN laboratories that are capable of electronically messaging test result data to APHIS. In FY 2017, 31 laboratories were capable, and APHIS projects that number to increase to 35 in FY 2018 and 38 in FY 2019.

APHIS is working with the Department of Homeland Security and USDA's Agricultural Research Service to transition from the Plum Island Animal Disease Center (PIADC) at Orient Point, New York, to the state-of-the-art National Bio-and Agro-Defense Facility (NBAF) being built in Manhattan, Kansas. The PIADC is the only U.S. laboratory that is permitted to work with FMD. The NBAF will provide larger and more technologically sophisticated laboratory facilities including the first biosafety level (BSL)-4 biocontainment facility in the United States. The new BSL-4 capacity will enable USDA to conduct diagnostics as well as research and develop countermeasures for high-consequence, potentially lethal zoonotic livestock diseases. The NBAF will provide a national capability for exotic infectious, vector borne and zoonotic disease research involving large livestock. It will provide capabilities critical to conduct research, develop vaccines and anti-virals, and provide enhanced diagnostic and training capabilities to guard against foreign animal, emerging and zoonotic diseases to help protect our food supply. In FY 2017, APHIS began developing a workforce plan for subject matter experts in foreign, emerging, and zoonotic diseases to conduct diagnostics in preparation for the NBAF transition. The Agency anticipates a significant loss of expertise in this area, and the workforce development program will help preserve and transfer the U.S. FAD diagnostic institutional knowledge to the NBAF. Planning efforts will continue until the facility is fully operational in 2023.

The Administration envisions that USDA, rather than DHS, will ultimately own and operate the NBAF facility. In accordance with this direction, the two Departments are finalizing a detailed action plan prior to FY 2019 to ensure a successful transition of the facility ownership and operations to USDA. While the agencies prepare the transfer of ownership and operations of NBAF, DHS will complete the construction of NBAF and decommission the Plum Island facility. USDA's budget request for FY 2019 reflects planning and startup costs for the transfer of ownership and operational responsibilities of the NBAF. The funding request for this exists in the ARS budget request; however, both APHIS and ARS will share responsibilities as well as the funding once they determine the specific breakout of responsibilities. This request is in addition to the funding each Agency is requesting to run the USDA science program at the NBAF.

The Veterinary Diagnostics program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world. The diagnostics testing conducted under this line item can rapidly confirm the presence or absence of a particular animal disease and can promptly provide decision makers with vital information that could have significant trade impacts and prevent or mitigate the spread of significant animal diseases.

Overall, base funding for the Veterinary Diagnostics program currently supports salaries and benefits, contracts, and cooperative agreements, as well as other routine science program costs such as equipment, supplies, travel, rent, and utilities to conduct science program activities.

Reduce NAHLN activities (-$4,861,000 and 0 staff years)

With the requested decrease, the program will continue working with the NAHLN on the highest-priority animal health issues but will reduce the funding amount provided to support their infrastructure needs,

primarily related to quality management systems and their ability to electronically message test results.

Increase for the transfer of the science program to the National Bio-and Agro-Defense Facility (+$7,620,000 and 7 staff years)

The PIADC is a biocontainment facility on Long Island, New York, that serves as the nation's premier defense against accidental or intentional introduction of FADs. One of the laboratories housed there is the Foreign Animal Disease Diagnostic Laboratory (FADDL), a reference laboratory for the NAHLN, the Food and Agriculture Organization of the United Nations, and the World Organisation for Animal Health. APHIS operates the FADDL, which performs diagnostic testing of samples collected from U.S. livestock and is the only U.S. diagnostic laboratory that is permitted to work with FAD Tier 1 select agents such as FMD virus. The FADDL also is the custodian of the North American FMD Vaccine Bank. PIADC scientists use well-established, contemporary biosafety and biosecurity practices and procedures to ensure the safety and security of personnel, the facility, and materials, including the animal disease-causing organisms under study. These measures help prevent laboratory-acquired infections, cross contamination within the facility, and the release or escape of these organisms into the environment.

The Department of Homeland Security (DHS), which maintains PIADC, is constructing the new state-of-the-art NBAF in Manhattan, Kansas. The new facility will replace the 60 years old facility located at Orient Point, New York, that would have required substantial structural upgrades to meet new and evolving biosafety and biosecurity regulations, as well as to address critical diagnostic priorities. The transition will take place over several years, beginning in earnest in 2019, continuing when NBAF is online and fully operational in December 2022, and finishing with closure of PIADC in 2023.

The NBAF will provide capabilities critical to conduct research, develop vaccines and anti-virals, and provide enhanced diagnostic and training capabilities to guard against foreign animal, emerging and zoonotic diseases to help protect our food supply. These capabilities include the first BSL-4 biocontainment capacity facility in the United States for large animal research on high-consequence zoonotic pathogens in host livestock animals, including emerging zoonotic BSL-4 pathogens such as Ebola, Nipah, and Hendra.

ARS and APHIS are seeking to increase their annual research operations budgets for the transfer of PIADC operations to the NBAF. Both Agencies are each seeking a total of $10.6 million for FY 2019. NBAF program costs will increase in future years. These new funding levels will allow the agencies to broaden the scope of their research, diagnostic and training portfolios, including work that requires the Secretary of Agriculture to certify NBAF as a BSL-4 facility and safely handle pathogens that do not currently have treatments or countermeasures for laboratory personnel protection. The total funding provided will support the expansion as follows: increased diagnostic capacity for a disease outbreak scenario and the ability to handle high consequence-zoonotic, BSL-4, or unknown agents; improved training/necropsy facilities for training increased numbers of veterinarians to detect foreign animal diseases (FADs); expanded capability to meet the increasing needs of the NAHLN; strengthened diagnostic capacity, monitoring of disease trends, partnering with other entities to meet critical diagnostic needs, and overall One Health initiatives leadership; and, a fully functional biorepository of FADs that will improve our capacity to develop improved diagnostics.

While ARS' and APHIS' FY 2019 budget proposals focus on their specific role and activities, both of their activities and funding are inextricably linked. APHIS' request includes $6.02 million to purchase laboratory and information technology equipment. The current equipment at the PIADC cannot be transferred to the NBAF due to biosafety and logistical reasons. The BSL-4 facility in Kansas would increase laboratory capacity to study FADs and emerging diseases with high consequence to animal and public health. These funding levels do not include one-time costs, such as those needed to relocate ARS and APHIS personnel. ARS and APHIS will need the bulk of the one-time costs each year leading into 2022.

APHIS also requests $500,000 in FY 2019, to establish and maintain a workforce development program to develop 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 only a small percentage of the current workforce at the FADDL with that expertise will relocate to the

NBAF in Kansas. Based on the time required to develop expertise in this area, APHIS anticipates a significant expertise gap, particularly during the first 5-10 years of operations at NBAF. The workforce development program will help preserve and transfer the U.S. FAD diagnostic institutional knowledge to the NBAF. While we can train diagnosticians to perform specific tests such as the polymerase chain reaction or the enzyme-linked immunosorbent assay, interpreting unclear results and troubleshooting diagnostic assays when they do not perform properly requires a high level of expertise. Subject matter experts must complete this work for specific diseases. APHIS and ARS initiated this process in FY 2017 with the $3 million Congress provided to APHIS and $1 million they provided to ARS, and continued funding in FY 2019, would allow the Agencies to continue the workforce development program. While most of these one-time costs will be needed each year leading into 2022, some costs associated with the workforce development program may extend into future years to ensure employee coverage.

This request also includes $350,000 for retention and relocation costs. The FADDL must maintain the capability to diagnose FADs until the diagnostic testing program at NBAF is fully operational, validated, and accredited. The Agency may need retention incentives with service contracts to maintain 11 positions identified as critical for baseline operations until 2023. The Agency also needs funding to cover relocation costs for FADDL employees that will transfer to the new facility, as well as costs associated with frequent trips during the early transition years for oversight and planning. Finally, this request includes $750,000 to enable APHIS to begin document scanning and archiving 60 years of paper files, manuals, and notebooks. APHIS cannot remove these items from the PIADC due to biosafety concerns, and FADDL does not have staff available for this activity. APHIS will contract this work to a company specializing in document scanning technology.

All costs are closely associated with and largely dependent on the DHS timeline for construction, commissioning, and select agent registration. Therefore, it will be critical to allocate these funds as no-year funds.

(j) A decrease of $636,000 and 0 staff year for the Zoonotic Disease Management program ($16,411,000 and 64 staff years available in 2018).

The Zoonotic Disease Management (ZDM) program collaborates with local, State, Tribal, national and international partners to promote healthy animals, people, and eco-systems by addressing zoonotic diseases. This collaborative approach is known as “One Health”. Zoonotic diseases are those that pass between animals and people. According to the U.S. Centers for Disease Control and Prevention (CDC) and the World Animal Health Organization (OIE), 60 percent of human pathogens are zoonotic; 75 percent of emerging diseases are zoonotic (including ebola and Zika); 80 percent of agents having a potential bioterrorist use are zoonotic pathogens; and nearly all new human diseases originate from animal reservoirs. APHIS provides leadership in addressing the animal health component of One Health by contributing animal health expertise, infrastructure, networks and systems to collaborate with local, State, Tribal, national and international partners. The ZDM program develops strategies, policies, and training to help animal health stakeholders effectively engage with public health counterparts, provide guidance, facilitate information exchange, and enhance responses to One Health issues. By enhancing the ZDM program’s efforts to address the animal health component of One Health, APHIS is able to protect animal health and marketability, while also promoting public health.

The ZDM program promotes an all-hazards approach to strengthening animal and pandemic disease preparedness, surveillance, and response. This holistic approach gives APHIS the flexibility to prepare for a variety of emerging diseases. In collaboration with other One Health partners, the Agency provides leadership in addressing the animal health components of zoonotic diseases; for example, partnering in the North American Plan for Animal and Pandemic Influenza to strengthening preparedness and response capabilities for human and animal health in Mexico, Canada, and the United States. In FY 2017, APHIS collaborated with CDC and State Departments of Public and Animal Health to investigate outbreaks of human *Salmonella* infections linked to contact with live poultry, especially chicks and ducklings obtained through mail order. APHIS continues to assist this segment of the industry through a voluntary poultry monitoring program and publication of best management practices.

As part of the National Strategy for Combating Antibiotic Resistant Bacteria, the ZDM program works with other USDA agencies, Federal and State partners and stakeholders to better understand antimicrobial

resistance (AMR) in bacteria in relation to antimicrobial use on farms and to develop practical mitigation strategies to limit or reduce AMR prevalence. AMR is the ability of a microbe to resist the effects of medication previously used to treat them. The ZDM program works with State and Federal partners, veterinarians, and producers to promote the judicious use of antimicrobials, which will support a strong, healthy, and thriving U.S. animal agriculture system. This work includes surveillance at the farm level, collection of antimicrobial drug use data, and efforts to promote stewardship of antimicrobial drugs by animal owners and veterinarians.

This program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world by developing strategies that address zoonotic diseases and reduce AMR prevalence. In FY 2019, APHIS will continue to provide leadership in addressing the animal health component of zoonotic diseases, and collaborate with State and Federal partners, veterinarians, and producers to promote the judicious use of antimicrobials, which will support a strong, healthy, and thriving U.S. animal-agriculture system as well as public health.

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 decrease associated with AMR activities (-$636,000 and 0 staff years)

APHIS requests a decrease associated with on-farm surveillance of AMR. At the requested funding level, APHIS will continue to promote judicious use of antibiotics, and leverage remaining resources across agencies in the areas of surveillance, research, education, and extension/outreach.

A decrease of $98,796,000 and 530 staff years for Safeguarding and Emergency Preparedness/Response – Plant Health

(k) A decrease of $29,131,000 and 372 staff years for the Agricultural Quarantine Inspection program ($29,131,000 and 372 staff years available in 2018).

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.

Because of the risks associated with numerous fruits, vegetables, and other plant products from Hawaii and Puerto Rico, APHIS inspects all baggage of passengers leaving these islands (approximately 12.9 million passengers in FY 2017). The program has maintained a passenger compliance rate of more than 97 percent for the last several years. 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. With respect to 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.

The Agriculture 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. 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.

The AQI program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world through preventing the spread of pests and diseases to new areas and through facilitating the movement of commodities in interstate trade.

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.

Reduction to implement a user fee for the AQI predeparture program (-$29,131,000 and 372 staff years)

APHIS will establish a user fee to fund this inspection program and allow travelers and businesses to pay for the services they use. APHIS currently collects user fees for AQI inspections of international travelers and means of conveyance arriving at U.S. ports of entry. The Food, Agriculture, Conservation, and Trade (FACT) Act of 1990 authorized the Secretary of Agriculture to prescribe and collect fees to cover the cost of providing AQI services in connection with the arrival at a port in the customs territory of the United States, or the preclearance or preinspection of a commercial vessel, commercial aircraft, commercial truck, or railroad car at a site outside the customs territory of the United States. It also established an account in the treasury of the United States for the use of the Secretary for inspection or quarantine services under this section. Because Hawaii and Puerto Rico are within the customs territory of the United States, the FACT Act does not apply to the predeparture program. The Agency will submit a general provision requesting authority to establish a fund and retain user fees collected for the predeparture inspection program.

(l) A decrease of $4,442,000 and 0 staff years for the Cotton Pests program ($11,442,000 and 51 staff years available in 2018).

The Cotton Pests program, in cooperation with States, the cotton industry, and Mexico, has nearly eradicated the boll weevil and pink bollworm (PBW) 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. APHIS provides national coordination, operational oversight, technology development (such as sterile PBW moths), and a portion of program funding. APHIS' partners have provided more than two-thirds of the funding for the boll weevil eradication effort and most of the operational funds for PBW eradication. The program also maintains capabilities to address other cotton pests that could enter the United States. In addition, APHIS provides technical advice on trapping and treatment protocols to its partners in Mexico to aid their efforts to eradicate boll weevil and PBW. 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 may be at risk of new pests approaching the country through the Caribbean Basin and Mexico.

APHIS' Cotton Pests program, along with the States and the cotton industry, have cooperatively eradicated BW from 99.5 percent of the 11 million acres of U.S. cotton. The last remaining affected area in the United States is a portion of the Lower Rio Grande Valley (LRGV) in Texas. The LRGV is the last zone within the United States where active boll weevil eradication efforts continue due to the neighboring Mexican cotton producing state of Tamaulipas and the area's security issues.

APHIS' Cotton Pests program also partners with States and industry to address PBW. In 1967, APHIS and cooperators in California began the PBW control program to protect the San Joaquin Valley while continuing to develop eradication tools. In 1997, APHIS, along with cooperative program partners, implemented an effective PBW eradication program in Southern California, Arizona, large areas of New Mexico, and the El Paso/Trans Pecos region of Texas. To date, the southwestern growing areas within the United States are waiting for "confirmation of eradication" from APHIS and industry; we anticipate announcing successful eradication of the pest in FY 2018, in conjunction with industry partners. Before we undertook an eradication program in the United States, the PBW commonly caused cotton losses of 20 percent or more in affected areas.

In FY 2019, APHIS will continue to reduce the boll weevil population in the LRGV and partner with the U.S. cotton industry on boll weevil surveillance efforts for all U.S. cotton production. In addition, APHIS will continue to partner with the Mexican boll weevil eradication program to provide technical assistance and funding for their parallel program to the LRGV program. The Agency also plans to continue working with the U.S. cotton industry post-PBW eradication to monitor, at a lower level, the Southwest part of the United States to ensure any reintroductions of the pest would be quickly detected and addressed.

The program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world. By controlling and eventually eradicating these two devastating cotton pests, the program protects continued export opportunities for U.S. cotton growers and significantly lowers production costs. According to the National Cotton Council of America, where boll weevil 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. The value of this permanent stream of benefits exceeds $1.2 billion.

Overall, base funding for the Cotton Pest 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.

Reduction for program activities (-$4,442,000 and 0 staff years)

APHIS is proposing a decrease for the program. At the requested level, the Agency will continue to monitor for the presence of PBW and maintain a sterile PBW moth colony in case a reinfestation occurs. The program will also use remaining funding to continue to address the boll weevil in areas of Texas near the border with Mexico.

(m) A decrease of $957,000 and 5 staff years for the Field Crop and Rangeland Ecosystem Pests program ($8,766,000 and 77 staff years available in 2018).

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. In addition, the Agency 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 and South Carolina to protect U.S. corn production. This program directly protects more than 230,000 acres of wheat and corn worth more than $18 million. It indirectly protects all U.S. wheat and corn production, which was worth approximately $60 billion in FY 2016 (National Agricultural Statistics Service, Crop Values 2017 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 worth a total of nearly $8.7 billion according to a 2012 economic analysis University of Wyoming researchers prepared through a cooperative agreement with APHIS. In FY 2017, APHIS conducted surveys in 17 States for GMC, collecting data at more than 26,000 survey points to determine where potential outbreaks could occur and determine 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. Predictive models published in scientific journals, suggest that APHIS' IFA program is preventing up to 10 additional States from becoming infested. APHIS will continue conducting annual surveys and other activities to manage these pests in FY 2019.

Also, as part of the FCREP program, 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 there was an interruption of the program's ability to certify wheat exports, USDA's Economic Research Service estimated in 2010 that there would be a cumulative reduction of national net farm income of $8 billion over the next eight years. 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 four States to approximately 190,292 acres in Arizona since 1996. APHIS will continue survey and regulatory activities aimed at keeping KB from causing damage and/or trade disruptions in FY 2019.

The FCREP program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world through its efforts to prevent these pests and diseases from impacting agricultural production or trade.

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.

Reduction for Grasshopper and Mormon Cricket activities (-$957,000 and 5 staff years)

APHIS will reduce grasshopper and Mormon cricket activities in FY 2019. Because the number of treatments required varies each year depending on factors such as rainfall and temperature, as well as grasshopper and Mormon cricket population levels, the program can sustain a reduction.

(n) A decrease of $4,866,000 and 6 staff years for the Pest Detection program ($27,260,000 and 190 staff years available in 2018).

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 Pest Detection surveys supports U.S. market access for several important commodities by demonstrating that the pests are not present. Examples include data showing that major pests such as 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. products do not pose risks to other countries. For example, when a Pest Detection survey first detected the pale cyst nematode in Idaho, the Pest Detection program had data demonstrating negative survey results in other potato-producing States that kept export markets open for U.S. potatoes. According to the National Agricultural Statistics Service (NASS), the value of the market that remained open was $203 million in 2016 (NASS Crop Values 2016 Summary). Without the Pest Detection funding, APHIS would be unable to conduct surveys for high-risk pests or provide funding to cooperators for these surveys. As a result of APHIS' funding, highly skilled, national cadres of surveyors are in the field on a daily basis looking for high-risk pests. In FY 2017, the program and its cooperators conducted surveys in 52 States and Territories for 276 individual pests, pathogens, and noxious weeds, exceeding its goal of 220. The program also conducted 279 commodity- and taxon-based surveys, with an average of more than 5 pests per survey. 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.

The program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world by helping to support exports and detecting the presence of new pests and diseases before they can spread and cause damage. 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.

Reduce Federal contributions for State survey efforts (-$4,866,000 and 6 staff years)

APHIS will reduce funding it provides to States through cooperative agreements that support surveys, and will rely on States to fund the majority of the surveys conducted. The amount of the reduction will vary by State depending on the potential for pests of concern and program priorities across the country. The program will continue to provide guidance documents and analysis to cooperators but will no longer require that States survey for national priority pests or provide survey results to APHIS. If cooperators are unable to continue survey activities, the number of pests surveyed for will decrease.

(o) A decrease of $4,899,000 and 11 staff years for the Plant Protection Methods Development program ($20,546,000 and 131 staff years available in 2018).

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 supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world by developing tools to preserve economic opportunities for farmers and industries that engage in interstate commerce and international trade, and safeguard U.S. agricultural and natural resources from invasive plant pests. The program plays an essential role in APHIS' mission by developing tools for the detection of exotic plant pests in survey programs; developing molecular diagnostic tests and identification tools for pest identification; developing integrated pest management methods, including biological control, to help eradicate or manage invasive pests; and developing 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 also maintains its own quarantine and/or rearing facilities for biological control agents in Arizona, California, Colorado, Massachusetts, Michigan, Texas and Guatemala. APHIS partners with USDA's Agricultural Research Service, 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. Some key program targets include Asian citrus psyllid, brown marmorated stink bug, emerald ash borer, Asian longhorned beetle (ALB), hemlock woolly adelgid, spotted wing drosophila, mile-a-minute-weed, Dalmatian toadflax and Russian knapweed. As of the end FY 2017, the program's rearing facility in Mission, Texas produced a cumulative total of 6.85 million biological control agents targeting the Asian citrus psyllid since releases began in 2011. Before the release of agents in South Texas, 43 immature psyllids per survey were found on citrus in residential areas. After biological control releases began, the presence of pysllids has gradually decreased. As a result, the program detected only 3 immature psyllids per survey. This is a reduction of 93 percent of vector population.

In FY 2019, the program will continue working to develop new tools and pest detection methods. Overall, base funding for the PPMD program currently supports salaries and benefits, contracts, and

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

Reduce Federal contributions for pest detection surveys and pest management (-$4,899,000and 11 staff years)

APHIS requests a decrease for the program's pest trapping, identification and survey technologies efforts. The Agency will continue to work as a partner with cooperators at the State, local, and industry levels to achieve overall program goals. At the proposed funding level, the program will adjust the rate at which it develops pest trapping, identification and survey technologies, while maintaining its focus of developing tools to manage or eradicate high priority invasive pest threats.

(p) A decrease of $25,869,000 and 41 staff years for the Specialty Crop Pests program ($165,369,000 and 718 staff years available in 2018).

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 for 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 grown in all 50 States, and they have a high value. APHIS' SCP program directly protects production (including citrus, grapes, potatoes, nursery stock, and tree fruit) worth more than $9 billion in FY 2016, based on internal analysis using data from the Census of Agriculture and USDA's National Agricultural Statistics Service (NASS). APHIS is currently using SCP resources to address the following pests and diseases: pale cyst nematode (PCN), light brown apple moth (LBAM), plum pox virus (PPV), exotic fruit flies, European grapevine moth (EGVM), glassy-winged sharpshooter (GWSS), and a variety of citrus pests and diseases, among others.

While Federal response activities take place in concentrated areas where the infestations occur (e.g., PCN in Idaho or LBAM in California), they also protect all at-risk States producing specialty crops. For example, the SCP program works to address the PCN in Idaho and conduct nationwide surveys for the pest. The nationwide survey demonstrates to trading partners that potato producing areas outside of the quarantined area are not affected by PCN, protecting fresh potato export markets worth $203 million in FY 2016 (NASS' Crop Values 2016 Summary). The program also addresses PPV in New York. PPV is a devastating viral disease of stone fruit, and addressing it in New York protects more than 1 million acres of stone fruit across the United States. Without the SCP program, a variety of export markets for U.S. specialty crops would be at risk—the program protected trade worth more than $8.4 billion in 2016.

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 and Guatemala 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 preventative releases of sterile insects to disrupt normal population growth in at-risk areas; detecting and responding to outbreaks when they occur; and maintaining a barrier against the natural spread of the Medfly in Mexico and Central America. Records indicate that Medfly has infested 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. APHIS and cooperators maintain 150,000 fruit fly traps in vulnerable areas to ensure that any introductions of exotic fruit flies are detected quickly. In FY 2017, the program responded to seven new exotic fruit fly outbreaks and continued responding to five from the previous year. 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. APHIS will continue activities to prevent, detect and respond to any outbreaks that occur in FY 2019.

To protect the U.S. grape and wine industries, APHIS has partnered with California grape growers to eradicate EGVM and prevent the spread of GWSS into grape-producing areas. In the collaborative effort against EGVM, APHIS provided funding, expertise, and operational support for surveys and regulatory efforts to find and prevent the spread of the target pests, while industry funds and conducts the necessary

control treatments (with technical guidance from APHIS and State officials). APHIS and its' State, county, and industry partners declared EGVM eradicated in FY 2016 following an intensive, 6-year cooperative effort. APHIS expects to complete post-eradication surveys in FY 2019. Eradicating this pest dramatically lowers growers' production costs and protects or expands export opportunities.

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, or huanglongbing (HLB). Through the Citrus Health Response Program, APHIS supports cooperators' in citrus producing States with the on-the-ground operations, such as surveys, regulatory inspections, and outreach to affected growers and the public, as well as methods development activities at other USDA agencies. 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. Because of the ongoing threat posed by HLB, APHIS, other Federal agencies, State partners and the citrus industry work together on the HLB Multi-Agency Coordination (MAC) group to identify and implement tools to combat the disease. The MAC Group has funded research to quickly identify practical tools that can aid the citrus industry to combat HLB. Growers and commercial firms are using one in three of the tools funded through HLB-MAC projects. APHIS is hopeful that 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 FY 2019.

The Specialty Crop Pests program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world through its efforts to prevent and mitigate the damage caused by pests and diseases that affect fruit and vegetable, nursery stock, and nut production.

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.

Reduce Federal funding for specific pest and disease programs (-$25,869,000 and 41 staff years)

APHIS is requesting an overall decrease of $25.869 million to adjust amounts for Specialty Crop Pests programs.

Of the requested decrease, $19.369 million is to reduce the Federal contributions towards specific pest and disease programs. State and industry partners are beneficiaries of these programs, and APHIS will shift certain activities to program partners for a more equitable share of program costs. The reductions consist of the following:

- -$13.021 million for the Glassy-winged Sharpshooter Program, reducing the Federal portion of the program from 57 percent to approximately 20 percent.
- -$3.292 million for the European Grapevine Moth Program, reducing the Federal portion of the program from 100 percent to approximately 50 percent.
- -$3.056 million for the Pale Cyst Nematode Program, reducing the Federal portion of the program from 97 percent to approximately 50 percent.

APHIS is also requesting $6.5 million in reductions to return funding levels for two programs to the levels provided in FY 2016. The reductions consist of the following:

- -$1.5 million for the Fruit Fly Exclusion and Detection Program.
- -$5 million for the Citrus Health Response Program.

(q) A decrease of $28,633,000 and 95 staff years for the Tree and Wood Pests program ($53,633,000 and 301 staff years available in 2018).

America's forests are valuable resources that provide jobs and recreation opportunities and create habitat for wildlife. They provide economic opportunities and ecosystem services worth an estimated $1.2 trillion. Through the Tree and Wood Pests (TWP) program, APHIS addresses devastating pests such as the Asian longhorned beetle (ALB), emerald ash borer (EAB), and European gypsy moth (EGM). Numerous native hardwood tree species that are common throughout U.S. forests and urban landscapes are hosts to these pests. When forest pests like EAB 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.

APHIS cooperates with State and local agencies and organizations in 48 States to conduct various activities to manage and, when feasible, eradicate these pests. These activities include conducting surveys, implementing control measures, developing methods and processes to combat pests, and conducting outreach efforts to prevent pest spread.

In FY 2019, APHIS will continue addressing ALB outbreaks in Massachusetts, Ohio, and New York (including the most recently detected infestation on Long Island) and pursuing biological control options as a long-term EAB management strategy. In addition, APHIS, along with the Forest Service and the EGM Slow-the-Spread Foundation, have greatly slowed the spread of EGM and eradicated isolated populations, keeping this pest from becoming a larger issue. In FY 2019 APHIS will continue conducting EGM surveys to detect, delimit, and eradicate any isolated populations.

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.

Reduce activities for specific Tree and Wood Pest programs (-$28,633,000 and a reduction of 95 staff years)

APHIS requests a decrease for the EAB and ALB pest programs. The Agency and its cooperators at the State, local, and industry levels work together to achieve overall program goals. At the proposed funding level, the program will reduce Federal contributions towards managing these pests. If cooperators are unable to increase their contributions, the program would adjust the rate at which it conducts surveys and implements control measures. The following reductions will achieve an approximate 50 percent cost share rate for the programs:

- A reduction of $3.127 million for the Emerald Ash Borer Program; and,
- A reduction of $25.506 million for the Asian Long Horned Beetle Program.

A net decrease of $56,251,000 and a decrease of 208 staff years for Safeguarding and Emergency Preparedness/Response – Wildlife Services

(r) A decrease of $56,343,000 and 208 staff years for the Wildlife Damage Management program ($102,674,000 and 589 staff years available in 2018).

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 invasive species, such as feral swine, conducts a national rabies management program, and manages damage, conflicts and diseases caused by various wildlife species, such as beavers. 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 are reservoirs for zoonotic diseases. With funding

provided by Federal, State and local cooperators, APHIS works to reduce wildlife impacts on aircraft to protect human safety.

In regards to the protection of agriculture, APHIS prevented and reduced livestock predation through technical and direct control assistance provided to producers in FY 2017. For example, if a rancher is experiencing predators killing his cattle and sheep, or if a farmer is having trouble with fish-eating birds damaging their catfish and other aquaculture crops, the Agency could provide technical assistance. This 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. In those situations APHIS provides direct control through specific, hands-on wildlife management methods and approaches the need of the specific wildlife conflict. This could include habitat modification, animal behavior management, local population reduction, or a combination of these approaches based on the species causing the damage, the magnitude, geographic extent, duration, frequency, and likelihood of recurring damage, and impacts to other species, environmental conditions and impacts, social and legal factors, and relative costs of management options.

In FY 2017, APHIS responded to 70,857 requests for technical assistance. This includes responding to phone calls for assistance, as well as providing site visits and consultation for services. When necessary, APHIS provides direct control assistance to the extent cooperators are able to cost share operational program costs. Livestock losses attributed to predators cost producers more than $137 million annually, according to the most recent surveys by National Agriculture Statistics Service. Cost-benefit analyses have shown that for each dollar spent on livestock protection, APHIS saves producers between $2 and $7 in losses. Under a fully operational program, APHIS estimates that the Agency helped producers protect approximately 15.8 million head of livestock in FY 2017.

APHIS' natural resource protection includes protecting natural areas and native wildlife from invasive species, such as feral swine. APHIS' National Feral Swine Damage Management Program has made significant progress in its first four years of implementation. In this timeframe, the Agency has established cooperative, cost-share operational programs on approximately 162 million acres in 41 States and 2 Territories. In the last four years of the program, APHIS and partners successfully eliminated feral swine from seven States -- Idaho, Maryland, Minnesota, New Jersey, New York, Washington and Wisconsin. The Agency will continue to monitor these States to ensure feral swine do not reestablish themselves in those areas, and continue to conduct disease surveillance and monitoring to protect the health of domestic swine. These efforts support the Agency's goal of reducing the estimated $2 to $2.5 billion of annual damage caused by feral swine in the United States.

Rabies management remains a significant effort for protection of wildlife and human health. According to the Centers for Disease Control and Prevention, approximately 90 percent of reported rabies cases in the United States are in wildlife. APHIS continues to serve as the lead Federal agency to prevent the further spread of wildlife rabies, with the goal of eliminating rabies in carnivores in the United States through the use of oral rabies vaccination (ORV) program. This program has led to the elimination of canine rabies in coyotes, the near elimination of gray fox rabies from Texas, and the containment of raccoon rabies in the eastern United States. Each variant is spread predominantly by one wildlife species, but all variants can infect and kill mammals, including humans if left untreated. Societal and environmental changes are leading to more chances for people and pets to be exposed to wildlife, particularly in urban and suburban areas. In FY 2017, APHIS distributed more than 10 million oral rabies vaccine baits over approximately 179,000 square kilometers.

In the Southeastern United States and Northern Great Lakes area, double-crested cormorants continue to impact both sport fisheries and aquaculture production. APHIS employees continue to assess damage to catfish rearing facilities, recommend depredation control permits for aquaculture producers, and provide direct assistance to producers by dispersing cormorant roosts from these facilities, and selectively removing some birds to alleviate damage while long term solutions to restore producer's ability to conduct their own control are developed in conjunction with the U.S. Fish and Wildlife Service.

APHIS' wildlife disease biologists provide technical assistance, conduct surveillance, and maintain

control of more than 40 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 is critical to managing and determining threats to the U.S. poultry industry. APHIS employees also help manage the significant impacts from damage that beavers cause to waterways, roads and timber; and helps protect native ecosystems from invasive animals, such as nutria and brown tree snakes. These activities benefit private landowners, businesses, and Federal, State, county, and city government offices. By providing these specialized and coordinated services, APHIS is able to support USDA's goal of maximizing the ability of American agricultural producers to feed and clothe the world.

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

Reduction to Wildlife Services Operational Activities (-$35,775,000 and 150 staff years)

APHIS provides leadership and expertise to resolve wildlife conflicts to protect agriculture, human health and safety, property, and natural resources. The Agency conducts surveillance and maintains control of diseases, pathogens, and syndromes found in wildlife. APHIS maintains an aerial operational and training facility to provide the necessary specialized training required to ensure employees safety, while accomplishing the programs goals. In FY 2019, APHIS proposes to reduce funding for the Wildlife Services Damage Management program and perform these services to the extent beneficiaries of the program can directly pay for them. For example, if a rancher is experiencing predators killing his cattle and sheep, or if a farmer is having trouble with fish-eating birds damaging their catfish and other aquaculture crops, the Agency will provide technical information, and in some cases the necessary equipment, on how to conduct the work themselves. At the reduced funding level, the program will continue to provide education and technical (outreach) assistance. However, cooperators requesting direct control assistance, would have to increase their contributions to cover the operational program costs. This proposal will require producers to cover all costs associated with services provided, including the use of aerial services necessary in some situations to find and cull problem-causing wildlife. In FY 2017, APHIS used approximately $6 million to support safety, training and operations for aerial services work.

Reduction for National Feral Swine Program (-$14,293,000 and 51 staff years)

APHIS established the National Feral Swine Damage Management program in FY 2014 to minimize the impacts of feral swine damage. APHIS partners with other Federal, State, and local entities to achieve the overall program goals. This decrease will reduce the Federal share for the program to allow other entities to devote additional resources to the effort. Since the program was established, APHIS and our partners have successfully eliminated feral swine from seven States. APHIS uses appropriated funds to continue to monitor these States to ensure feral swine do not reestablish themselves in those areas, and continue to conduct disease surveillance and monitoring to protect the health of domestic swine. At the reduced funding level, APHIS would no longer monitor for feral swine in these States. Additionally, APHIS has had successes at removing eliminating feral swine through localized, accelerated projects, which are designed to quickly reduce a feral swine population in an area of high density. APHIS will continue to provide these services to cooperators who provide funding for them via reimbursable agreement. APHIS maintains a small fleet of aircraft conduct operational activities related to the National Feral Swine program. APHIS would expect the costs to cooperators for these services to increase. In FY 2019, APHIS will use approximately $11 million of the line item to support the effort.

Reduction to the National Rabies Management Program (-$6,275,000 and 7 staff years)

Approximately 90 percent of all cases of rabies occur in wildlife. Since 1995, APHIS has partnered with Federal, State, and local agencies; universities; and other partners to combat wildlife rabies. In FY 2017, APHIS and cooperators distributed more than 10 million ORV baits over 178,999 square kilometers. With the proposed Federal cost share decrease, the Agency will continue the National Rabies Management program, but cooperators that directly benefit from these services would assume a greater share of the program costs. In FY 2019, APHIS proposes to reduce funding for rabies activities in States

outside of the barrier zone. The Agency will provide support to lower-risk States for cooperators who can cover these costs. Due to the proposed reduction in the aerial operations budget, APHIS would expect costs associated with the distribution of the ORV baits to increase. In FY 2019, APHIS will use approximately $21 million for the National Rabies Management program.

(s) An increase of $92,000 and 0 staff years for the Wildlife Services Methods Development program ($18,728,000 and 125 staff years available in 2018).

The Wildlife Services Methods Development (WSMD) program works with cooperators to conduct research to develop socially responsible methods to prevent and mitigate damage caused by wildlife and invasive species on agricultural productions, and to detect and prevent wildlife diseases that may impact animal health and agricultural biosecurity. This program provides scientific information to support the development and implementation of socially-acceptable methods for managing wildlife damage. APHIS provides the only dedicated Federal leadership in managing wildlife problems and developing methods to resolve human-wildlife-agricultural conflicts. These methods enable APHIS, cooperators, and individuals to protect crops, livestock, natural resources, property, and public health and safety.

Many non-lethal methods that Federal, State, and private sector wildlife professionals use today stem from APHIS' research. In FY 2017, the program initiated 103 studies and published 192 scientific studies in 78 different professional scientific journals and book chapters. These include methods developed to: mitigate the spread of feral swine that could cause damages between $2 to $2.5 billion annually (according to 2015 study conducted in partnership with the National Agriculture Statistic Service); improve the use of livestock protection dogs in Idaho, Montana, Oregon, and Washington; addressing a bacterial disease causing an estimated three million pounds of aquaculture production losses annually; and, automate distribution of aerial baits in Guam that have reduced the population of brown tree snakes by 80 to 85 percent in the targeted area. According to an article the University of Hawaii published, the annual projected economic impacts of the potential translocation of the brown tree snakes from Guam into Hawaii would range from $593 million to $2.4 billion. Each of these examples has reduced damage to property, agriculture, human health and safety, and/or native wildlife and ecosystems.

Additionally, the WSMD program develops data to register products that enable the private sector to further manage human-wildlife conflicts. An example of this type of technology transfer is the registration of a contraceptive to control the white-tail deer population, with the U.S. Environmental Protection Agency and the Food and Drug Administration. The program also explores ways to reduce the spread and transmission of zoonotic diseases, and develops disease diagnostic methods. In addition, the program develops strategies to monitor wildlife pathogens, assesses risks to agriculture and human health and safety, and assists APHIS' operational programs with surveillance and monitoring.

The program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world by developing and evaluating new tools and strategies to manage wildlife damage, including managing the expanding feral swine population, registering safe toxicants, and developing new methods for improving trapping and oral bait delivery systems. These methods are essential to cooperators, and preserve businesses and regional employment opportunities. In FY 2019, the WSMD program will continue to serve as an international leader in non-lethal research to reduce wildlife damage.

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.

Program Increase (+$92,000 and 0 staff years)

The requested funding will be used to cover minor increased operating costs for the program.

An increase of $171,000 and 0 staff years for Safeguarding and Emergency Preparedness/Response – Regulatory Services

(t) An increase of $79,000 and 0 staff years for the Animal Plant Health Regulatory Enforcement program ($16,114,000 and 116 staff years available in 2018).

The Animal and Plant Health Regulatory Enforcement (APHRE) program promotes the integrity of APHIS programs by providing effective and efficient investigative and enforcement services. APHIS' four regulatory programs, along with the Agricultural Quarantine Inspection activities at the Department of Homeland Security's Customs and Border Protection, are all national programs that require Federal investigative and enforcement support to promote compliance and program integrity, and ultimately, protect American agriculture. The APHRE program centralizes this function into one national program, thereby promoting greater efficiency, effectiveness, and consistency than would be possible if each program handled these functions independently. The program serves as APHIS' primary liaison with USDA's Office of the Inspector General (OIG) and Office of the General Counsel (OGC), the U.S. Department of Justice (DOJ), and other Federal and State law enforcement organizations.

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 OIG, OGC, and/or DOJ to pursue administrative, civil, or criminal action, as appropriate, in response to alleged violations of APHIS-administered laws. This helps to foster deterrence of those who may attempt to circumvent U.S. agricultural laws. Program activities serve to deter individuals and companies from engaging in acts that could otherwise cause extensive economic damage and/or excessive expenses related to eradication or mitigation efforts designed to protect the American agriculture system. In FY 2017, APHRE initiated 1,734 new cases, issued 523 official warnings, issued 420 pre-litigation settlements resulting in the collection of $558,896 in stipulated penalties, and obtained administrative orders assessing $837,325 in civil penalties.

APHIS' regulatory enforcement program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world as the program's actions help deter practices that may lead to devastating pest and disease introduction.

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

Program Increase (+$79,000 and 0 staff years)

The requested funding will be used to cover minor increased operating costs for the program.

(u) An increase of $92,000 and 0 staff years for the Biotechnology Regulatory Services program ($18,747,000 and 96 staff years available in 2018).

The biotechnology industry—estimated at $246 billion worldwide—develops innovative products that can greatly benefit the public. Every day, American farmers and consumers benefit from USDA's role in bringing biotech products to the marketplace. On the plant health side, farmers benefit from genetically engineered (GE) crops through improved yields while consumers benefit from improved traits, such as healthier oils and reduced exposure to potential carcinogens. However, before any of these products can be brought to market, it is essential to demonstrate, through rigorous, scientific review, that they do not pose a risk to America's agricultural and natural resources.

USDA ensures new GE crops will not pose plant health risks when released into the environment. USDA's reviews and regulatory determinations support producers of new and innovative GE technologies in their efforts to enter commerce and the worldwide marketplace. These controls instill confidence in the public and in our trading partners that GE products produced in the United States are safe and of the highest quality. According to the USDA Economic Research Service, farmers use biotechnology to grow more than 90 percent of the soybeans, corn, and cotton in the United States.

APHIS ensures that developers, growers, and others take the important steps to prevent unauthorized releases of GE organisms. Depending on the characteristics of the GE organism, the developer files an application in the form of either a permit or a notification. A permit is more restrictive than a notification, and is generally issued for GE organisms that may pose a greater plant pest risk. A notification is a streamlined permit for GE organisms that APHIS has familiarity with and are less likely to pose a plant pest risk. In FY 2017, APHIS authorized 1,726 notifications and permits throughout the United States.

When reviewing notifications and permit applications, APHIS requires that developers are in compliance, meaning they meet conditions to ensure the GE organisms are confined and do not persist in the environment when the field trial is completed. To ensure that GE organisms meet standards outlined in the permit or notification, APHIS inspects fields, equipment, and other facilities. In FY 2017, APHIS and the States (authorized by APHIS) conducted more than 750 site inspections, 45 of which were unannounced inspections. Approximately 96 percent of those inspected were in compliance with APHIS biotechnology regulations.

Once a developer can demonstrate a GE plant does not pose a risk to plant health, the developer can seek determination of nonregulated status (also known as deregulation) of the plant. In the last five years, APHIS has implemented solutions to significantly improve the efficiency and predictability of the petition process without affecting the quality of decision-making. In FY 2017, USDA completed three petitions or requests for determination of nonregulated status.

USDA review and deregulation of these GE crops are essential in making these products available in the marketplace. Determinations of nonregulated status have been an immense benefit to farmers, producers, and consumers. Agricultural biotechnology gives farmers and producers more tools to address pest, disease, and weed management issues, contributes to the adoption of no-till and low-till practices, and helps safeguard crops against disease. USDA expects the cumulative number of determinations of nonregulated status to increase from 127 in FY 2017, to 132 by the end of FY 2019. In FY 2019, APHIS will continue to devote resources to meet target timelines of 13 to 15 months for petitions that do not require an environmental impact statement. This program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world by increasing agricultural opportunities and supporting economic growth.

APHIS takes a coordinated and collaborative approach to ensure the safe development of products derived through genetic engineering. This includes work with the Environmental Protection Agency and the Food and Drug Administration consistent with the principles of the Coordinated Framework for the Regulation of Biotechnology; partnering with the National Plant Board to allow State inspectors to conduct inspections of field release sites, which ensures cost-effective use of resources; working with international partners to enhance the coordination of regulatory approaches for the safe use of GE organisms; and provides capacity building assistance to developing countries for the regulation of GE crops.

Overall, base funding for the 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.

Program Increase (+$92,000)

The requested funding will be used to cover minor increased operating costs for the program.

A decrease of $5,000 and 0 staff years for Safeguarding and Emergency Preparedness/Response – Emergency Management

(v) A decrease of $5,000 and 0 staff years for the Contingency Fund ($474,000 and 5 staff years available in 2018).

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. For example, the Contingency Fund allows the Agency to quickly access resources to initiate control of outbreaks of animal and plant diseases, and to control insects, pest animals, and birds to the extent necessary to meet emergency conditions. 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, and most recently, cattle fever ticks in Texas.

This line item supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world by allowing APHIS programs to promptly address small scale outbreaks. By doing so, 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 currently supports salaries and benefits, equipment, contracts, and agreements, as well as other normal operating costs, such as travel, and supplies to conduct program activities.

Program Decrease (-$5,000 and 0 staff years)

Operating costs for the program will be reduced by $5,000.

(w) Emergency Preparedness and Response program ($40,688,000 and 199 staff years available in 2018).

The Emergency Preparedness and Response (EPR) Program improves APHIS' capability to prevent, prepare for, respond to, and recover from animal and plant health emergencies. It develops strategies, policies, and procedures for incident management and response coordination that meet national and international standards. The program goal is to respond to animal health events within 24 hours from the time the Agency decides that it is appropriate to be involved in the response effort. The program develops guidance documents covering the major components of an animal health emergency response, and makes them available to State and industry partners. The program also participates in joint Federal, State, and local exercises to improve response capabilities, and performs reviews afterwards. APHIS uses corrective action plans from these reviews to update their guidance documents and help States enhance their response plans. In addition, this program works with major commodity groups to ensure the continuous movement of livestock products during animal health emergencies. Effective preparation for and rapid response to animal health events requires advance and continuous preparation, followed by training and exercises. This program enables 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. With its expertise and infrastructure, this program is uniquely positioned to coordinate responses at the Federal, State, and local levels, and to disseminate vital aquatic animal health information to those who might take action.

APHIS also engages in broader preparedness and response efforts. For example, the Agency carries out functions outlined in the National Response Framework, which establishes how response efforts support State, Tribal, and local authorities during emergencies. While the Federal Emergency Management Agency (FEMA) is the lead Agency responsible for managing domestic incidents, the EPR program supports coordinators in each of the 10 FEMA regions for Emergency Support Function 11: Agriculture and Natural Resources (ESF #11), as outlined in the Framework. These coordinators work with local, State, Tribal, Territorial, Insular Area Governments, and other Federal agencies during actual and potential incidents to address agricultural health issues; provide technical expertise to support animal and agricultural emergency management; ensure the safety and defense of the Nation's meat, poultry, and processed egg products; and ensure the protection of natural and cultural resources and historic properties. In addition, APHIS provides technical support to FEMA for the care of pets and service animals during disasters.

There are several ways that the EPR program bolsters and deploys its emergency response capabilities. For example, the program maintains emergency qualifications system dispatchers, who coordinate the delivery of emergency resources. In FY 2017, APHIS dispatched 874 responders to 38 incidents or events, including 10 responses for which FEMA activated ESF #11 coordinators. The Agency's dispatchers worked with the incident coordination group and program contacts to identify personnel and mobilize

resources within the timeframes requested by the Incident Commanders. The EPR Program also supports the Voluntary Emergency Ready Response Corps, a pool of APHIS employees who are trained to fill commonly requested emergency response positions, as well as provides occupational safety and health support and physical and operational security support for emergency responses. Also in FY 2017, ESF-11 coordinators participated in the planning and execution of more than 25 FEMA and State-led exercises ranging from tabletops exercises to drills providing cross-functional coordination and assistance.

APHIS participates on the Biosurveillance Indications and Warning Analytic Community steering committee to increase understanding of agricultural threats across the Federal interagency, particularly providing context and characterization for threats that may also affect human health and/or the U.S. economy. Through this interaction, APHIS leverages tools that all partners use to augment other APHIS global biosurveillance initiatives.

APHIS also serves as a liaison between State and local officials and exhibitors regulated by the Animal Welfare Act to enhance coordination on foreign animal disease preparedness efforts. In FY 2017, APHIS continued investing in the Zoo and Aquariums All Hazards Preparedness, Response, and Recovery (ZAHP) Center to close emergency management gaps for the exotic animal industry. As a centralized and non-regulatory emergency management tool, ZAHP employs a whole-community approach, reaching corners of the exotic animal industry that APHIS has had difficulty reaching.

In addition, APHIS and the Centers for Disease Control and Prevention (CDC) jointly manage the Federal Select Agent Program (FSAP). The FSAP 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. Any individuals or entities possessing, using, or transferring select agents or toxins must register them with APHIS (if the agent affects animal or plant health) or the CDC (if the agent affects human health). The FSAP administers the select agents and toxins regulations in coordination with the Federal Bureau of Investigation. Facilities must meet requirements that ensure the safety and security of the agents and toxins and to prevent their release. APHIS and CDC inspect facilities that use or transfer these agents to ensure compliance, and they also inspect each other's facilities to eliminate potential conflicts. APHIS' Agriculture Select Agent Services (AgSAS) ensures that facilities address all non-compliances appropriately, and for initiating enforcement actions. In FY 2017, AgSAS met with the Department of Homeland Security to plan the select agent registration of the National Bio and Agro-Defense Facility, which is being built in Manhattan, Kansas.

This program supports USDA's goal to maximize the ability of American agricultural producers to prosper by feeding and clothing the world by preventing and/or mitigating the spread of agricultural pests and diseases. This program accomplishes this goal through early detection of and rapid response to various animal health events.

Overall, base funding for the Emergency Preparedness and Response Program currently supports salaries and benefits of personnel and contracts, as well as other normal operating costs such as travel, supplies, rent, and utilities to conduct program activities.

(2) A net decrease of $315,000 and 0 staff years for Safe Trade and International Technical Assistance:

(a) A decrease of $423,000 and 0 staff years for the Agriculture Import/Export program ($15,493,000 and 81 staff years available in 2018).

APHIS's Import/Export program works to protect U.S. agriculture while facilitating safe trade of animals and animal products. To accomplish this goal, APHIS collaborates with multiple partners including other Federal agencies, States, foreign governments, industry, and academia. APHIS conducts import risk analyses that evaluate the animal health status of countries and regions requesting approval to export animals and/or animal products into the United States. APHIS' animal health experts ensure that U.S. import requirements safeguard U.S. livestock health through an evaluation process and negotiate requirements for the export of U.S. animals and animal products worldwide. 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 conducts activities related to the 2008 Farm Bill amendments to the Lacey Act, which prohibit the importation of any plant, 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.

Imports

Safeguarding against the importation of significant animal diseases is vital to protecting U.S. industries, producers, and consumers. APHIS bases its regulations that minimize the risk of introducing animal diseases on evaluations of the animal health status of countries or regions. The Agency evaluates the animal health status of regions that wish to export animals and/or animal products to the United States through completing a risk assessment that documents the evaluation process and final conclusions. Based on the conclusion of the evaluation, the Agency may recognize the animal health status of the region through a regulatory change, lifting the import prohibitions related to the disease in question. These regulatory changes allow U.S. importers to streamline processes associated with importing products from these countries. APHIS also recognizes that disease risks may be mitigated by treatments or processes applied to animal products, and import permits allow evaluation of these risk mitigations. In FY 2017, APHIS issued 12,686 import permits for live animals, animal products, organisms, and vectors. These include new permits, renewals, and amendments.

Exports

APHIS negotiates science-based conditions, including export protocols, with trading partners for various commodities that protect their country while also facilitating trade. In FY 2017, APHIS negotiated or re-negotiated 110 export protocols for animal products (24 new markets, 3 expanded markets, and 83 retained markets). APHIS also negotiated 126 export protocols for live animals (64 new or reopened markets in 28 countries, 22 retained markets in 14 countries, and 40 expanded markets in 26 countries), including new markets for in-vitro fertilized bovine embryos to Colombia, turtles to Italy, sheep and goats for breeding to Mexico, and horses to Qatar. APHIS also develops information packages and questionnaire responses from various countries to open, maintain, or expand various export markets.

The highly pathogenic avian influenza outbreaks in 2015 and 2017 impacted the U.S. exports of poultry and poultry products. APHIS remains actively engaged with many countries to continue establishing forward-looking agreements, where our trading partners agree to minimize the geographic range of import restrictions if future HPAI outbreaks occur. This approach has significantly lessened the impact of HPAI outbreaks, allowing poultry companies to continue exports from unaffected areas of the United States. APHIS also continues to eliminate remaining Bovine Spongiform Encephalopathy barriers. In FY 2017, significant successes included regaining market access for Brazil and China.

Lacey Act

APHIS conducts activities related to the Lacey Act. The Lacey Act prohibits the importation of any plant - with limited exceptions - 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, often connected to organized crime, by encouraging importers to research their supply chains and be aware of the laws governing products they purchase in other countries. APHIS is working with an interagency group to implement the provisions. APHIS' role is to manage the declaration requirement, provide guidance to importers regarding the declaration, perform compliance checks, and provide enforcement agencies with information to assist their investigations. APHIS collected approximately 1 million declarations in FY 2017.

This program supports USDA's goal to promote American agricultural products and exports. In FY 2019, the program will continue to conduct import risk analyses activities and set quarantine and testing requirements to protect U.S. agriculture while facilitating safe trade of animals and animal products.

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.

Reduction for Lacey Act activities (-$423,000 and 0 staff years)

In FY 2017, APHIS received approximately 1 million Lacey Act declarations. APHIS began development of a module in its Lacey Act Web Governance System to enhance compliance reviews by automating initial screenings of declarations and flagging certain types of issues for further review. At the proposed funding level, APHIS will not pursue further enhancements to its Lacey Act System and will continue to focus on collecting declarations.

(b) An increase of $108,000 and 0 staff years for the Overseas Technical and Trade Operations program ($21,964,000 and 55 staff years available in 2018).

Through the Overseas Technical and Trade Operations (OTTO) program, 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 (ERS), 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.

In addressing animal and plant health trade issues, APHIS uses its strong scientific base and team of technical experts based in the United States and abroad to advocate on behalf of U.S. agriculture. APHIS officials – including headquarters personnel, field staff, and personnel stationed overseas – negotiate animal and plant health requirements for exports to other countries, ensuring requirements are proportional to risk without being excessively restrictive; assist U.S. exporters in meeting foreign regulatory requirements; provide technical information to support the safety of U.S. agricultural products destined for foreign markets; and safeguard the U.S. borders from foreign agricultural pests and diseases. Highlights of FY 2017 successes include restoring access to U.S. dried distillers' grains to Vietnam valued at $230 million and opening China's markets to U.S. beef, worth $12 million.

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 FY 2017, APHIS successfully secured the release of 282 shipments worth $43 million.

One way that APHIS fosters a successful trading environment for U.S. exports is 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 gaining support for scientific decision making internationally and following international standards when considering what can be imported into the United States, APHIS increases U.S. agricultural exports.

The OTTO program supports USDA's goal to promote American agricultural products and exports. Agricultural trade is essential for U.S. farmers, ranchers, and producers, and APHIS' technical and regulatory trade activities support their export opportunities. APHIS will continue to cultivate international trade opportunities for America's animal and plant products while ensuring that U.S. agriculture is safeguarded from pests and diseases.

Overall, base funding for the OTTO 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.

Program Increase (+$108,000)

The requested funding will be used to cover minor increased operating costs for the program.

(3) A net decrease of $255,000 and 0 staff years for Animal Welfare:

(a) A decrease of $258,000 and 0 staff years for the Animal Welfare program ($28,614,000 and 232 staff years available in 2018).

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. Through its on-site inspections, educational efforts, and enforcement actions, APHIS' Animal Welfare program monitors the approximately 12,000 facilities that USDA has licensed and registered to ensure they are adhering to the Federal animal welfare standards.

Prior to issuing a license, APHIS works closely with potential licensees to ensure that applicants understand the requirements of the AWA regulations and standards, and will be able to maintain compliance after obtaining a license from the Agency. In FY 2017, APHIS conducted 971 pre-licensing inspections, and issued 996 new licenses. Once licensed or registered with the USDA, APHIS inspectors perform unannounced inspections to verify continued compliance with the AWA. During the inspection process, 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. In FY 2017, the program either conducted, or attempted to conduct, 11,072 random-based inspections at approximately 12,179 facilities located across the United States. These efforts have yielded impressive results: on average, 96 percent of regulated entities have maintained substantial compliance with 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.

To address those facilities that are noncompliant with the AWA, APHIS may exercise immediate deterrent options, such as letters of warning. In responding to serious noncompliance, APHIS uses enforcement procedures that range from civil penalties, the issuance of "cease and desist" orders, or license suspension and revocation. 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.

In FY 2016, APHIS conducted a review of the application processes required of AWA applicants that identified areas to reduce burden on new applicants, as well as allowing applicants to submit approved revisions to initial applications through less costly and more efficient processes. The Agency also instituted a new process to assist applicants with calculating their licensing fees to promote consistency and reduce errors involving fee calculations; invested in a phone system that will connect applicants with the appropriate staff in a more timely and efficient manner; and, created a system for distribution of work to build continuity of service and better balance the workload. As a result of these efforts, APHIS reduced the overall time a new applicant for a license or registration must wait before engaging in regulated activities from 65 days in FY 2016 to 45 days in FY 2017. In FY 2019, APHIS will continue to review and identify additional improvements to its business processes.

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.

Reduction for Animal Welfare enforcement efforts (-$258,000 and 0 staff years)

APHIS proposes a decrease for the Animal Welfare program in support of the Agency's cost saving efforts. At the requested funding level, APHIS will continue to focus on the highest risk entities through the use of our risk-based inspection system and meet the required timeframes for compliance inspections.

(b) An increase of $4,000 and 0 staff years for the Horse Protection Program ($692,000 and 6 staff years available in 2018).

APHIS' Horse Protection program strives to eliminate the cruel and inhumane practice of soring, which is a technique used to irritate or blister a horse's forelegs through the injection or application of chemicals and/or mechanical irritants. Soring changes the gait of a horse so that the animal steps higher, thereby allowing its rider to gain a competitive edge and improve his/her chances of winning at horse events. APHIS has the Federal responsibility to uphold the Horse Protection Act (HPA), which prohibits sore horses from being shown, exhibited, sold or auctioned.

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. In FY 2017, DQPs conducted 47,373 inspections of horses, and identified 337 alleged violations at 257 horse show events.

APHIS' Horse Protection program employs its own inspectors to conduct unannounced inspections at select horse shows, exhibitions, sales, and auctions, as well as evaluate the effectiveness of the DQPs. In FY 2017, APHIS inspected 1,536 horses at 52 horse events. Inspections conducted by APHIS are lower than in previous years due to a refinement in the Agency's inspection program whereby the Agency opted to not inspect a horse if a DQP had already detected a noncompliance with the HPA. Of those shows where APHIS was present, the Agency and the DQPs identified 129 instances of suspected noncompliance with the HPA.

APHIS initiated 75 cases involving 380 individuals, issued 213 official warnings, obtained 88 administrative orders assessing $113,000 in civil penalties, and disqualified 85 individuals from participating in activities regulated under the HPA. 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 FY 2017, APHIS hosted joint training with DQPs and together reviewed and discussed updated inspection guidance, participated in hands-on inspection exercises, and discussed performance expectations with a goal of promoting greater consistency throughout the entire industry regardless of whether APHIS is present at an HPA-covered event to conduct inspections and observe DQP performance. In FY 2019, APHIS will continue to work collaboratively with the horse industry to eliminate soring.

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.

Program Increase (+$4,000 and 0 staff years)

The requested funding will be used to cover minor increased operating costs for the program.

(4) A net decrease of $2,225,000 and 0 staff years for Agency-Wide Programs:

(a) An increase of $21,000 and 0 staff years for the APHIS Information Technology Infrastructure program ($4,222,000 and 0 staff years available in 2018).

The APHIS Information Technology Infrastructure (AITI) program provides funding for the hardware, software (including licensing and support costs) and telecommunications infrastructure that gives Agency employees office automation tools, Internet access, and access to mission-critical programs and administrative applications. The funding for this program supports the stable and secure information infrastructure for those mission-critical applications and the day-to-day business of APHIS. The AITI objectives and priorities are to continually improve sharing of information across the Agency; improve coordination and accessibility of information, processes, and resources available to enable APHIS employees to provide day-to-day services, and support programs in emergencies; and improve APHIS' cyber-security.

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 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.

APHIS reviews system security patching rates for the APHIS Enterprise Infrastructure workstations and servers to determine the percentage of systems kept current with the latest security patches. In FY 2017, the program 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 reducing vulnerabilities of our systems. In addition, the program upgraded its security monitoring systems to track 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.

While security is important to APHIS, accessibility to information technology tools is vital to the operations of the Agency. In FY 2017, AITI maintained its 99.97 percent availability for its key computing systems as well as a 20.6 minute service-desk response time for the occasions when personnel experience difficulties accessing computing systems, making this the seventh consecutive year of high availability and quick response times. In addition, AITI re-emphasized the avoidance of misuse and/or abuse of IT systems to Agency employees in support of continued cyber security strengthening efforts.

This program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world. In FY 2019, AITI plans to maintain its high availability and quick service-desk response times for addressing system errors and accessibility difficulties.

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.

Program Increase (+$21,000 and 0 staff years)

The requested funding will be used to cover minor increased operating costs for the program.

(b) An increase of $25,000 and 0 staff years for the Physical and Operational Security program ($5,111,000 and 5 staff years available in 2018).

APHIS oversees and implements precautionary measures to ensure continued mission operations, and

protection from disruption, degradation, or destruction of its facilities through the Physical and Operational Security (POS) program. These measures are essential for a safe and secure work environment. In addition, this program supports APHIS' contribution to the U.S. Department of State's continuing implementation of the Capital Security Cost Sharing (CSCS) program, which provides safe and secure workplaces for all U.S. government employees located overseas.

The POS program offers training to APHIS employees who engage with the public while conducting official business, locally and overseas, as well as simulated training that provides instruction on proper reaction procedures when faced with potentially dangerous situations. In FY 2017, the program provided training to more than 3,200 Agency employees, including seminars relating to active shooter situations, situational awareness, illegal drugs, self-defense, terrorism, local crime trends, and travel safety. The program also provided workplace violence training seminars and multiple security briefings for employees who work along the international border or in foreign countries. To enhance preparedness and response, APHIS continued to require Active Shooter training for all employees through on-line and classroom based training. The program will continue to offer various safety-related trainings in FY 2019.

The POS program investigates, assesses, and mitigates all internal and external threats, directed at Agency facilities, programs and personnel. These threats include death threats, terrorist threats, and assaults, among others. In FY 2017, APHIS investigated 95 external threats to its employees, and 41 workplace violence incidents. The POS program also works to ensure the safety of employees working at or near the Mexican border, and throughout Mexico and Guatemala.

The POS program also provides year-round security measures, such as physical security upgrades, alarms, badging and identification systems, guard services, security assessments, and safety and risk assessments. These measures protect employees, visitors, and stakeholders from violence and acts of terrorism. In FY 2017, the program completed physical security assessments of 83 facilities. Of those facilities assessed, the POS program provided 22 major facility upgrades, along with approximately 75 repairs, to ensure that the buildings are compliant with Homeland Security Presidential Directive-12 (HSPD-12) and the Interagency Security Committee (ISC) recommendations. The HSPD-12 and ISC directives create the standard for secure and reliable forms of identification for facility/network access and compliance regarding physical security at Federal facilities. Additionally, the POS program was responsible for issuing, activating, or updating more than 5,300 personal identification verification (PIV) cards, bringing APHIS employees in compliance with PIV use.

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 CSCS program requires the Agency to help fund the construction of New Embassy Compounds based on the number of authorized positions. In FY 2017, APHIS had 351 full-time employees based in countries around the world. This program provides safe and secure diplomatic facilities for the Agency's overseas personnel. If the program were not funded, these measures would continue to be implemented at the expense of other program operations because it is necessary to maintain a safe work environment.

This program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world. In FY 2019, the program will continue to ensure continued mission operations and protection from disruption, degradation, or destruction of its facilities.

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 CSCS program.

Program Increase (+$25,000 and 0 staff years)

The requested funding will be used to cover minor increased operating costs for the program.

(c) A decrease of $2,271,000 and 0 staff years for Rental and Department of Homeland Security (DHS) Security Payments ($42,271,000 and 0 staff years available in 2018).

Every year, APHIS is responsible for paying all costs associated with leased, owned, and rented space the Agency uses to safeguard the health and value of U.S. agriculture and natural resources. APHIS personnel are in every State working to carry out our mission and the Rent and DHS Security Payments is the program by which APHIS strategically manages the payment portfolio of facilities across the United States. This funding supports more than 200 occupancy agreements that are associated with General Services Administration leases, DHS security payments, as well as at other leased, owned, and agreement funded activities. For example, the funding for this program ensures that APHIS programs and 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 reviews the process for approving space changes (i.e., increasing or decreasing space at facilities, renewing leases, etc.) to see where we can gain efficiencies. For example, the Agency conducted a detailed analysis of space usage at our Fort Collins, Raleigh, Minneapolis and Riverdale hub locations. Based on these analyses, we initiated better management practices in our Raleigh and Minneapolis offices, and cumulatively reduced the Raleigh and Minneapolis rentable square feet footprint by more than 22,500 square feet. In FY 2017, APHIS reduced its space footprint by more than 170,000 rentable square feet. Without funding for rent and security payments, APHIS would have to cover these payments by reducing program activities, decreasing levels of service, and diverting fiscal resources from other appropriated line items.

This program supports USDA's goal of maximizing the ability of American agricultural producers to prosper by feeding and clothing the world. In FY 2019, the program will continue to ensure mission operations while effectively managing its space portfolio.

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

Cost savings reduction (-$2,271,000 and 0 staff years)

APHIS has taken actions to achieve efficiencies where possible since receiving and managing its portion of the decentralized account. These actions allow the Agency to sustain the reduction, despite potential cost escalations in future years. The Agency will continue to seek efficiencies while addressing the highest program priorities at the reduced funding level.

Summary of Proposed Legislation

Program: Animal Welfare

Proposal: Establish a new user fee that would offset a portion of the appropriation for the enforcement of the Animal Welfare Act

Rationale: APHIS carries out activities designed to ensure the humane care and treatment of animals covered under the Animal Welfare Act. These activities include licensing, registration and inspection of certain establishments that handle animals intended for biomedical research, sold as pets, transported in commerce, or used for exhibition purposes. Regulated entities already pay minimal fees for licenses, but they do not cover the full cost of the activity or the cost of the inspections.

Goal: A mandatory user fee would allow fees collected from regulated entities to be used to finance activities related to the review and maintenance of licenses and registrations, and inspections conducted under the Act.

Budget Impact: (thousands of dollars)

	2018	2019	2020	2021	2022
Discretionary Budget Authority	0	$9,000	$9,100	$9,220	$9,350
Discretionary Outlays	0	8,550	8,600	8,650	8,700

Program: Biotechnology Regulatory Services

Proposal: Establish a new user fee that would supplement appropriations for the regulation of biotechnology derived products

Rationale: Under the authority of the Plant Protection Act, APHIS regulates the introduction—meaning the importation, interstate movement, and field-testing—of organisms derived through biotechnology that may pose a plant pest risk. APHIS reviews information and data, provided during an application process, to issue authorizations, to determine if the genetically engineered (GE) organism may pose a plant health risk during the requested activity. Following this review, APHIS may issue authorizations allowing the specific activity under appropriate confinement conditions to protect plant health. APHIS operates a compliance and inspection program to ensure developers meet conditions designed to confine GE organisms in the environment during field trials, importation and interstate movement subject to the issuance of an authorization.

Goal: The authority will allow fees collected from the application process to finance activities related to the compliance management and inspection of those regulated biotechnology products under Agency authorizations. APHIS would like to develop legislation using, as a guide, the authorities provided to other regulatory agencies.

Budget Impact: (thousands of dollars)

	2018	2019	2020	2021	2022
Discretionary Budget Authority	0	$4,300	$4,400	$4,520	$4,650
Discretionary Outlays	0	4,100	4,150	4,200	4,250

Program: Veterinary Biologics

Proposal: Establish a new user fee that would supplement appropriations for the regulation of veterinary biologics products

Rationale: Under the authority of the Virus-Serum-Toxin Act of 1913 (P.L. 430 of 1913, as amended by 21 U.S.C. Section 151-158), APHIS regulates veterinary biologics (vaccines, bacterins, antisera, diagnostic kits, and other products of biological origin) to ensure that those products produced in or imported into the United States are not "worthless, contaminated, dangerous, or harmful." APHIS' licensing activities allow manufacturers to market their products. APHIS reviews license applications for production facilities and biological products, and operates a compliance and inspection program to ensure that its regulations governing veterinary biologics are met. Under this proposal, APHIS would amend its current authority to allow the collection of a user fee.

Many government agencies have used user fees to address funding gaps. Through the Animal Drug User Fee Act, the Food and Drug Administration (FDA) addressed serious financial constraints and supplemented its appropriated funding. APHIS would like to amend its current authority and develop legislation similar to FDA's Act to allow the collection of such a user fee. This fee would enable APHIS to continually adjust its resources invested in veterinary biologics licensing to the workload generated by the industry, which has steadily increased production and product development.

The industry would directly benefit as reductions in the time required to receive a license would enable the industry to recover the cost of product development faster. Consumers, who rely on veterinary biologics for animal health, whether in animal agriculture or the general public, would also benefit through decreased loss of animals from disease. In addition, the fee would better position APHIS to approve biologics during an animal health emergency.

Goal: APHIS seeks to ensure that veterinary biologic manufacturers comply with all laws, regulations, and policies. The user fee would act as a fee-for-service, where the industry would invest in APHIS to increase its ability to more quickly review product license requests. Additional performance enhancements may be achieved in areas such as licensing, testing, and product release turnaround times.

Budget Impact: (thousands of dollars)

	2018	2019	2020	2021	2022
Discretionary Budget Authority	0	$9,476	$9,770	$10,063	$10,365
Discretionary Outlays	0	9,003	9,282	9,560	9,850

Salaries and Expenses

Geographic Breakdown of Obligations and Staff Years
(Dollars in thousands and Staff years (SYs))

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
UNITED STATES:								
Alabama	$4,629	35	$5,033	35	$5,405	37	$4,081	33
Alaska	516	1	651	2	680	2	458	2
Arizona	9,721	56	8,695	59	9,081	62	8,100	59
Arkansas	4,517	33	4,344	23	4,479	24	3,533	22
California	80,871	139	78,426	126	86,166	133	67,661	122
Colorado	61,566	380	55,150	351	57,940	369	46,438	312
Connecticut	1,423	7	1,278	6	1,305	7	1,077	7
Delaware	1,014	3	1,210	3	1,242	3	895	3
Florida	42,226	262	47,345	262	50,580	278	47,322	271
Georgia	6,409	52	6,851	48	7,247	52	5,735	45
Hawaii	24,841	275	25,487	281	26,591	290	7,175	39
Idaho	10,613	70	10,177	66	10,746	67	6,726	48
Illinois	3,489	28	3,521	28	3,826	31	3,289	29
Indiana	22,802	31	3,967	24	4,168	29	3,513	27
Iowa	89,650	333	64,531	330	67,444	370	62,045	326
Kansas	4,177	31	5,014	25	5,096	29	4,374	27
Kentucky	5,326	34	5,172	34	5,297	36	4,300	33
Louisiana	3,287	25	3,219	23	3,758	26	2,958	23
Maine	1,337	11	1,382	10	1,437	14	920	10
Maryland	278,105	808	249,800	767	257,456	835	225,191	735
Massachusetts	18,133	105	18,783	112	19,792	120	12,502	100
Michigan	8,377	56	6,527	52	6,810	55	3,816	37
Minnesota	27,057	161	24,837	156	26,017	171	22,539	156
Mississippi	8,370	51	8,999	54	9,212	60	6,785	51
Missouri	12,115	58	10,534	56	10,770	58	9,829	54
Montana	6,505	41	6,195	40	6,378	42	4,929	38
Nebraska	3,760	25	5,134	25	5,454	28	4,582	26
Nevada	2,401	21	2,516	21	2,685	23	1,585	20
New Hampshire	15,397	19	16,937	22	17,016	24	7,157	16
New Jersey	3,132	20	3,162	18	3,253	20	3,497	21
New Mexico	4,800	41	4,967	41	5,089	43	3,402	37
New York	24,108	119	25,836	122	26,520	127	19,998	107
North Carolina	40,076	179	37,791	228	41,261	238	34,996	207
North Dakota	3,136	18	2,825	20	2,900	22	1,951	19
Ohio	16,984	76	16,429	78	16,919	80	10,131	57
Oklahoma	4,518	42	5,108	39	5,416	43	4,173	39
Oregon	7,133	27	6,417	28	6,860	30	5,633	26
Pennsylvania	9,537	49	11,194	42	12,098	46	8,599	29
Rhode Island	361	1	344	1	354	1	203	1
South Carolina	4,030	32	3,426	25	3,556	27	2,770	24
South Dakota	5,518	18	3,244	16	3,299	17	2,853	16
Tennessee	5,962	44	9,465	43	9,855	45	8,172	39
Texas	66,547	357	64,561	371	67,413	384	64,757	367
Utah	11,794	45	6,976	46	7,237	48	7,372	49
Vermont	1,302	10	1,317	10	1,366	10	838	8
Virginia	7,616	34	8,515	29	9,095	30	7,585	27
Washington	9,545	29	8,121	33	8,904	36	7,712	32
West Virginia	2,536	21	2,405	16	2,464	18	1,501	15
Wisconsin	4,614	26	3,692	23	3,815	25	2,941	22
Wyoming	3,832	32	4,331	33	4,622	36	3,372	32

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
U.S. TERRITORIES:								
District of Columbia	17,693	76	19,863	73	20,203	85	16,662	70
Guam	614	1	848	2	908	2	908	2
Puerto Rico	9,813	127	8,850	114	9,143	125	3,319	22
Virgin Islands	127	1	214	1	216	1	205	1
INTERNATIONAL REGIONS								
AFRICA:								
South Africa	488	1	634	1	634	1	634	1
Senegal	821	1	635	1	635	1	635	1
Other	504	1	383	1	383	1	383	1
ASIA/PACIFIC:								
China	1,104	1	1,429	2	1,456	2	1,456	2
Japan	897	1	1,156	1	1,161	1	1,161	1
South Korea	427	1	464	1	464	1	464	1
Other	1,976	2	2,368	5	2,368	5	5,368	5
CARIBBEAN:								
Dominican Republic	658	-	768	1	768	1	768	1
Other	443	1	178	-	178	-	178	-
CENTRAL AMERICA:								
Guatemala	22,009	2	26,213	2	26,213	2	26,213	2
Panama	14,054	4	18,456	4	18,456	4	18,456	4
Other	956	1	934	1	934	1	934	1
EUROPE/NEAR EAST:								
Austria	292	-	485	-	485	-	485	-
Belgium	1,507	2	1,376	1	1,376	1	1,376	1
Other	811	2	805	2	828	2	822	2
NORTH AMERICA:								
Canada	165	-	165	-	197	-	197	-
Mexico	7,002	3	7,537	2	7,537	2	7,537	2
SOUTH AMERICA:								
Brazil	619	1	784	1	784	1	784	1
Chile	369	-	233	-	233	-	233	-
Other	1,980	2	2,277	2	2,277	2	2,277	2
Total direct obligations:	1,081,044	4,602	1,008,896	4,521	1,054,212	4,842	873,427	3,969

Note: Total direct obligations; does not include advances and reimbursements or Agricultural Quarantine Inspection User Fees.

Salaries and Expenses

Classification by Objects
(Dollars in thousands)

		2016 Actual*	2017 Actual	2018 Estimate	2019 President's Budget
Personnel Compensation:					
Washington, DC		$81,289	$80,275	$81,845	$67,482
Field		272,143	268,747	290,178	239,253
11	Total personnel compensation	353,432	349,022	372,023	306,734
12	Personnel benefits	113,953	121,957	128,870	117,015
13	Benefits for former personnel	738	492	492	492
	Total, personnel comp. & benefits	468,123	471,470	501,385	424,241
Other Objects:					
21	Travel and transportation of personnel	30,442	29,091	29,091	23,780
22	Transportation of things	1,295	2,380	2,380	1,647
23	Rent payments, Comm. and Utilities	65,735	63,314	63,314	58,984
24	Printing and reproduction	970	506	506	404
25.0	Other contractual services	18,326	3,104	3,104	2,751
25.1	Contractual Services Performed by Other Federal Agencies	55,769	60,040	60,040	58,775
25.2	Related Expenditures	3,850	4,853	4,853	5,387
25.3	Repair, Alteration or Maintenance of Equipment, Furniture or Structure	6,698	7,959	7,959	7,354
25.4	Contractual Services - Other	57,281	41,508	41,508	37,961
25.5	Agreements	237,653	235,543	250,944	180,667
25.6	IT Services and Supplies	4,153	6,193	6,193	6,143
25.7	Operation and maintenance of equipment	12,798	12,125	12,125	9,689
25.8	Subsistence and support of persons	800	636	636	636
26	Supplies and materials	62,468	42,593	42,593	38,396
31	Equipment	25,085	19,910	19,910	10,285
32	Land and Structure	564	100	100	100
41	Grants, subsidies and contributions	1,204	497	497	453
42	Insurance claims and indemnities	26,927	6,687	6,687	5,387
43	Interest and Dividends	903	385	385	385
	Total, other objects	612,921	537,426	552,827	449,186
99.9	Total direct obligations	1,081,044	1,008,896	1,054,212	873,427
DHS Building Security Payments (included in 25)		$2,024	$2,789	$2,795	$2,800
Position Data:					
Average Salary, ES positions		$178,019	$181,334	$184,779	$185,703
Average Salary, GS positions		$69,208	$72,212	$73,584	$73,952
Average Grade, GS positions		9.20	9.46	9.49	9.50

Note: Total direct obligations does not include advances and reimbursements or Agricultural Quarantine Inspection User Fees.
*Fiscal Year 2016, the actuals include obligations from the transfer of emergency funding from the Commodity Credit Corporation to address Avian Influenza.

Status of Programs

Salaries and Expenses

SAFEGUARDING AND EMERGENCY PREPAREDNESS/RESPONSE

Current activities: Together with its stakeholders, APHIS promotes the health of animal and plant resources to ensure abundant agricultural products and services for U.S. customers. APHIS monitors and responds to potential diseases of livestock and wildlife, invasive species, suspected acts of agricultural bio-terrorism, 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 other 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.

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 also develops methods to control animals and pests that are detrimental to agriculture, wildlife, and public safety. The Agency's regulatory structure brings the benefits of genetic research to the marketplace, while protecting against the release of potentially harmful organisms into the environment. 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.

Selected Examples of Recent Progress - Animal Health:

1. Animal Health Technical Services

APHIS' Animal Health Technical Services (AHTS) Program enhances the tools available for acquiring and managing information vital for improving global market access. Incorporating national surveillance standards into data management applications enables animal health information to be compiled nationally, thus leveraging the work of animal health professionals nationwide to meet local, State, and national veterinary health objectives. Disease transmission and spread models, developed by the Agency, allow improved planning and management of animal health incidents. Moreover, the National Veterinary Accreditation Program (NVAP) within the AHTS program 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 $65 billion in 2016 (National Agricultural Statistics Service, USDA). Knowing where diseased and at-risk animals are located helps preserve animal health; reduce animal illnesses and deaths if outbreaks occur; ensure a rapid response in case of an animal disease event; and decrease the cost to producers, consumers, and the government. Such a system also assures States and our trading partners that USDA is committed and able to rapidly contain an animal disease event. Each year, APHIS provides cooperative

agreement funds to States to help them establish and maintain their own ADT programs. Currently all States receiving program funds have approved ADT strategic plans in place with APHIS.

This program continues to progress toward developing a system that is effective, flexible, and increases the timeliness of retrieving traceability data. In FY 2017, APHIS continued to work with States and industries to increase the volume of electronically generated and stored Interstate Certificates of Veterinary Inspection (ICVI), which are the primary documents used to obtain animal movement information. To strengthen these capabilities, the ADT program submitted IT proposals in FY 2017 that would provide a mechanism for State and Federal animal health officials and accredited veterinarians to gather data electronically from the start of the data collection process instead of keying data or scanning paper records into electronic databases. These proposals describe enhancements of existing mobile solutions, web-based interfaces and a message service that will move data between State and Federal data stores. Providing these tools and services will minimize the burden of manually recording animal information by producers and accredited veterinarians when they ship livestock to other States, while improving efficiencies in data collection, retrieval and sharing process. Electronically gathered and stored ICVIs are easier to search than paper documents and increase the efficiency of animal health officials.

APHIS measures the success of the ADT program by conducting trace tests. The trace tests document a State's ability to properly administer, record, and retrieve documents pertaining to official livestock identification and interstate movement. The Agency has established national baselines for these tracing activities, which animal health officials typically conduct during a disease event. Based on the results of these tests, States/Tribes have improved their ability to retrieve the requested animal identification information, and are now able to do so successfully 94 percent of the time. In addition, States/Tribes have also been able to successfully retrieve the information in a reduced amount of time. Since 2014, time required to find traceability information decreased by an average of 76 percent, from 163 hours to 39 hours.

The emphasis placed on record keeping systems, particularly electronic systems, to retrieve data associated with the performance measures has resulted in a favorable trend demonstrating improved traceability completion time and, for the most part, a greater number of performance measurement objectives successfully completed. It is important to acknowledge that the data used for the national baseline values reflects time to retrieve information prior to the implementation of the ADT program.

In FY 2017, APHIS conducted nine public meetings with industry stakeholders from all sectors of the cattle industry in an effort to define traceability objectives for the future. The purpose of these meetings was to hear industry's experiences with ADT, as well as obtain stakeholder views on longer-term issues such as, what level of traceability should be considered if we are to move beyond the basic traceability framework. APHIS also created a State and Federal ADT Working Group to assist in reviewing the ADT regulation to examine the feedback from the public meetings and written comments submitted, and to provide input based on their experiences with disease traceability issues.

Information Management

APHIS develops new information management systems, while maintaining and improving existing data systems and applications. Many of the APHIS information management systems are available to States and Tribal Nations to support their traceability plans and other animal health activities. The following are examples of how APHIS maintained and improved applications and data systems in FY 2017.

The Surveillance Collaboration Services (SCS) collects cattle and swine program data and provides it to program managers in a standardized format. Federal and State animal health officials working in partnership to collect program specific data, such as bovine tuberculosis test results, support APHIS' animal health surveillance and disease program activities. The data collected through SCS allows States to meet their goals for animal disease prevention, detection, and early response for protection of the national herd. In FY 2017, the program assisted the Cattle Fever Tick Eradication Program's quarantine operations by managing data regarding 133 infested site locations and monitoring data from 310 adjacent quarantine locations.

The Veterinary Services Processing Streamlining (VSPS) system serves to safeguard our nation's animal food supply by enhancing APHIS' ability to track animal and animal product imports, exports, and domestic movements. In FY 2017, the system enhanced all VSPS modules to require users to confirm the accuracy of Personally

Identifiable Information data. The program also made significant changes to Animal Import and Certificate of Veterinary Inspection forms to improve data readability.

The Laboratory Information Management System (LIMS) manages the information related to National Veterinary Services Laboratories (NVSL) diagnostic samples; including submitter/owner, samples, tests, and results. In FY 2017, the program was able to successfully integrate the testing results in LIMS with the diagnostic sample submissions in the National Centers for Animal Health Portal. When samples arrive at NVSL for testing, the data entered by the submitter is now available to import directly into the LIMS.

Modeling

APHIS uses epidemiologic and economic models to improve the understanding of historical events, estimate future consequences, and inform strategic, logistical, and budgetary decisions by evaluating the effectiveness of varying interventions related to animal health. In FY 2017, APHIS continued to develop and update foot-and-mouth disease (FMD), classical swine fever, and avian influenza models for contingency planning, evaluating potential control strategies, estimating potential consequences of disease introduction and spread, and analyzing surveillance and response activities for recent outbreaks. One national model used for FMD disease spread was updated to integrate newly available data to support model vaccination strategies for FMD. This update incorporates a variety of factors such as: airborne spread parameters based on weather station data to identify weather conditions favorable to FMD spread; additional livestock population and movement data; time factors for various control strategies; and, a local spread category to measure disease spread from farms that have been depopulated but have yet to complete disposal of depopulated animals.

In FY 2017, APHIS continued to address challenges by developing models designed to advance our understanding of disease epidemiology for the purposes of emergency preparedness and management. In collaboration with the Agricultural Research Service's Foreign Animal Disease Research Unit, APHIS analyzed experimental data for FMD transmission, persistence, and infection dynamics in order to improve epidemiologic models for disease spread and control. In FY 2017, APHIS collaborated with Colorado State University to analyze shipment patterns of swine in the United States. This analysis compared the relationship between swine shipment information described in veterinary certificate inspection data with swine producer health plan agreements. The shipment patterns from these datasets are used to estimate domestic pathways of disease transmission associated with shipments of swine. In other projects, APHIS developed a framework for modeling disease transmission risk to animal agriculture resulting from transmission pathways between wildlife and domestic species. APHIS also collaborated with Australia on a vector borne disease model to evaluate disease transmission and control strategies.

National Veterinary Accreditation Program (NVAP)

More than 66,000 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 these diseases are suspected. 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 renewal of accreditation provide increased knowledge of animal disease surveillance, prevention, zoonosis, judicious use of antimicrobials, animal welfare, and disaster preparedness. APHIS currently hosts 28 web-based supplemental training modules for accredited veterinarians. Since FY 2011, accredited veterinarians have completed more than 460,000 web modules, with more than 30,000 modules completed at veterinary conferences nationwide. In July 2017, NVAP and Iowa State University's Center for Food Security and Animal health launched opportunities for every stakeholder completing web-based supplemental training modules to obtain no-cost Registry of Continuing Education (RACE)-approved continuing education for renewal of veterinary licenses, veterinary technician licenses, and other purposes. The availability of no-cost continued education has already greatly enhanced the program's outreach through the delivery of key animal health information to previously unreached stakeholders. In FY 2017, only 9,498 (39 percent) of training module use was for NVAP credit, the remaining 14,683 (61 percent) were from users who took advantage of no-cost RACE-approved continuing education. In addition, 1,766 (7 percent) of module use was for RACE-approved education certificates, representing an entirely new category of users of NVAP training material.

2. Aquatic Animal Health

The Aquatic Animal Health program protects the health and value of U.S. farm-raised aquatic animals and natural resources by carrying out activities consistent with the National Aquatic Animal Health Plan (NAAHP), which calls for surveillance and testing of high-consequence aquatic animal diseases. The NAAHP helps the Federal government develop policies and programs to address aquatic animal diseases for the benefit of aquaculture and aquatic animal resources. The USDA, the U.S. Department of Commerce, and the U.S. Department of the Interior implement the plan. This program's efforts position commercial producers in domestic and international trade markets, valued at $1.6 billion in 2016 (USDA Census of Agriculture), and helps the commercial aquaculture industry demonstrate adherence to sound practices for aquatic animal health.

In FY 2017, APHIS continued working with the National Aquaculture Association on the Commercial Aquaculture Health Program Standards (CAHPS). The goal of CAHPS is to support improved health management, protection and expansion of aquaculture business opportunities, promotion and facilitation of trade, and improved resource protection. The CAHPS establishes 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. The CAHPS establishes a non-regulatory framework to improve and verify the health of farm-raised aquatic animals to provide leverage in trade negotiations. The aquaculture industry and State governments use this framework to maintain or enhance their aquatic animal health programs. This effort positions commercial producers in domestic and international trade markets, and helps the aquaculture industry demonstrate adherence to sound aquatic animal health practices. In FYs 2016 and 2017, APHIS participated in three ongoing proof-of-concept projects to evaluate CAHPS principles and determine how CAHPS could best be administered in different aquatic production operations and States. The purpose of a proof-of-concept project is to demonstrate the feasibility of a certain method or to verify that a **concept** or theory has the potential of being used. One project is underway in North Carolina with an indoor tilapia grower cooperative. The other two involve Atlantic salmon cultured in Maine and Washington. APHIS established two additional cooperative agreements in FY 2017 as proof-of-concept CAHPS projects in Idaho with rainbow trout producers and in Florida with a commercial koi carp and goldfish producer.

Infectious salmon anemia virus (ISAV) is a highly infectious disease of Atlantic salmon. APHIS and the State of Maine help Maine producers with ISAV surveillance. There were no positive ISAV findings in FYs 2016 or 2017. In June 2017, APHIS and collaborators completed a year-long survey on the trout and salmon sector to determine regulatory costs and challenges. Investigators have collected the data and are formulating an analysis. Results from this project support the need to harmonize regulations and demonstrate how a nationally-recognized CAHPS program could facilitate this process. This project adds to the economic data collected in FY 2015 for the bait and sport fish sector.

Historically, this program has relied on various institutions for conducting diagnostic testing with limited oversight of testing accuracy. In previous years, however, APHIS has added various aquatic diseases to the National Animal Health Laboratory Network (NAHLN) repertoire of standardized testing. In conjunction with this standardized testing, APHIS developed and administered protocols and proficiency tests for ISAV, spring viremia of carp virus, and viral hemorrhagic septicemia virus. Incorporating these pathogens into the NAHLN has helped standardize aquatic animal pathogen testing and build our Nation's capacity to respond to aquatic animal disease outbreaks, support surveillance, and maintain/expand U.S. export markets and other regulatory purposes that are accessible, timely, accurate, and consistent. Also in FY 2017, APHIS initiated proficiency testing panels for USDA-approved laboratories performing export testing to determine a laboratory's capability to conduct specific diagnostic tests and produce correct results. The Agency delivered these panels to the participating labs in FY 2017.

In FY 2017, APHIS hosted the first fish foreign aquatic animal disease training in Ames, Iowa. Attending veterinary medical officers studied clinical signs of high-consequence fish diseases. In addition, APHIS' National Animal Health Monitoring System (NAHMS) is developing its Aquaculture 2020 study. This study is expected to include production of fish, crustaceans, and mollusks for various end uses. In FY 2017, APHIS completed a pre-assessment survey for Aquaculture 2020.

3. Avian Health

The Avian Health program protects the U.S. poultry industry, valued at $39 billion in 2016 (USDA, National Agricultural Statistics Service), while facilitating agricultural trade in poultry and poultry products. Please note that the industry value represents a 20 percent reduction from the previous year, and was estimated during the historic avian influenza (AI) outbreak. The program consists of the surveillance, prevention, and control of avian diseases; disease threat planning and response; international avian health activities; and modeling 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 being moved or traded. In addition, APHIS uses models to improve the understanding of historical events, estimate consequences, and inform decisions by evaluating the effectiveness of varying interventions. This program has the expertise and infrastructure to work with avian health industries, universities, and State and Federal partners to collect, analyze, and disseminate vital avian health information to those who might take action.

Surveillance, Prevention, and Control of Avian Diseases

To ensure the poultry industry maintains its competitiveness worldwide, it is essential to quickly detect and address endemic, emerging, and foreign disease threats. This can be facilitated by implementing comprehensive surveillance. To quickly detect avian diseases, APHIS conducts surveillance in domestic poultry, live bird marketing systems (LBMS), and wild birds. The objective of this effort is to optimize sampling strategies, while minimizing the costs to achieve surveillance goals. In addition, the Agency helps prevent and/or control the spread of avian diseases through collaboration and education, as well as the regulatory enforcement. These prevention and control activities are designed to quickly diagnose disease, improve biosecurity conditions, and minimize the effects of AI on the LBMS and commercial poultry industry.

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 NPIP has 49 States participating in the AI prevention and control program, with participation from more than 95 percent of commercial broiler, turkey, and egg industries and the entire poultry breeding industry. In addition, it has approximately 100 authorized laboratories with trained technicians approved to provide diagnostic testing. The updated NPIP Program Standards, containing enhanced biosecurity principles, took effect on July 5, 2017, after consideration of public comments received through the *Federal Register*. In addition, APHIS and the NPIP General Conference Committee worked with the poultry industry to develop an audit form with auditing guidelines to reinforce the biosecurity principles and ensure that the auditing language is clear. The Agency used these documents during the official training of the Official State Agencies (OSA) in May 2017. More than 40 OSAs as well as State Veterinarians, poultry industry representatives, and poultry trade organizations attended the training, and there was extensive discussion on how to interpret and audit the principles. Also, regarding training, the NPIP hosted three diagnostic laboratory training workshops in FY 2017 for *Mycoplasma*, *Salmonella*, and AI.

The LBMS consists of U.S. live poultry markets, as well as the poultry distributors and poultry production premises that supply those markets. It is a means of providing fresh poultry meat to consumers. In most cases, live poultry are delivered to LBMS establishments and consumers select the bird(s) of their choice. As of September 30, 2017, 38 States and the U.S. Virgin Islands had live bird markets that participate in the Agency's AI prevention and control program. State cooperators help conduct surveillance and diagnostic activities for the LBMS. When these tests yield presumptive positive results, APHIS confirms the presence of the virus and determine the strain of AI. LBMS testing is vital to preventing and controlling the disease in markets and among production premises and poultry distributors that supply those markets. Since the H5/H7 low pathogenicity avian influenza (LPAI) LBMS prevention and control program began in 2004, the number of LBMS H5 and H7 AI positive premises has decreased steadily. Surveillance in the LBMS remains a high priority. The States and the U.S. Virgin Islands conducted approximately 95,000 surveillance tests in FY 2016; complete data for FY 2017 will be available after the cooperative agreements with States conclude on March 31, 2018. In FY 2017, there were no detections of H5/H7 LPAI in the U.S. LBMs. However, there were nine LPAI detections in backyard poultry.

APHIS conducts surveillance for AI in commercial poultry under the National H5 and H7 LPAI Control Program. Although most of the testing is performed locally, the NVSL provides reagents for testing and performs confirmation and identification testing of presumptive positive specimens. In FY 2016, APHIS performed approximately 1.6 million tests for AI surveillance through the NPIP cooperative agreement allocation; complete data for FY 2017 will be available after the agreements with States conclude on March 31, 2018. From July 1, 2016 - June 30, 2017, there were seven confirmed LPAI detections in commercial poultry in the United States and two detections of highly pathogenic avian influenza (HPAI).

In FY 2017, APHIS coordinated the collection and laboratory analysis of approximately 33,444 wild bird samples. In addition, the Agency collaborated with researchers in Canada and China on HPAI surveillance and at Mississippi State University on AI ecological-genetic studies. National wild bird surveillance in conjunction with on-farm wildlife investigations in Alabama, Georgia, Kentucky, and Tennessee determined that the low pathogenic H7N9 AI viruses infecting poultry were closely associated with a virus detected in wild blue-winged teal sampled in 2016 in Wyoming. APHIS completed AI diagnostics on 514 raptor serum and swab samples and additional confirmatory testing and AI subtyping on a subset of these samples. Additionally, the program collected more than 2,600 serum samples and 790 paired swab samples to test for exposure to Newcastle disease virus, arboviruses and *Salmonella*.

Education and information exchange are important components in the effort to prevent the spread of avian diseases. In February 2017, the LBMS Working Group held its annual business meeting. This meeting involved more than 71 participants representing 30 States, APHIS, State Department of Agriculture representatives, and LBMS industry stakeholders. Participants discussed the program's progress, shared ideas for continued program implementation, and agreed on further advancement of the program. The program held its annual LBMS Continuing Education Training Course in October 2016. A total of 66 participants attended from 23 States, and six international participants attended as well. The course provides veterinary medical officers, animal health technicians, and other regulatory personnel who are involved with the LBMS program with the basic information and skills they need to successfully carry out their responsibilities. Also in FY 2017, APHIS' Biosecurity for Birds campaign continued to educate the backyard poultry community about protecting the health of their birds. In addition, APHIS partnered with CDC to host a webinar and twitter chat during Bird Health Awareness Week in February 2017.

Regulatory enforcement is critical to contain HPAI. To deter the entry of HPAI in FY 2017, APHIS investigated six cases involving avian health issues. In one case, an individual who illegally imported poultry hatching eggs into the United States agreed to a $750 civil penalty. In another case, APHIS conducted a fact-finding investigation involving the import of finch birds from Guyana and educated the importer about the import requirements.

APHIS provides services that support agency and interagency emergency management activities, and protect the health, safety, and security of APHIS personnel. In FY 2017, the APHIS trained 12 employees and fit-tested 800 personnel for respiratory protection for use in responding to an HPAI outbreak. In addition, the Agency maintained and calibrated the 32 fit-testing units to ensure they are consistently available to support fit-testing requirements. APHIS also provided safety and health expertise for a test of poultry depopulation using carbon dioxide foam.

In FY 2017, APHIS also supported the Zoo and Aquariums All Hazards Preparedness, Response, and Recovery (ZAHP) Center in their development of six web-based self-assessment and training modules and workbook for the exotic animal industry. ZAHP's Secure Zoo program models after other APHIS collaborations in the Secure Foods family of industry-driven contingency planning programs. In addition, the ZAHP invited stakeholders to propose projects for funding and facilitation support, which provided insight into facilities' concerns and how they propose to solve them. In 2018, the ZAHP Center will focus on smaller businesses, which are less prepared but potentially have as large an impact to APHIS' regulated community in a foreign animal disease event. Having helped develop plans for foot-and-mouth disease and HPAI response, ZAHP plans to build other foreign animal disease plans to dovetail with other USDA response plans.

Disease Threat Planning and Response

The new U.S. Poultry Primary Breeder AI Compartmentalization program is implementing biosecurity improvements at the primary breeder level. In 2005, the World Organisation for Animal Health (OIE) introduced compartmentalization to protect trade of low-risk poultry in case of an AI or Newcastle disease outbreak. Soon after, the NPIP and its industry partners began developing an AI compartmentalization program for U.S. primary breeders. In 2010, the NPIP adopted the first U.S. compartmentalization program. APHIS published it as a final rule in 2014, and added guidelines to the NPIP program standards in 2016. In January 2017, NPIP trained and

certified eight veterinary medical officers and one licensed, accredited, boarded poultry veterinarian to perform compartment audits. The Agency received its first application to the program in April 2017, and issued the final certification in October 2017. APHIS continues to work toward ensuring the success of the compartmentalization program through acceptance of the U.S. program by trading partners. Also in FY 2017, an APHIS-contracted foam depopulation crew was deployed and conducted the depopulation of infected broiler breeder flocks in Tennessee, all within 24 hours of notification.

International Avian Health Activities

Overseas, APHIS facilitates agricultural trade, works with agricultural officials, monitors agricultural health, and supports efforts in sanitary and phytosanitary standard setting. In addition, the Agency works with the USDA 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 coordinated with the OIE and other international organizations to assist with disease prevention, management, and eradication activities in HPAI-affected regions. In FY 2017, APHIS delivered more than 20 capacity building activities in the areas of biosecurity, poultry disease diagnostics, quality assurance in the laboratory, poultry and wildlife surveillance, and sampling collection. As an example of APHIS activities in this regard, the Agency sponsored the attendance of 17 poultry veterinarians from Botswana, Macedonia, Nigeria, Philippines, Serbia, South Africa, Tanzania, and Uganda for a course that focused on HPAI emergency response. Additionally, APHIS' office in Brasilia hosted 47 attendees from 11 countries, including Argentina, Bolivia, Brazil, Chile, Guyana, Panama, Paraguay, Peru, Suriname, and Uruguay, for a workshop for first responders to an HPAI outbreak. The workshop enhances South America's capability to combat any future HPAI outbreaks and enhances these agricultural safeguarding systems. Assisting other countries in emergency preparedness reduces the risk of the disease spreading from overseas to the United States. In addition, APHIS sponsors and staffs the Crisis Management Center for Animal Health at the Food and Agriculture Organization (FAO) of the United Nations, in Rome, Italy. APHIS provides two full-time veterinarians for this Center, which helps countries respond to and contain animal disease threats. The 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 from becoming widespread and evolving into pandemics. In addition, APHIS ensures that U.S. trading partners adhere to the Sanitary and Phytosanitary rules of the World Trade Organization and other international standard-setting organizations, as the United States and FAO-Rome expand their cooperating relationships and establish new partnerships.

Modeling

APHIS uses modeling to identify efficiency opportunities and facilitate informed decisions. In FY 2016, the Agency purchased data from a company that provides statistical services to customers in the avian industries. APHIS used this data to update the cost estimates in models determining egg layer, turkey, and broiler indemnity values for breeder and meat birds. In addition, the Agency provided an installation package for the Animal Disease Spread Model (ADSM) application, and made available a beta version that enables quick corrections of system flaws. APHIS completed a separate beta version of ADSM with Vaccination Rings and Vaccination Priorities, and piloted ADSM in FY 2017 to aid State-level planning in Kansas for potential HPAI outbreaks. Having vaccination rings and different priorities for species vaccinated in the model allows the program to explore different vaccination implementation strategies during an outbreak. The rings are geographic boundaries for where to apply the vaccine. The ADSM upgrades allow APHIS to place rings of varying sizes around infected farms. The priorities piece of the model allows the Agency to select the order in which they vaccinate species or farm types. APHIS can then test the effect of modifying ring size or prioritization on outbreak size and severity. APHIS' applied work focused on designing modeling scenarios, constructing model configurations, and presenting statistical analysis of outputs for the HPAI/LPAI outbreak in Indiana, as well as follow-up surveillance work. The flat rates APHIS paid producers for on-farm HPAI virus elimination activities after bird depopulation underwent successful application in the Indiana outbreak, as did the application of the outbreak stockpile antiviral and personal protective equipment dashboard for the National Veterinary Stockpile. Finally, APHIS worked with Kansas State University and Colorado State University on export recovery quantity work, which provided additional information for input into models to estimate the economic impact 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, valued at approximately $100 billion (National Agricultural Statistics Service, 2016). 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.

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 a vital responsibility that supports interstate and international commerce by providing assurances about the health of cattle or bison being moved or traded.

In FY 2017, APHIS continued to conduct surveillance for foreign, emerging, and endemic diseases, including bovine tuberculosis (TB), brucellosis, and bovine spongiform encephalopathy (BSE). In addition, the Agency conducted surveillance for disease vectors, such as the cattle fever tick (CFT). 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 continued working with neighboring countries to exclude FMD, new world screwworm (NWS), and other cattle diseases. The following are examples of the Agency's efforts to protect cattle health during FY 2017.

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. 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 at less than 0.001 percent. In FY 2017, 119 Federal and State-inspected slaughter establishments submitted 6,956 samples for program testing. Through these surveillance efforts, the program detected TB in 13 animals: one adult cow from a New Mexico dairy, three adult cows from a South Dakota beef herd, one adult cow from a California dairy, and eight other cases in feeder cattle.

In FY 2017, APHIS identified eight TB affected beef herds in the United States: four in Michigan, three in South Dakota and one in Indiana. APHIS identified two TB affected dairies in the United States, in New Mexico. APHIS uses a mix of depopulation and test-and-removal strategies to address bovine TB-affected herds that considers herd size, potential indemnity costs, State and owner preferences, genetics, and the probability of removing infection. One Michigan herd was depopulated with Federal funds while three are under a test-and-remove protocol. One South Dakota herd was depopulated with Federal funds while two were under test-and-remove protocol. The Indiana herd was under a test-and-remove protocol. The two New Mexico dairies are currently under test-and-remove protocol. The Cattle Health Program has five State bovine TB classifications. A higher prevalence rate results in more restrictive movement requirements. The classifications are, in descending order: 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 FY 2017, 49 States, two Territories (Puerto Rico and the U.S. Virgin Islands), and one zone were TB accredited free.

Bovine brucellosis

Bovine brucellosis is an infectious disease that can cause decreased milk production, weight loss, abortions, infertility, and lameness, and negatively impact the livelihood of cattle producers and the supply of meat and dairy products. Because of the Federal and State brucellosis eradication efforts, all 50 States, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands have been Class-Free since July 2009. Class-Free States with brucellosis in wildlife work with APHIS to implement a State brucellosis management plan (BMP). Each BMP explains 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.

In FY 2017, APHIS tested approximately two million head of cattle under the market cattle identification national slaughter surveillance program. The Agency, in conjunction with the States, also tests cattle and domestic bison on

farms or ranches for movement, private sale, issue of herd certification, and for show or exhibition purposes. In FY 2017, the program tested and vaccinated approximately four million calves and 25,000 adult cattle for brucellosis, and certified approximately 403 herds as brucellosis-free cattle herds (compared to 914 herds in FY 2016). Since many producers no longer have to incur the cost of maintaining annual whole herd testing for certification, the number of certified-free herds varies year to year based on the producers' need for livestock movement. Agency-accredited veterinarians perform most of the vaccinations and the collection of samples, and State laboratories test the samples.

There were several brucellosis infected herds either detected or released from quarantine in FY 2017. In May 2017, Wyoming released a livestock herd from quarantine after completing three rounds of whole-herd testing. Montana detected two new affected livestock herds in FY 2017, and has released one from quarantine. Montana has placed both affected herds under quarantine and has completed one round of whole-herd testing. There is no indication that brucellosis has spread outside the Greater Yellowstone Area. This area is APHIS' main focus for brucellosis in livestock because the disease is endemic there in wild elk and bison.

Bovine spongiform encephalopathy

In FY 2017, the Agency tested 24,229 cattle resulting in 577,495 points, exceeding the World Organization for Animal Health (OIE)'s international surveillance standards (21,429 points per year) by 27 times. APHIS is in the process of adjusting the numbers for the sampling contracts, and the contracts are set for final revision in FY 2018. To prepare for the next solicitation for sampling contracts, program and contracting staff are considering options to reduce the number of sampling contractors while improving the geographic distribution and quality of samples collected. All options considered will continue to exceed the international standards.

Cattle fever tick

Cattle fever is a disease transmitted by ticks that caused losses to the 1906 cattle industry equivalent to more than $3.5 billion in today's dollars. 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, and horseback river trail patrols to capture stray and smuggled Mexican livestock who may carry ticks into the United States. In FY 2017, APHIS conducted 13,817 inspections of individual premises for ticks, including 2,559 river trail patrols. A premise is considered infested when fever ticks have been found on livestock or wildlife that have been on the premises for more than 14 days. In FY 2017, APHIS identified 63 newly infested premises inside the buffer zone, 21 more than in FY 2016. A premise is considered affected when there has been probable cause to investigate a quarantine zone for fever ticks. Probable cause for investigation includes adjacent premises bordering an exposed or infested premises; or premises separated by roads, double fences, or fordable streams. There were 102 newly affected premises at the end of FY 2017 outside the border, 58 more than FY 2016. In addition, 14 of 23 stray cattle captured along the border and 2 of the 12 stray horses/mules were infested with CFT.

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 white-tailed deer and exotic hoofed mammals near the U.S./Mexico border can bring the ticks into the United States. APHIS controls CFT along the quarantine line using a partial tick control barrier fence, livestock movement quarantines, and tick treatments for cattle and deer. To prevent the spread and re-establishment of the tick vectors, the program designated a permanent quarantine area along 500 miles of the Mexican border from the Gulf of Mexico to Del Rio, Texas, and established a cooperative Federal-State program. 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. As a result, in FY 2017, APHIS conducted 143,152 individual animal inspections and 91,181 treatments throughout South Texas. For FY 2017, the quarantine buffer zone and the free area of Texas contained 165 newly quarantined premises, compared to 86 in FY 2016.

In 2014, the Texas Animal Health Commission (TAHC) and the USDA confirmed the presence of CFT on Cameron County premises located outside of the permanent quarantine zone. To protect the premises and animals from exposure to CFT, the TAHC created a temporary preventative quarantine area in Cameron County. Surveillance efforts have been ongoing since the temporary preventative quarantine area went into effect. Additional infested premises were identified outside of the permanent quarantine zone in FY 2017. APHIS spent approximately $660,000 in emergency funding from the Commodity Credit Corporation in FY 2017 to address the additional

infestations and control the spread of CFT. In addition, APHIS continues to work with the TAHC, the Agricultural Research Service, and the industry to evaluate an anti-tick vaccine for cattle within the permanent quarantine buffer zone in South Texas with a plan to expand to a larger population.

Screwworm

APHIS and its cooperators have eradicated screwworm from the United States, Mexico, Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and down to the southern-most portion of Panama. APHIS' international efforts prevent the reestablishment of screwworm in the United States by leading efforts with Colombia, Panama, Mexico, and Central American countries to maintain a biological barrier zone in the Darien Gap, a narrow 102-mile stretch of jungle along the border of Colombia and Panama. The program relies on field operations and a sterile insect technique, a process where APHIS produces and sterilizes insects at a joint facility in Panama and releases them into the wild to mate with wild insects, thereby preventing reproduction. This is a proven method to reduce insect populations. The United States also has access to those 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. In FY 2017, there were 30 positive cases in the barrier zone, a significant reduction over the 64 positive cases the year before. In response to the high level of detections in FY 2016, the program increased epidemiological trace-back and trace-forward investigations of all positive cases and increased the number of field inspectors and inspections at animal movement control stations. Additionally, the program increased animal health education activities and implemented ground releases of sterile flies to supplement the aerial release of sterile insects at focus areas of cases. These activities helped reduce the number of positive cases in FY 2017. The program will continue increased surveillance activities in FY 2018 in the screwworm barrier zone.

In late FY 2016, APHIS confirmed the presence of NWS in Key deer from the National Key Deer Refuge in Big Pine Key, Florida. Subsequent infestations of the disease were confirmed in 12 additional neighboring islands in the Florida Keys, and one confirmed infestation in a dog on the Florida mainland. These detections marked the first local screwworm infestation in the United States in more than 30 years. APHIS partnered with animal health and wildlife officials at the State and Federal levels to eradicate the outbreak within 6 months of the initial detection. Program response efforts included fly trapping to determine the extent of the infestation, release of sterile flies to prevent reproduction, disease surveillance to look for additional cases in animals, and an animal health checkpoint on the road leaving the Keys. The animal health station inspected more than 17,000 animals and closed on March 19, 2017. Sterile fly releases began on October 6, 2016, and continued to April 25, 2017. The program released an estimated 188 million sterile flies in the area. A number of NWS positive domestic and wildlife animals were found detected during disease surveillance activities including: 135 Key deer, 5 dogs, 2 cats, 2 pigs, and 1 raccoon.

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, valued at a combined $100 million in 2016 (National Agricultural Statistics Service). APHIS activities include monitoring and surveillance, investigation and response, and disease prevention and preparedness actions taken when health issues are identified. 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 that cases of diseases of trade concern are reported to the World Organisation for Animal Health. In 2017, the ECSRH Program conducted disease surveillance and/or monitoring for the following diseases: scrapie, bovine tuberculosis (TB), chronic wasting disease (CWD), vesicular stomatitis virus (VSV), contagious equine metritis, Eastern equine encephalitis, Western equine encephalitis, equine herpes virus, equine piroplasmosis, equine infectious anemia, and West Nile virus.

Sheep and Goats

The National Scrapie Eradication Program (NSEP) focuses on improving the health of the national sheep flock and goat herd, relieving sheep and goat producers of scrapie-associated economic losses and increasing international marketing opportunities. Since 2003, the percentage of cull sheep sampled at slaughter that tested positive for classical scrapie has decreased by 100 percent. In FY 2017, APHIS collected samples from 42,030 sheep and goats for scrapie testing. As of September 30, 2017, the percent of cull sheep tested that were found positive at slaughter and adjusted for face color was 0 percent, compared to 0.001 percent in FY 2016. Based on the goats sampled at slaughter since FY 2003 and tested as of September 30, 2017, the prevalence of scrapie in U.S. cull goats is 0.002

percent. With the exception of one goat from a long-standing herd under quarantine, no sheep or goats have tested positive for classical scrapie since April 2016.

In FY 2017, the program depopulated the last known classical scrapie infected herd, and two premises are still under herd plans pending disinfection. Unlike classical scrapie, nonclassical scrapie is either not laterally transmissible or is transmissible at a very low rate and the World Animal Health Organisation and APHIS have determined that it is not a disease of trade concern. In FY 2017, slaughter surveillance detected two nonclassical scrapie cases. The nonclassical scrapie affected flocks will be placed on a 5-year monitoring plans.

The NSEP has a voluntary flock certification component, the Scrapie Free Flock Certification Program (SFCP). Participation in the 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. At the end of FY 2017, 333 flocks were enrolled in the SFCP. Of these, 46 were export certified (scrapie-free), 67 were export monitored (working toward scrapie freedom), and 220 were select monitored (reduced scrapie risk).

Cervids

To aid in the eradication of TB, APHIS provides a voluntary herd accreditation program for captive cervids and requires testing of cervids before interstate movement. In FY 2017, the program tested an estimated 12,588 animals and identified 20 TB suspects. Four of these animals were classified as TB reactors upon follow-up testing. The program necropsied all four reactors without significant findings: two cultures were negative for *Mycobacterium bovis* and the results of the other two cultures are pending.

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 and the program tested 23,053 farmed cervids for CWD. In FY 2017, eight new CWD positive farmed cervid herds were identified– one white-tail deer in Iowa, one white-tail deer herd in Minnesota, one white-tail and mule deer herd in Minnesota, one white-tail and sika deer herd in Michigan, three white-tail deer herds in Pennsylvania, and one white-tail deer herd in Texas. APHIS provided Federal indemnity to depopulate the Iowa herd, the white-tail deer herd in Minnesota, one herd in Pennsylvania and the Texas herd. The State depopulated the Michigan herd. The remaining herds are under State quarantines. One Texas herd used Federal indemnity to remove and test select, high-risk animals to inform the epidemiological investigation and to evaluate the performance of ante-mortem tests. The Agency determines the use of Federal indemnities within the CWD program on a case-by-case basis.

The CWD Program Standards provide guidance on how to meet CWD Herd Certification Program and interstate movement requirements. In July 2016, APHIS convened a working group of State and Federal animal health and wildlife officials and representatives from the farmed cervidae industry to review the CWD Program Standards. APHIS issued a summary of the working group's discussions and recommended changes to the CWD Program Standards at the 2016 United States Animal Health Association meeting for public comment. APHIS evaluated public comments, and is currently reviewing revisions to the CWD Program.

In FY 2017, APHIS published VS Guidance 8000*: Requirements for Interstate Transport of Wild Caught Cervids*. This guidance document establishes a recommended minimum standard for testing and a uniform process of disease risk assessment to help prevent the spread of cervid diseases such as chronic wasting disease (CWD), bovine tuberculosis (TB), and brucellosis when wild cervids are captured for interstate movement and release.

Equines

APHIS protects the equine industry by helping State animal health officials monitor equine diseases that threaten animal and human health. In FY 2017, positive detections identified during routine surveillance for equine infectious anemia, and equine piroplasmosis led to investigations and responses to those diseases in all cases identified. APHIS provided laboratory certification and annual proficiency testing for 443 equine infectious anemia laboratories and approval for 20 equine viral arteritis laboratories, 12 equine piroplasmosis laboratories, and 13 contagious equine metritis laboratories. In addition, APHIS continued surveillance activities in all States for VSV, and assisted in the reporting of equine cases of arboviral diseases (i.e., virus transmitted via mosquitoes or fleas), including Eastern equine encephalitis, Western equine encephalitis and West Nile virus.

6. National Veterinary Stockpile

The National Veterinary Stockpile (NVS) is a component of APHIS' Surveillance Preparedness and Response Services Logistics Center and serves as the primary source of materials, supplies, and equipment for the response to, control of, and containment of significant animal disease outbreaks. NVS has two primary objectives: deploy countermeasures, within 24 hours of approval, against the most damaging animal diseases including highly pathogenic avian influenza, foot-and-mouth disease, exotic Newcastle disease, and classical swine fever; and, assist States, Tribes, and Territories with planning, training, and exercise for the rapid request, receipt, processing, and distribution of NVS countermeasures during an event. In preparation for the response to an incident, the NVS program works with States, Tribes, and Territories to develop their logistical plans, conduct logistical training, and organize full-scale logistical exercises.

In FY 2017, the NVS replenished its supply of classical swine fever vaccine and poultry depopulation equipment. The NVS continuously evaluates on hand supplies and replaces expired inventory such as 24-hour Push Packs. The Push Packs contain personal protective equipment and decontamination supplies that precede other items needed to support an on-going emergency response effort. The NVS program made additional efforts to reconfigure these Push Packs to better support responders at the outset of emergency response operations. Additionally, in FY 2017, the NVS program deployed an approved contractor foam depopulation crew and depopulated infected broiler breeder flocks in Tennessee, all within 24 hours of notification.

The NVS program sought opportunities to lead, coordinate, or support activities with several States in FY 2017. The program focused its activities on State preparedness and conducted them with Kansas, Ohio, West Virginia, Virginia and Tennessee. The NVS personnel facilitated planning and training exercises to identify resource gaps and improve State National Veterinary Stockpile plans. As a result, more Federal, State, Tribe, and Territory officials are better prepared to respond logistically to animal disease outbreaks. In addition to outreach activities, the NVS program partnered with other Agency personnel to conduct training to improve communication, collaboration, and integration during a logistics emergency response. These activities enabled the Agency, as well as participating stakeholders and partners, to refine their preparedness procedures.

7. Swine Health

APHIS' Swine Health Program protects the health and improves the quality, productivity, and economic viability of the swine industry. The 2016 production value of the swine industry was approximately $17 billion (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 various 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 the following surveillance streams: 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.

This comprehensive surveillance approach has enabled APHIS to maintain effective surveillance using a risk-based approach that targets high-risk samples and reduces surveillance costs. In FY 2017, APHIS tested 185,236 samples for pseudorabies virus (PRV), 161,491 for swine brucellosis, 888 for influenza A virus – swine (IAV-S), and 9,504 for classical swine fever (CSF). Of the samples tested for CSF, 5,429 were tested at the Agency's Foreign Animal Disease Diagnostic Laboratory on Plum Island, New York, and 4,075 were tested through the National Animal Health Laboratories Network. This testing continued to confirm that all commercial swine herds were free from swine brucellosis and PRV, and that CSF remains eradicated from the United States. However, swine brucellosis

and PRV continue to be found in non-commercial herds following exposure to feral swine. In FY 2017, two non-commercial herds were identified as PRV test-positive, and seven non-commercial herds were found to be test-positive for swine brucellosis in six States.

In all test-positive cases, APHIS and States investigate and quarantine infected herds, conduct routine testing to determine prevalence in the herd, and perform whole herd depopulation or removal of infected animals through a test-and-removal strategy to eliminate the disease from these herds. These efforts protect commercial herds that may be exposed to infected backyard herds. Because APHIS has eliminated PRV and swine brucellosis from all U.S. commercial swine herds, the Agency continues to modernize the regulatory framework and surveillance activities to reflect a comprehensive, risk-based, and science-based monitoring/swine surveillance program to support trade efforts while reducing the burden on States and producers. In addition, APHIS continued testing swine samples for influenzas submitted to diagnostic laboratories. IAV-S is common in the swine industry, and the Agency conducts tests to help the swine industry by reporting on variation in the virus and determining the types and influenza that affect swine. In FY 2016, APHIS performed 289 investigations in swine for foreign animal diseases (FAD), and all were negative. Complete FY 2017 data to be available in January 2018. In addition, APHIS implemented a modified surveillance process for the sow-boar slaughter surveillance program for PRV and swine brucellosis. This revised process will continue to maintain stakeholder assurance that the U.S. commercial swine herd is free of PRV while improving early detection of these diseases in higher risk herds.

APHIS has the responsibility under the Swine Health Protection Act to license and inspect swine production facilities that feed cooked garbage to swine, and to conduct searches for unlicensed facilities that may feed raw garbage to swine. This practice could transmit infectious diseases such as African swine fever, FMD, or CSF to swine. In FY 2016, APHIS supported 6,161 inspections of licensed premises and 21,614 searches for non-licensed facilities. Through these searches, the Agency identified 114 non-licensed feeders. APHIS worked with States to either bring these facilities into compliance or force them to cease their illegal activities. Complete FY 2017 data will be available in January 2018, once States report it under the terms of their cooperative agreements. By ensuring that food waste fed to swine does not threaten domestic swine, APHIS protects the commerce, health, and welfare of U.S. citizens.

In FY 2017, public health officials reported 64 human variant influenza cases linked to swine exposure in multiple States. State public health and animal health officials, with support from APHIS and the Centers for Disease Control and Prevention, investigated all outbreaks. The Agency offers helps States and industry identify the isolates from the swine associated with these outbreaks, if warranted. Joint animal health and public health investigations support the One Health concept and strengthen APHIS's ability to respond when both animal and human health might be compromised. Genetic sequences from these samples and other swine isolates are entered into GenBank. GenBank is a publicly accessible genomic database that provides the scientific community with updated, comprehensive DNA sequence information to support diagnostic test and vaccine development. Swine can harbor several zoonotic disease agents, such as IAV-S, swine brucellosis, and trichinellosis. In FY 2017, APHIS continued working with the swine industry to further evaluate the development of a negligible risk compartment for trichinella. Establishment of a negligible risk compartment will allow the U.S. pork industry to access and protect international markets for fresh pork without need for other mitigations such as individual carcass testing or freezing.

In FY 2017, APHIS supported multiple special projects to advance scientific knowledge, situational awareness, rapid disease detection, advance information technology to support comprehensive surveillance and to advance diagnostic tests that are critical to the Agency's ability to respond to swine and human health events. Specifically, APHIS and industry stakeholders began validating tests for use of oral fluids in swine FAD diagnostics.

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. 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 product, 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, available for U.S. export markets, and also plays an essential role in protecting animal health and agriculture.

Licensed Products and Inspections

APHIS licenses and inspects facilities to ensure that all veterinary biological products produced and distributed in, 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 veterinary biologics, farmers and animal health officials found products to be ineffective or contaminated with harmful diseases, including foreign animal diseases (FADs). 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, decreased the amount of information required under specific circumstances and implemented electronic submissions for the majority of required regulatory submissions.

In FY 2017, APHIS received 186 applications for new and renewal licenses/permits, and issued 48 licenses/permits for the prevention, diagnosis, management, or cure of existing or new/emerging animal diseases. In addition, the Agency licensed 93 manufacturers and permittees for approximately 1,745 active veterinary biological product licenses/permits for the control of 223 animal diseases. These products are critical for protecting American agriculture, facilitating trade, and enhancing agricultural economic opportunities.

In FY 2017, APHIS began implementing the single-tier labeling rule in regards to veterinary biologics. Under this rule, the product's efficacy descriptions changed from a system that reflected any of four levels of effectiveness to a single, uniform label claim. This simpler format better communicates product performance, saves time and money for the manufacturer, and makes U.S. labeling more consistent with other products in international markets.

APHIS' National Centers for Animal Health (NCAH) Portal allows real-time communication and data exchange between APHIS and biologics manufacturers, eliminating the time and costs of deliveries. By the end of FY 2017, 72 percent of licensed firms were using the NCAH Portal. This resulted in the Center of Veterinary Biologics receiving 95 percent of marketing documents, 93 percent of biographical summaries, 64 percent of licensing correspondence, and 32 percent of inspection and compliance correspondence via the NCAH Portal.

The United States and foreign countries require import and export certificates to certify that products are prepared in accordance with the Virus-Serum-Toxin Act. In FY 2017, APHIS reviewed/processed 2,460 Certificates of Licensing and Inspection, and reviewed/processed 1,091 export certificates for veterinary biological products. The Agency processed all export certificates within 4 days, and all certificates of licensing and inspection within 28 days. Timely processing helps ensure that markets are accessible for manufacturers who export their product. APHIS also helped ensure there were no FAD events related to the importation of 129 million biologics products.

APHIS annually inspects an average of at least 50 biologics sites to assure compliance. More than 99 percent of the unlicensed entities investigated either move towards licensure of the product in question or cease the objectionable activity. This program has the expertise and infrastructure to work with animal health industries, universities, and State and Federal partners to collect, analyze, and disseminate vital animal health information to those who might take action.

APHIS inspects manufacturing facilities to ensure that they produce biologics according to regulations. In FY 2017, APHIS conducted 66 on-site inspections, 12 percent of which supported a new establishment/facility or product license for the industry. Licensed veterinary biologics are vital since they can be used to manufacture products to diagnose, prevent, or treat animal diseases, or improve existing biologics. Also in FY 2017, APHIS performed 128 regulatory actions, issued 49 violation notices, and conducted 23 investigations of possible regulation violations. In addition, the Agency received 266 adverse event reports regarding veterinary biological products. These events, which may or may not be caused by the product, occur after the product is used. APHIS gathers this information to better learn how products are used in field conditions and applied to the evaluation process to assure that pure, safe, potent, and efficacious products are available.

Collaborative Efforts

In FY 2017, APHIS provided expertise and training at a joint Institute for International Cooperation in Animal Biologics education program. The program was made available to domestic and international attendees to educate industry personnel and foreign officials on U.S. regulatory processes. There were 168 registrants including 38 international attendees from 20 countries. 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. APHIS also participated in harmonization efforts with major trading partners including Japan and the European Union through the International Cooperation on Harmonisation 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.

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 NVSL, which consists of laboratories in Ames, Iowa, and at Plum Island, New York. The NVSL is recognized by the World Organisation for Animal Health and the Food and Agriculture Organization as an international reference laboratory for significant animal diseases such as HPAI and FMD. The NVSL 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). This 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 during outbreaks.

NVSL

Diagnostic testing and confirmation of surveillance samples improves the security of the nation's livestock. In addition, NVSL is often on the forefront of emerging and re-emerging diseases including porcine epidemic diarrhea, Seneca Valley A virus (Senecavirus A), bluetongue, and West Nile virus. In FY 2017, the NVSL managed more than 488,500 diagnostic tests and approximately 43,100 accessions (one or more diagnostic samples received from the same submitter on the same day). In late FY 2017, NVSL launched an electronic submission format through a web-based portal. The portal is currently available for the VS10-4, the most common submission form; NVSL will expand the portal for additional submission form types in FY 2018. In addition, the laboratories produced and provided more than 110,650 reagents representing more than 600 different types of products used in veterinary diagnostic testing. Many of these products are only available to stakeholders through APHIS. In support of diagnostic testing as well as the development of vaccines for use in the prevention of animal diseases, NVSL produced more than 550,000 milliliters of cell culture material, representing a broad spectrum of 31 cell culture lines. The Agency also validated new test methods and platforms, and provided training and assistance to domestic and international laboratories.

In FY 2017, NVSL conducted 2,027 diagnostic accessions or tests to support FAD investigations and also supported international capacity building and collaborative activities in Brazil, Canada, Ethiopia, Eritrea, Hong Kong, Mexico, Nigeria, Panama, Peru, Uganda, and Spain. Since 2014, APHIS has experienced a seven fold increase in the number of investigations largely due to the emergence of Senecavirus A (SVA). SVA is an infectious but non-fatal disease that primarily affects pigs. Because SVA symptoms mimic FMD, APHIS must provide a diagnosis to rule out FMD in each investigation. The program received and tested 11,902 classical swine fever (CSF) surveillance samples in FY 2017. Of this total, 7,827 were tested at NVSL and 4,075 were tested at NAHLN laboratories.

APHIS conducts proficiency testing of Federal, State, and university-sponsored laboratories 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 2017, APHIS provided 32 types of proficiency panels 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.

NAHLN

The Veterinary Diagnostics appropriation also provides support for limited infrastructure in NAHLN laboratories; NAHLN program staff and infrastructure costs; 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 labs use to maintain qualifications for participating in the network. The NAHLN serves as a vital early warning system for foreign and emerging animal diseases. The NVSL trains NAHLN laboratory personnel to ensure proficiency and standardization for performing diagnostic tests.

In FY 2017, the network laboratories performed approximately 131,500 diagnostic tests to support APHIS' animal health surveillance and response programs for NAHLN scope diseases. This number is lower than FY 2016, due to fewer outbreaks in FY 2017, requiring response testing. Surveillance numbers for FY 2017 are similar to those recorded for FY 2016. The NAHLN program staff conduct exercises to prepare participating laboratories for animal disease outbreak scenarios; this enables the laboratories to remain proficient in animal disease testing. It also enables them to generate a rapid, local preliminary diagnostic result while confirmatory testing is performed at the NVSL. In FY 2017, NAHLN laboratories continued to support response to avian influenza outbreaks, including a highly pathogenic avian influenza/low pathogenic avian influenza outbreak in turkeys in the Southeast United States where NAHLN laboratories in Alabama, Georgia, Kentucky, and Tennessee were activated. As of the end of FY 2017, 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 potentially zoonotic diseases such as FMD, influenza in avian and swine species, bovine spongiform encephalopathy, and classical swine fever. The program has made it a priority to increase the number of NAHLN laboratories that are capable of electronically messaging test result data to APHIS. In FY 2017, 31 laboratories were capable, and APHIS projects that number will increase to 35 in FY 2018, and 38 in FY 2019.

APHIS has established various communication mechanisms that enable the NAHLN coordination office to efficiently exchange information between and among member laboratories, and State and Federal officials. One method for gathering input on the function of the network includes the NAHLN Coordinating Council, which is comprised of NAHLN laboratory directors, State animal health officials, and officials from APHIS and the National Institutes of Food and Agriculture. This Council developed a concept paper in 2014 that recommended a new structure of the NAHLN. This new structure was implemented in 2016, and continued to be successful in FY 2017. Three NAHLN laboratories were able to increase their status to Level 1, raising the number of Level 1 laboratories from 11 in FY 2016, to 14 in FY 2017. The laboratory designation system reflects different levels of capabilities for surveillance, preparedness, and emergency response preparation. A NAHLN laboratory designated as Levels 1, 2, and 3 receives infrastructure support from USDA, and also conducts fee-for-service testing for USDA. The NAHLN Coordinating Council re-evaluated criteria for each of the Level designations in FY 2017, and electronic messaging will be a priority in the assessment for FY 2018 designation. To maintain a NAHLN laboratory designation, qualifying laboratories must undergo annual reviews to demonstrate adherence to established NAHLN policies and procedures, and adjust levels accordingly. An Executive Committee comprised of USDA staff will continue to review and implement the NAHLN strategic and operational plans, and the Coordinating Council will continue to provide a forum to discuss the NAHLN's needs.

National Bio and Agro-Defense Facility (NBAF)

Also in FY 2017, APHIS continued to work with the Department of Homeland Security and USDA's Agricultural Research Service to plan for a transition from the aging Plum Island Animal Disease Center (PIADC) at Orient Point, New York, to the state-of-the-art NBAF currently being built in Manhattan, Kansas. The PIADC, home to the Foreign Animal Disease Diagnostic Laboratory (FADDL), is the only U.S. laboratory that is permitted to work with FMD. FADDL also is the custodian of the North American FMD Vaccine Bank. The NBAF will be a key national asset to protect the U.S. animal agriculture industry. In FY 2017, APHIS began developing a workforce plan for subject matter experts in foreign, emerging, and zoonotic diseases to conduct diagnostics in preparation for the NBAF transition. The Agency anticipates a significant loss of expertise in this area, and the workforce development program will help preserve and transfer the U.S. FAD diagnostic institutional knowledge to the NBAF. While we 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 expertise. Subject matter experts must complete this work for specific diseases.

To support NBAF planning and the upcoming transition to the new facility, NVSL FADDL personnel participated in three of the four primary working groups for NBAF in FY 2017, including the Facility Advisory Team (FAT), the Operational Planning Cell (OPC), and Partnership Development. The FAT is in the process of developing standard operating procedures using input from NVSL to facilitate the transfer of ISO 17025 accreditation from PIADC to NBAF. The OPC is a subset of the larger Operational Planning Working Group to facilitate decisions on the operations of NBAF through the creation of operational documents. Pertinent updates include initiating discussions with the Select Agent Program in preparation for obtaining formal select agent approval for the new facility, combined with a stepwise timeline developed to work toward such approval. DHS awarded the Operational Planning and Information Technology Contract (OPTIC) in early 2017, and the OPC, together with OPTIC, has already completed the draft request for proposals for the contract for the Management, Operations and Research Support that DHS will award in 2018. The OPC, along with OPTIC, has also completed the NBAF Operational Manual, a living document that outlines the ideal operations of the NBAF. APHIS has also identified personnel to serve on the PIADC Closure and Conveyance Sub-Working Groups, including the Biological, Records, Personal Property, and IT sub-working groups. Planning efforts will continue until the facility is online and fully operational. The transition will take place over several years, finishing in 2023.

10. Zoonotic Disease Management

The Zoonotic Disease Management Program enhances State, national, and international collaborative efforts to promote healthy animals, people, and ecosystems by addressing diseases which pass between animals and people. This integrated approach is known as "One Health."

According to the U.S. Centers for Disease Control and Prevention (CDC) and the World Animal Health Organization (OIE), 60 percent of human pathogens are zoonotic; 75 percent of emerging diseases are zoonotic (including ebola, zika, MERS, and SARS); 80 percent of agents having a potential bioterrorist use are zoonotic pathogens; and nearly all new human diseases originate from animal reservoirs. These statistics support the value of a One Health approach. APHIS provides national leadership in addressing the animal health component of the One Health approach by contributing 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 collaboratively develops strategies, policies, and training to help animal health 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 directly benefits animal health and marketability.

Zoonotic Disease Engagement, Investigation, and Response

APHIS works with international, national, State, and industry partners to address zoonotic diseases, such as *Salmonella* and variant influenza. *Salmonella* bacteria causes an estimated 1.2 million human illnesses, 19,000 hospitalizations, and 370 deaths annually in the United States. In addition, a 2011 study CDC conducted estimated 11 percent of human *Salmonella* infections are attributed to animal exposure annually. In FY 2017, APHIS collaborated with CDC and State Departments of Public and Animal Health to investigate outbreaks of human *Salmonella* infections linked to contact with live poultry, especially chicks and ducklings obtained through mail order. APHIS worked with public health, veterinary, and agriculture officials in 48 States to investigate eight *Salmonella* outbreaks associated with live poultry. To help combat these outbreaks, a multi-partner approach was required to identify and implement targeted interventions and educational efforts at all levels of the complex poultry mail-order system. APHIS provided epidemiologic and laboratory support to CDC outbreak investigations, and reviewed educational and outreach materials directed to the consumer, backyard flock owner, feed stores, and State/local hatcheries. APHIS continues to assist this segment of the industry through a voluntary poultry monitoring program and publication of best management practices.

While most influenza A viruses of swine do not cause disease in humans, there are some that can be transmitted to humans. Influenza viruses that normally circulate in pigs are called "variant" viruses when they are found in people, such as H1N2 and H3N2. Because of its complex ecology and risk of interspecies transmission, influenza requires a One Health approach. In 2017, a total of 18 human infections with the H1N2 virus were identified. APHIS continues to work with CDC, State public and animal health officials, and academia to investigate these detections and provide diagnostic results. APHIS and State laboratories rapidly share diagnostic sequence findings.

Antimicrobial Resistance

Antimicrobial resistance (AMR) also requires a One Health approach involving multidisciplinary coordination from the public health and animal health sectors. APHIS works with State and Federal partners, veterinarians, and producers to promote the judicious use of antimicrobials, which will support a strong, healthy, and thriving U.S. animal agriculture system as well as public health. APHIS also applies a One Health approach to work collaboratively with State Departments of Agriculture, diagnostic laboratories, and public health officials to address AMR infections in humans that have been found to have an animal component.

In FY 2017, APHIS continued to work with other USDA agencies to develop practical mitigation strategies to reduce AMR prevalence. This strategy covers a broad array of efforts to address AMR in human and animal health, including AMR surveillance 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 consulted with the Food and Drug Administration (FDA) to develop approaches to measuring the use of antimicrobial drugs in food producing animals in part to assess the impacts of FDA guidance implemented in FY 2017. APHIS also collaborated with animal agriculture industries in the development of these approaches. APHIS provided updates on activities to partner agencies to measure progress in completing activities included in the National Action Plan for Combating Antimicrobial Resistance, and participating in efforts to revise the reporting mechanisms for the National Antimicrobial Resistance Monitoring System to facilitate the timely reporting of AMR data to a broad community of stakeholders. In addition, the National Animal Health Laboratory Network, in conjunction with FDA and other organizations, developed a pilot plan for collecting antimicrobial susceptibility data from veterinary diagnostic laboratories.

APHIS participated in several international AMR activities as well. APHIS provided comments on chapters of the OIE Terrestrial Animal Health Code related to AMR. APHIS and FDA provided input to the OIE ad hoc group developing a global database on antimicrobial drug use.

APHIS continued collaborations with national and international partners in combating AMR. APHIS participated in the Transatlantic Task Force on Antimicrobial Resistance, sharing information between the U.S. and European Union on animal health initiatives. APHIS continues to review AMR related statements and positions promulgated by stakeholders and other governmental and nongovernmental agencies that may have implications for animal agriculture.

Pandemic and Animal Disease Preparedness

APHIS participated in and provided animal health subject matter expertise to the North American Plan for Animal and Pandemic Influenza, which strengthens trilateral preparedness and response capabilities for human and animal health in Mexico, Canada, and the United States. In FY 2017, APHIS collaborated in cross sector meetings and conference calls to discuss methods to improve data sharing and emergency and risk communications.

APHIS works to strengthen emergency preparedness and response to avian influenza and other zoonotic diseases using a multisector approach. APHIS, with animal and public health officials from the CDC and State level, identified ways to use a risk-based approach to influenza like illness monitoring and the reasons for delays in exchange of information, with the goal of increasing efficiency and effectiveness of health monitoring for avian responders. During 2017, APHIS also worked with States to update their emergency response plans, resulting in a stronger multisector approach for future outbreaks.

APHIS uses the One Health Systems Mapping and Analysis Resource Toolkit (OH-SMART) when conducting workshops with State and industry participants. OH-SMART is built on business process improvement methods, and leads participants through a practical, operational review of existing Agency processes for communication, joint investigation, and response. The training workshop resulted in identifying the need for a standardized process for investigating Q Fever outbreaks, and for clarifying APHIS policy on engagement in One Health responses. APHIS will implement these improvements in FY 2018.

Global Health Security

The Global Health Security Agenda (GHSA) is a growing partnership of over 50 nations, international organizations, and non-governmental stakeholders to help build countries' capacity to help create a world safe and

secure from infectious disease threats and elevate global health security as a national and global priority. Effective coordination and collaboration across all levels of the human, livestock, security/defense, foreign affairs, environment and wildlife health sectors are vital to accomplish the GHSA vision. In support of the GHSA, APHIS works with Federal partners to protect the United States from infectious animal disease threats.

APHIS coordinates USDA efforts related to antimicrobial resistance, zoonotic disease, biosafety and biosecurity, national laboratory systems, real time surveillance, and workforce development, ensuring interagency collaboration and communication in addition to interfacing with other U.S. government agencies. APHIS works with other U.S. government agencies to strengthen the areas that were identified as having less than sustainable capacity, including the coordination and collaboration necessary for an effective One Health response to a disease outbreak.

The major accomplishment of GHSA is the development of a voluntary country evaluation process that assesses a country's ability to prevent, detect, and respond to infectious disease threats. In FY 2017, APHIS worked with the Department of Health and Human Services to add in animal health and One Health components to the evaluation process. The success of the GHSA external country assessments led to its adoption as the official global evaluation process. In FY 2017, nearly one third of all countries in the world have volunteered for this evaluation.

Selected Examples of Recent Progress - Plant Health:

1. Agricultural Quarantine Inspection

Through the Agricultural Quarantine Inspection (AQI) program, APHIS and the Department of Homeland Security's (DHS) Bureau of Customs and Border Protection (CBP) safeguard U.S. agricultural and natural resources from the introduction of invasive pests and diseases. To exclude foreign pests and diseases, APHIS assesses the risks associated with international trade and specific imported agricultural products and develops import regulations to protect agricultural health. In addition, the Agency conducts off-shore pest risk reduction activities including pre-departure inspections of passenger baggage and cargo destined for the continental United States from Hawaii and Puerto Rico and 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 where necessary to mitigate pest risks; conducts trade compliance activities to detect potential 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 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. Because of the high volume of travelers from these islands to the continental United States, along with the risks associated with numerous fruits, vegetables, and animal products associated with these areas, APHIS inspects all passenger baggage leaving these islands. 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 costly 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 for shipment to the continental United States.

In addition to the appropriated funding, 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. APHIS inspectors oversee the preclearance of commodities by inspection or treatment, or by monitoring systems approaches for pest mitigation, and managing trust fund agreements with the exporting country and exporter or exporter groups fund these activities. Trust funds cover all costs that APHIS inspectors incur when they are engaged in preclearance activities. In most cases, exporters of the pre-cleared commodity cover the costs of this APHIS service.

Cooperative Program Management

APHIS works with CBP to protect America's agricultural resources and food supply through inspecting international passenger baggage, cargo, and conveyances. APHIS and CBP share management of the program through working groups and close day-to-day collaboration. Senior leadership of both Agencies meet frequently to develop joint plans and coordinate their efforts in priority areas of enhancing security, clear and balanced decision-making, streamlining effective outreach and communication, and improving organizational structure and leadership to support the shared work in the agriculture safeguarding mission. APHIS and CBP improved communication at ports of entry through data system integration improvements, which facilitated the processing of over 1,800 diagnostic requests of potential pests or diseases and responses for 1,100 notifications requiring mitigation to reduce pest risks on incoming cargo. In calendar year 2017, APHIS and CBP conducted quality assurance port reviews at 13 air and maritime ports in the United States. These reviews ensure that agricultural regulations and inspection policies are implemented consistently across the country. They also help identify potential issues or training needs at specific locations. APHIS and CBP are working to develop a Risk Based Sampling (RBS) cargo inspection initiative to target higher risk plant pests potentially entering the country and utilize current inspection resources more efficiently. APHIS also trained 96 new CBP agriculture specialists and also conducted basic agricultural threat training for 768 first-line CBP officers and provided agriculture fundamentals training for 44 CBP import specialists. Additionally, APHIS trained 33 canine teams, 52 Agriculture Field Trainers, and 28 Agriculture Canine Team Supervisors for CBP.

Pre-Clearance Inspections

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. APHIS conducts commodity pre-clearance programs in 25 countries with 65 commodities to reduce the pressure on our domestic safeguarding system. Additionally, this offshore work, which importers fully fund, allows inspected, pre-cleared perishable products to enter through U.S. ports of entry without plant health inspection-related delays. In FY 2017, APHIS pre-cleared approximately 68 million boxes of fruit and other products, an increase of 7 million boxes over FY 2016.

APHIS also works with the U.S. Department of Defense (DOD) to inspect, and expedite the entry, of military passenger baggage, cargo, personal property and heavy equipment returning to the United States, helping prevent the unintentional movement of foreign animal and plant pests and diseases. In FY 2017, APHIS recertified 102 military agriculture pre-clearance programs for DOD's European Command (which includes Europe and Africa). These pre-clearance programs resulted in the successful clearance of 24,278 household goods shipments, 13,170 unaccompanied baggage shipments, 16,224 privately owned vehicles, and 717,539 pieces of military cargo, including equipment, rolling stock, track vehicles, and munitions into the United States. Designated APHIS personnel delivered agricultural preclearance training and certification to military personnel, Stateside and in locations in the Middle East, Central Asia, Europe, South America, and Africa. In FY 2017, APHIS trained more than 1,500 DOD Central Command personnel in the United States deploying to missions overseas.

Offshore Risk Reduction

To help protect U.S. plant health from pests that could move into our country with high-demand, large volume commodity imports, APHIS conducts certain inspections and certifications overseas to verify that treatment or production facilities meet our standards and regulatory requirements. In FY 2017, APHIS inspected and certified 3 niger seed heat treatment facilities and 14 *Pelargonium* (geranium) production facilities. Niger seed, mainly used for bird seed, is produced in Asia and Africa. While niger seed is not a noxious weed, shipments of the seed may be contaminated with noxious weed seeds and imported shipments must be treated to prevent the noxious weed seeds from germinating. The genus *Pelargonium* includes popular geranium plants, which can carry serious plant diseases. Geranium plants are a host for *Ralstonia solanacearum* race 3 biovar 2, which the Agricultural Bioterrorism Protection Act of 2002, listed as a select agent due to its severe threat to plant health. The pathogen causes Southern wilt of geranium, brown rot of potato, and bacterial wilt of tomato and eggplant—commercially important crops in the United States. By ensuring that these offshore geranium production facilities meet or exceed minimum production and sanitation standards, APHIS safeguards American agriculture by mitigating the risk of *R. solanacearum* before geranium cuttings reach our shores. APHIS and the nursery industry have successfully worked together on this program for many years. Additional offshore certification programs are underway for tomato plantlets from Mexico, orchids from Taiwan, and irradiated mangoes and litchis from Australia. These programs allow for the import of desirable products into the United States while mitigating the pest risks.

Pre-Departure Inspections

APHIS inspected the baggage of approximately 12.9 million passengers before they left Hawaii and Puerto Rico and intercepted 302,366 prohibited items and 5,295 quarantine-significant pests in FY 2017. APHIS evaluates the effectiveness of its pre-departure program by measuring the percentage of passengers destined for the continental United States from Hawaii and Puerto Rico that comply with agriculture quarantine regulations. In FY 2017, more than 97 percent of passengers were in compliance (calculated by determining how many passengers are carrying prohibited items through random sampling and comparing it to the actual number of prohibited items intercepted through inspections). To facilitate interstate trade between Hawaii and Puerto Rico and the continental United States, APHIS conducts commodity certification and inspection programs. In FY 2017, the program conducted 82,044 inspections of regulated agricultural commodities shipped from Hawaii and approximately 14,387 inspections of regulated agricultural commodities shipped from Puerto Rico. In addition, the program oversaw or conducted 4,444 cargo treatments in Hawaii and 2,611 cargo treatments in Puerto Rico. APHIS continues to conduct methods development activities that expand the treatments available to allow additional fruits and vegetables to be shipped from these islands to the continental United States.

Port-of-Entry Inspections and Pest Interceptions

In FY 2017, more than 181 million passengers and pedestrians entered the United States by air, bus, ship, train, or on foot. CBP agriculture specialists inspected the baggage of 20.2 million of these travelers for agricultural risks through manual inspection, x-ray technology, or detector dogs. Also in FY 2017, the program conducted secondary agricultural inspections of 563,110 of the 91 million passenger vehicles entering the United States from Canada and Mexico. Inspectors also cleared 30,385 ships and 1.2 million cargo, mail, and express carrier shipments, intercepting 89,232 pests. Of the travelers inspected, the Agency found approximately 96.5 percent of international air passengers, 97.3 percent of southern border vehicles, and 92.7 percent of northern border vehicles to be in compliance with agriculture quarantine regulations.

Plant Inspection Stations

Importations of nursery stock, and other propagative plant materials, can serve as significant pathways for invasive pests and diseases. To reduce the risks associated with such imports, APHIS requires that certain imported plant materials enter the United States through plant inspection stations, which are located at ports of entry throughout the country at major international airports and seaports, and at major crossings along the U.S.-Mexican border. 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 FY 2017, inspectors cleared more than 17,132 imported shipments containing over 1.61 billion plant units (cuttings, whole plants, or other propagative materials) and approximately 1.7 million kilograms of seeds. Through these inspections, APHIS employees intercepted 817 quarantine significant pests at the plant inspection stations. In addition, the stations conducted 308 treatments remediating pests on more than 5 million plant units and 75 thousand 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 FY 2017, PGQP released from quarantine 43 bamboo clones, 16 grass clones, 18 kiwis, 264 oak seedlings, 67 pome fruits, 76 potato clones, 17 potato true seed lots, 107 rice seed lots, 11 sorghum seed lots, 44 stone fruit clones, 203 stone fruit seedlings, 13 sugarcane clones, 9 sweet potatoes, and 10 woody ornamentals. Twenty-five of the 76 potato clones, 25 of the 44 stone fruit clones, all 13 sugarcane clones, 6 of the 9 sweet potatoes, and 39 of the 67 pome clones released this year resulted from therapy performed on the infected imported plants. New crops imported in FY 2017, included oak seedlings, chrysanthemum cuttings, and Tilia trees. Notable shipments included 107 rice seed lots to Mississippi, 108 Prunus seedlings to the ARS Prunus Repository in California, and 11 Australian sorghum seed lots to Georgia. These high-risk crops are prohibited entry 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. This year the program took steps to prepare to utilize next generation sequencing (NGS) technology at PGQP. They purchased advanced computing technology and other NGS processing

equipment, recruited personnel with experience in NGS, and benchmarked other labs that utilize NGS in preparation to implement NGS technology in routine lab operations in 2018.

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., they are exotic and could pose a significant threat to U.S. plant health, therefore they are regulated by APHIS as a result) and if the program can allow the cargo entry into the United States (and what, if any, mitigation measures would be required). In FY 2017, APHIS National Identification Services processed and identified 143,411 pests, with 71,158 being quarantine significant pests. To reduce the pests that CBP must submit to APHIS for identification, APHIS and CBP established the Cargo Release Authority (CRA) program in 2006. 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 release the cargo if the organism is not a quarantine significant pest. CRA is granted after the agriculture inspector has successfully identified a particular pest a certain number of times and submitted documentation to APHIS. In Fiscal Year 2017, a total of 136 CBP Agriculture Specialists earned 1,757 CRA's (i.e. each officer earned CRA over an average of eight pests). Since the inception of the CRA program, APHIS has provided CRA training to 1,798 CBP Agriculture Specialists and granted a total of 14,696 CRA's to CBP Agriculture Specialists.

Risk Analysis

APHIS' Plant Epidemiology and Risk Analysis Laboratory (PERAL) develops pest risk analyses and epidemiological approaches to pest exclusion. In FY 2017, PERAL personnel completed 250 risk analyses associated with imports, exports, invasive pest threats, and programmatic requirements. This total includes 49 analyses to open, expand, or maintain export markets for U.S. producers. The laboratory's work also included evaluations of 202 new or exotic pests for potential risk to U.S. agriculture, 23 risk analyses, and 5 pest lists for import requests from foreign countries. These pest risks analyses and pest lists identify potentially harmful plant pests and diseases that need to be mitigated before APHIS would allow the imported products in the United States.

Smuggling Interdiction and Trade Compliance (SITC)

SITC's core responsibility is to analyze, identify, and close potential smuggling pathways into U.S. commerce. SITC uses a multi-pronged approach that focuses on traces for non-compliant import materials, coordinating with investigative organizations across USDA and CBP, and extensive outreach to industry to increase compliance with APHIS' regulatory requirements. SITC works closely with CBP to identify and target potential agricultural risks at the ports of entry before they enter U.S. commerce and pose a threat to U.S. agriculture. In coordination with CBP, APHIS conducted 13 port-of-entry operations that focused on specific pathways, prohibited commodities, and higher risk countries of origin.

Highlights of APHIS' compliance efforts for FY 2017 are as follows. APHIS seized 1,040 prohibited agricultural items in retail commercial locations, 371 items from internet sales, and 936 from express shipment courier inspections valued at over $554,000 in prohibited products prevented from entering U.S. commerce. SITC also issued 80 Letters of Information to communicate and educate entities in first-time instances of noncompliance with APHIS regulations and requirements. APHIS conducted 24 national recalls to remove high-risk products and eliminate dangerous and costly invasive pests that pose a threat to U.S. agriculture. Examples of recalled materials include: untreated whole lentils, which pose a risk for seed beetles; cucurbit seeds which pose a risk for khapra beetle; decorative objects made of wheat from China, which pose risk of exotic wheat diseases; and unprocessed millet which poses risks for grain diseases. APHIS continues to focus on closing illegal pathways for high-risk agriculture goods in order to safeguard over 2 million farms and high value agriculture industries operating in the United States.

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 2,300 Authorized Certification Officials at the Federal, State, and county levels can access countries' certification requirements on-line 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, which 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 FY 2017, APHIS collected $19 million for certificates the Agency issues and remitted more than $20 million to State and County cooperators for certificates they issued. Currently, 33 States and 31 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 to begin exchanging phytosanitary certificates electronically. APHIS recently 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 election document exchange that eliminates the need to 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 accepting electronic phytosanitary certificates from Australia and the Netherlands in FY 2014. APHIS expects that the number of countries capable of exchanging documents electronically will increase with the availability of the IPPC hub. Accordingly, although this initiative is in its early stages and the number of electronic certificates exchanged each year is relatively small, it has the potential to make the exchange of export certificates significantly more efficient. In FY 2017, APHIS, State, and county officials issued more than 675,000 Federal export certificates for agricultural shipments.

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 $13 billion since it entered the United States in the late 19th century. APHIS began an area-wide BW eradication program in 1983. The BW eradication effort involves mapping cotton fields, using pheromone traps to evaluate weevil presence, and applying pesticides. PBW eradication uses PBW-resistant cotton, mating disruption techniques, insecticide treatments, and sterile moth releases. Once these pests are eradicated, the programs will conduct long-term surveillance to guard against re-infestation and take action if re-infestation occurs. After the BW and PBW are eradicated from an area, cotton growers rely far less on insecticides, thus reducing their production costs. Over the course of the eradication effort, 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 99.5 percent of the 11 million acres of U.S. cotton. The Lower Rio Grande Valley (LRGV) is the last zone within the United States where boll weevil persists. The LRGV is impacted by the neighboring Mexican cotton producing State of Tamaulipas and the area's security issues.

In FY 2017, APHIS continued to work with partners in overcoming program challenges. The Agency, along with the Mexican cotton industry, and U.S. cotton industry are working together to eradicate BW from Tamaulipas. For example, APHIS entered into an agreement with the North American Plant Protection Organization (NAPPO) to assist the Tamaulipas BW Eradication Program by funding ultra-low volume Malathion and aerial treatment expenses. The Mexican cotton industry has also limited the amount of cotton acreage planted in Tamaulipas to keep these treatment expenses as low as possible, and the Texas Boll Weevil Eradication Foundation (TX-BWEF) provided regional management of the area and technical assistance through the use of their smart device application for trapping and treatment activities. Tamaulipas employees running this application on their smart phones allow TX-BWEF managers to monitor trap deployment, trap servicing, and treatment activities in real time.

There have been more than 83 percent fewer BW captures in the LRGV as a result of the enhanced coordinated efforts. As of October 2017, there were 30,201 BWs captured in the LRGV, compared to 174,222 BWs captured at the same time in 2016. In addition, there were 17,163 BWs captured in Tamaulipas as of October 2017, compared to 59,639 BWs captured as of the same time in 2016.

In the United States, although the volume of acreage planted with cotton varies from year to year, the PBW commonly causes 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. The southwestern growing areas within the United States are waiting for "confirmation of eradication" from APHIS and industry; we anticipate announcing successful eradication of the pest in FY 2018, in conjunction with industry partners.

In FY 2018, 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 areas. APHIS will also partner with the Mexican BW eradication program in Tamaulipas to provide technical assistance and funding for their parallel program to the LRGV program, and will continue to provide technical assistance to the Laguna region of Coahuila and Durango to help reduce BW pressure. We are committed to monitoring for BW to ensure any reintroductions are detected quickly. We will continue to work toward successful eradication of BW in the United States in the coming years.

By controlling and eventually eradicating these two devastating cotton pests, APHIS protects continued export opportunities for U.S. cotton growers and significantly lowers production costs.

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 Karnal bunt and witchweed from spreading and impacting export markets for U.S. farmers. The program also works to prevent the imported fire ant from spreading through interstate commerce and helps Western rangeland managers respond to cyclical outbreaks of grasshoppers and Mormon crickets. These programs help protect resources that small, rural communities depend on for income.

Grasshoppers and Mormon crickets (GMC)

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 resources valued at more than $8.7 billion (according to a 2012 Economic Analysis prepared by University of Wyoming through a cooperative agreement with APHIS). 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, they can also devastate cultivated crops such as alfalfa, wheat, barley, and corn. Infestations often cover vast acreage, and landowners may need Federal support to control them. The program helps 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 control treatments where necessary and possible, this program helps protect 661 million acres of rangeland across the western United States.

In FY 2017, APHIS conducted surveys in 17 States for GMC, collecting data at more than 26,000 survey points. Grasshopper populations remained below outbreak levels in many areas in FY 2017, and APHIS conducted fewer treatments than in FY 2016. Based on the results of the surveys and needs of land managers, the program treated approximately 25,000 acres of rangeland, which protected rangeland forage and wildlife habitat on approximately 52,000 acres. APHIS conducted the majority of these treatments on Federal lands in Oregon that the Bureau of Land Management and U.S. Fish and Wildlife Service manages. These treatments protected neighboring ranch land from grasshopper damage. Smaller treatments occurred in Arizona and Montana for grasshoppers and in Washington and Idaho for Mormon cricket populations. APHIS continued conducting treatment trials on private rangelands in New Mexico. If successful, the trials will result in a new treatment option for grasshoppers and Mormon crickets. To date, large areas originally treated in 2015 have seen grasshopper populations remain below treatment thresholds and preliminary evidence suggests minimal impact on non-target arthropods. Before conducting any 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). APHIS continued work on updating the programmatic environmental assessment that covers all 17 States that could

experience GMC outbreaks. The Agency completed the last such assessment for the Grasshopper and Mormon cricket program in 1987. This updated document will facilitate treatments and help APHIS ensure that it is taking appropriate action to prevent grasshopper treatment impacts on wildlife habitat and wetlands, among other things.

Imported Fire Ant (IFA)

FCREP activities also prevented the spread of IFA into new areas. This pest is a public nuisance and causes approximately $6.3 billion in annual damage to homeowners, industry, and agricultural commodities, such as corn and soybean (according to a 2006 Texas A&M University study). IFA infests more than 366 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. Each of these States/territories is under Federal quarantine. The program provides treatment guidelines for land managers to help them remove IFA from their products and prevent the human-assisted spread of IFA on regulated articles. To do so, the program evaluates the efficacy of regulatory treatments for preventing IFA spread and works with States, industry, and other Federal agencies to develop insecticides and biological control agents. In FY 2017, the program and cooperators from USDA's Agricultural Research Service worked with a private firm to develop a rapid identification test kit for IFA. This assay, which uses a type of dip-stick test, provides identification of red imported fire ants (*Solenopsis invicta*) and hybrids in as little as 5-minutes, without having to ship specimens to an identifier. Previously, shipments with suspicious ants would be held at agricultural checkpoints until the identification was made, 12-24 hours or more later. The dip-stick test uses as few as five specimens to provide the results quickly. APHIS provided the test kits to State departments of agriculture in August 2017 for field-testing. State departments of agriculture will be able to purchase the kits for future use if they are successful. APHIS completed and made available on its website an interactive IFA quarantine map with features that display the quarantine boundaries to assist nursery owners and others in determining if they are located in the quarantine area. During the spring of 2017, when wildfires impacted pasture for livestock in western States, the map allowed shippers of hay to determine whether they had to meet IFA quarantine shipping requirements and in doing so helped prevent the spread of IFA to new areas through the movement of hay. APHIS met the program's performance target of no IFA infestations established outside of regulated areas that could be attributed to the movement of regulated articles infested with fire ants. The quarantine area expanded into new counties in Oklahoma, Tennessee, and North Carolina due to natural spread of the pest.

APHIS and cooperators have completed releases of biological control agents, several species of phorid flies, to target IFA. From 2002 to 2016, the program conducted more than 165 releases involving four species of phorid flies, with several releases in each of the States/territories under Federal quarantine. The four fly species are established in all areas where they are suited to the climate. The biological control agents are intended to slow IFA population growth, allowing native ants to compete for resources, thus helping to restore ecological balance. APHIS is continuing to evaluate other potential biological control agents for IFA, with a particular focus on identifying species that would be suited to areas where the phorid flies could not establish due to climate conditions.

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, and directly affecting most other States. In 2016, farmers across the country planted just over 50 million acres of wheat and harvested 2.3 billion bushels of wheat with a value of $9 billion (National Agricultural Statistics Service, Crop Values 2016 Summary). By keeping Karnal bunt contained to portions of one State, the program protects this wheat production across the country. In FY 2017, at the request of the grain and dairy industry, APHIS evaluated wheat, durum wheat, and triticale grown in Karnal bunt-regulated areas that are harvested for silage. The APHIS pathway analysis determined that the crops grown for silage posed a negligible risk of spreading Karnal bunt. APHIS removed crops grown for silage from the list of products regulated, thereby opening a niche market for growers and still preventing the spread of Karnal bunt to new areas. USDA's Economic Research Service estimated in 2010 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 FY 2017, 35 wheat-producing States participated in the Karnal bunt national survey. The program anticipates testing more than 1,200 samples for the year, with no positive samples reported as of October 2017. 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 2016, the

United States exported wheat with a value of $5.3 billion (National Agricultural Statistics Service, Crop Values 2017 Summary). Without the Karnal bunt program to certify these exports, wheat trade would be disrupted.

Witchweed

Another concern for the FCREP program is 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. 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 seeds to sprout, and hand-pulling and herbicide application), conducting post-eradication surveys, and addressing any new infestations. The program surveyed a total of nearly 75,000 acres in FY 2017 for witchweed. Annual APHIS surveys last into November each year. Approximately, 1,257 acres were infested at the beginning of the season, and APHIS expects the number to decrease slightly for FY 2017 when final survey results are available. The program treated 1,560 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. Efforts to contain and eradicate witchweed directly protect approximately 2,100 acres of corn worth $1.5 million in the area immediately impacted (Purdue, 2012). By preventing the spread of this damaging weed, the program indirectly protects more than 90 million acres of corn valued at $51 billion in 2016 (National Agricultural Statistics Service, Crop Values 2017 Summary).

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 serves as 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 works with Federal agencies, State departments of agriculture, Tribes, academic institutions, and industry partners in all 50 States and several U.S. Territories to conduct these 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 commodity- and resource-based 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. 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. This is in addition to lost farm revenues and damage to ecosystems. Additionally, 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 program demonstrate absence of a pest, and are used in some cases to help address importing countries' phytosanitary requirements and retain access to many foreign markets.

In FY 2017, APHIS and cooperators conducted a total of 279 commodity- and taxon-based surveys in 50 States and 3 territories (with 122 surveys conducted by States and 157 by APHIS). The program targeted 140 high-risk Priority Pests of national concern for survey in corn, oak, pine, small grains, soybean, and nursery crop commodities, as well as exotic wood boring bark beetles and cyst nematodes, among others, representing 96 percent of the target pests suggested for survey in the 2017 Pest Surveillance Guidelines. Including pests of State priority, the program targeted 276 unique pests for survey in FY 2017, surpassing its performance target of 220. Surveys consisted of multiple pests for efficiency and economy of survey, with an average of 5.7 pests per survey, 18.5 pests per State, and 2-3 surveys per State. Along with surveys conducted through the FY 2017 Farm Bill Plant Pest and Disease Management and Disaster Prevention program, APHIS and cooperators added 115 additional taxon and specialty crop commodity surveys resulting in the targeting of 369 unique pests in the overall pest surveillance effort.

APHIS and it cooperators, sometimes with information reported to APHIS through entry in the National Agricultural Pest Information System database, detected and confirmed 16 new or re-introduced species in the United States through Pest Detection surveys. Examples include: *Phloeotribus scarabaeoides* (olive bark beetle) and *Colletotrichum orchidophilum* (anthracnose and leaf-spotting fungus) in California; *Pestalotiopsis podocarpi* (leaf blight and dieback fungus), *Coremothrips pallidus* (a thrips species), and *Colletotrichum tropicale* (anthracnose fungus) in Hawaii; *Thrips setosus* (a thrips species) in Michigan; and *Rhagoletis cerasi* (European cherry fruit fly) in

New York. When the program detects new pests, APHIS evaluates the pest and works with the State to determine the next steps in the response, which could include regulatory and control measures. In addition to the annual surveys and pests that the program detects each year, the Pest Detection program increases awareness of invasive plant pests and diseases and ensures that trained professionals are in the field, monitoring the health of U.S. agricultural production areas, forests, and rangelands.

The program's target for FY 2017 was to detect, through the surveys, 85 percent of the significant pest introductions before they spread from the area of original colonization and caused significant economic or environmental damage. All (100 percent) new detections were localized at the time of their detection in FY 2017. Only one of these pests (*Rhagoletis cerasi* in New York) was a high-risk pest of national concern specifically targeted for survey through the two programs; in effect, demonstrating freedom from high-risk pests nationally.

5. Plant Protection Methods Development

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. These tools preserve economic opportunities for farmers and industries that engage in interstate commerce and international trade, and safeguard U.S. agricultural and natural resources from invasive plant pests. The program plays an essential role in APHIS' mission by developing tools for detecting exotic pests in survey programs; developing molecular diagnostic tests and identification tools for pest identification; developing integrated pest management methods, including biological control, to help eliminate or manage invasive pests; and developing phytosanitary treatments to support interstate and international trade. A major focus of this 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.

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. In FY 2017, APHIS released new web-based identification tools, Bee Mite ID and Hispine Pests of Palms, for identification of pests of pollinators and palms, respectively. The program also enhanced the *image*ID tool to assist with the identification of pests intercepted at ports, adding more than 19,000 images for a current total of 110,000, and released the *image*ID Database Analytic Dashboard. The *image*ID Database Analytic Dashboard is a useful tool that has the ability to provide snapshots of key metrics, such as tracking site usage and performance activity, as well as produce database reports quickly and effectively. The Program's public pest image collection, ITP node, now includes more than 30,000 images readily available for educational and commercial use.

The program also develops pest detection and management techniques used to manage or eradicate invasive pest threats. The program continues to develop improved methods in fruit fly rearing of sterile insects for eradication programs to improve quality and reduce costs. These improved methods include better disinfection techniques for rearing facilities and fruit fly diets that resulted in reduced diet costs and in equipment and space requirements. Additional improvements include lures and attractants for shot hole borer, European grapevine moth, light brown apple moth and spotted lanternfly. In the area of phytosanitary treatments, APHIS conducted research to support new treatments for pests in commodities including wood pests, exotic fruit flies, snails, khapra beetle, and European grapevine moth, to support safer trade and a reduction in methyl bromide fumigation.

The program continues to make advances in major technology initiatives for applications of unmanned aerial vehicles (UAV) and detector dogs for domestic pest detection. In FY 2017, the program tested new UAV equipment for its ability to release sterile insects for fruit fly and pink bollworm eradication programs, as well as conduct remote sensing for feral cotton detection for the boll weevil eradication program. The program continued its pilot projects on the use of detector dogs for fruit flies, citrus greening, citrus canker, plum pox, Asian longhorned beetle, and coordinated with partners on giant African snail and laurel wilt. The detector dogs demonstrated detection rates of more than 90 percent for these pests.

In FY 2017, the program also provided conventional and molecular diagnostics for plant pathogens detected during domestic surveys and emergency programs. This included diagnostic support for the plant pathogens that cause Huanglongbing (HLB) or citrus greening, citrus canker, sweet orange scab, and sudden oak death, among others.

The PPMD program also maintains its own quarantine and/or rearing facilities for biological control agents in Arizona, California, Colorado, Massachusetts, Michigan, Texas and Guatemala. APHIS partners with USDA's Agricultural Research Service, 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. Some key program targets included Asian citrus psyllid, brown marmorated stink bug, emerald ash borer, Asian longhorned beetle, hemlock woolly adelgid, spotted wing drosophila, mile-a-minute-weed, Dalmatian toadflax and Russian knapweed.

In FY 2017, APHIS successfully completed technology and transfer of methods development of phorid flies as a biological control agent for red imported fire ants. APHIS worked with the Florida Department of Plant Industries to rear and ship phorid flies to State cooperators for field releases. Four species of flies have been released over 16 year-period. To date, two species of flies are now widely established in the southeastern United States. This effort represents the first successful establishment of a bio-control agent on a social insect.

The program's rearing facility in Mission, Texas produced a cumulative total of 6.85 million biological control agents since releases began in 2011. Before the release of agents in South Texas in 2010, 43 immature psyllids per survey were found on citrus in residential areas. After biological control releases began, the presence of pysllids has gradually decreased. In 2017, the program detected only 3 immature psyllids per survey. This is a reduction of 93 percent of vector population.

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 promote the ability of U.S. farmers to 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. Among the pests and diseases the program currently addresses are exotic fruit flies, a variety of citrus pests and diseases, the glassy-winged sharpshooter (GWSS), pale cyst nematode (PCN), the light brown apple moth (LBAM) and the European grapevine moth (EGVM). Overall, the program directly protects specialty crop production worth more than $9 billion in 2016 [based on APHIS analysis using National Agricultural Statistics Service (NASS) data]. The program indirectly protects additional specialty crop production worth nearly $21 billion by preventing the spread of these damaging pests and diseases to new areas. Without the SCP program, U.S. 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 was $8.4 billion in FY 2016, according to an internal APHIS report using data from the Global Trade Atlas.

Grapes

The SCP program targets several devastating pests and diseases that could affect grape production and impact export markets, including GWSS and EGVM. Thirteen States produce grapes commercially, with California accounting for more than 83 percent of the total acres in production in 2015 (NASS Noncitrus Fruits and Nuts 2015 Summary). In August 2016, APHIS declared that EGVM has been eradicated from California and lifted quarantine regulations from the remaining 446 square miles of Napa and Sonoma Counties. In FY 2017, APHIS and the California Department of Food and Agriculture (CDFA), along with industry partners, continued post-eradication surveillance efforts for EGVM with 39 counties participating and zero detections for the year. The EGVM program post-eradication surveillance will continue for three years to ensure that any moths present would be detected quickly.

APHIS also continued the successful, cooperative GWSS program designed to suppress populations of this pest where established in grapes, citrus, and nursery stock. GWSS is a vector for Pierce's disease (lethal to grapevines), and the program's suppression and regulatory activities work to prevent the spread of the vector and disease across California. Higher pest populations associated with warmer temperatures and dry conditions in the State have challenged the GWSS program over the last several years. In FY 2017, 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 more than 37,000 acres. Of the more than 36,000 shipments of nursery stock from infested areas, State inspectors rejected only six due to GWSS. Together, the EGVM and GWSS programs directly protected 841,000 acres of grape production worth more than $5 billion in 2016, in the State of California (NASS 2016 Crop Year Summary).

Citrus

Citrus fruits are high-value specialty crops and a nutritious food for consumers across the world. The United States is the sixth largest exporter of citrus by volume and fourth largest in terms of value, according to the Global Trade Atlas. 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), and citrus black spot. In FY 2017, APHIS and cooperators in citrus-producing States surveyed over 660,000 acres of citrus across the country, 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 during FY 2017, APHIS adjusted quarantine boundaries in Florida, Arizona, California, Nevada, Louisiana, and Texas for citrus greening, Asian citrus psyllid (ACP), citrus blackspot, or citrus canker. The areas quarantined for citrus greening in California expanded in FY 2017, with the detection of additional infected trees in Los Angeles, Orange, and Riverside Counties. APHIS and cooperators are conducting risk-based surveys in residential and commercial citrus areas in California to ensure that the disease is detected quickly if present. 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. Nearly 14,000 businesses were able to move regulated host materials such as citrus fruit and nursery stock under compliance agreements with APHIS in FY 2017. In Florida, in FY 2017, APHIS and cooperators continued extensive surveys that provide citrus canker and citrus blackspot free production units for export packing to the European Union, supporting the export of $38.5 million worth of citrus from these areas. APHIS also continued to support area-wide management of the ACP, an insect vector that spreads HLB, in Florida by providing survey data every three weeks to the growers participating in Citrus Health Management Areas (CHMAs). Citrus growers participating in CHMAs, which are managed by the Florida Department of Agriculture and Consumer Services, coordinate the applications of pesticides to suppress ACP populations in commercial citrus groves. The CHMAs in Florida continue to represent approximately 93 percent of the State's citrus acres in production. Florida's citrus growing areas were significantly impacted by Hurricane Irma in September 2017, with growers facing losses of between 30 and 70 percent. APHIS is working closely with citrus nurseries that suffered hurricane damage and is planning extensive survey for citrus black spot in the coming months to detect any hurricane-assisted spread of this disease. APHIS is also working closely with growers to implement forthcoming changes to export requirements for citrus to the European Union. APHIS also supports area-wide management efforts in Texas with the Texas Department of Agriculture. In addition, APHIS has been actively managing three citrus canker quarantines around Texas. APHIS provides assistance to the California Department of Food and Agriculture to aggressively respond to positive detections of citrus greening and implement an area-wide management approach for ACP population control. In FY 2017, APHIS continued a biological control program targeting ACP. This program, which employs a predatory wasp against ACP, augments current management methods, especially in residential areas in California, Arizona, and Texas, where use of chemical pesticides is undesirable. Biological control efforts in Texas have reduced the ACP population by more than 50 percent and by as much as 99 percent around California release sites. Louisiana is also releasing biological control agents to suppress ACP in residential areas. Projects funded by the HLB Multi-Agency Coordination Group produce and release 12 million biological control agents annually to help reduce ACP populations in residential and urban areas. APHIS also releases biological control agents in areas of Mexico (Baja California and Tamaulipas) adjacent to citrus production areas in California and Texas to suppress ACP populations and prevent them from spreading into the United States. APHIS 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 the states and available for citrus producers and residential use. These citrus health activities directly protect citrus production on approximately 711,000 acres in the United States worth more than $3.4 billion for the 2016-2017 growing season (NASS 2017 Citrus Fruits Summary). Without APHIS' activities, citrus exports could be at risk each year. In 2016, the value of U.S. citrus exports totaled just over $1 billion (NASS).

Tree Fruit and Nursery Stock

APHIS protects a wide variety of specialty crops (especially tree fruit and citrus) through exotic fruit fly exclusion and detection activities. One of our key strategies is maintaining a barrier against the spread of the Mediterranean fruit fly (Medfly) northward from Central America. Medfly is one of the most destructive agricultural pests in the world, attacking more than 300 cultivated and wild fruits and vegetables. APHIS and cooperators produced an average of 1.1 billion sterile Medflies per week in FY 2017 to maintain the barrier in Mexico, Guatemala, and Belize and to release on a preventive basis in high-risk areas of California and Florida. In FY 2017, the international, cooperative program continued to face increased Medfly outbreaks in the area. The number of detections in the free areas of Mexico and Guatemala remained high in FY 2017 with 485 detections, compared to only 31 in FY 2015 and 335 in FY 2016. The initial increase in detections was related to favorable conditions for Medfly due to El Niño weather patterns in FY 2016, and populations increased in FY 2017 due to the spillover effect from the previous year. The program adjusted its response strategy to reinforce the program-designated free and low-prevalence areas. Additionally, the program opened a new eclosion facility in close proximity to the production plant and airstrips used for release of the flies, increasing efficiency and ensuring the quality and fitness of the sterile flies. These adjustments allowed the program to maintain the program's Medfly free area in Mexico, Guatemala, and Belize at 149,110 square kilometers. By the end of the fiscal year, these strategies had resulted in significantly fewer Medfly detections within the program areas. The international program will continue detection and control activities in FY 2018.

Domestically, APHIS and State cooperators maintain the cooperative Preventive 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. APHIS and cooperators also maintain a detection network of approximately 150,000 traps in California, Florida, Puerto Rico, and Texas. When outbreaks occur, APHIS and cooperators implement immediate emergency response activities to eradicate them. In FY 2017, the program responded to seven new outbreaks (three Mexfly outbreaks in Texas and four outbreaks – three Medfly and one Oriental fruit fly – in California), and continued responding to five Mexfly quarantines in Texas from the previous fiscal year. APHIS produced and released an average of 123 million sterile Mexflies per week in Texas and northern Mexico each week to support eradication and control programs in that region. APHIS eradicated seven of the eight Mexfly outbreaks in FY 2017 and expects to complete response activities for the last quarantine in the first quarter of FY 2018. The last remaining Mexfly quarantine is not in a commercial citrus production area, so there are no citrus groves currently under quarantine in Texas. During the year, APHIS and cooperators managed quarantines covering 1,479 square miles. As the program completed operations, they released many of these areas from quarantine. At the end of FY 2017, the program had 848 square miles remaining under quarantine that they plan to release in FY 2018.

The Dominican Republic experienced its first Medfly outbreak ever in 2015. With technical advice from APHIS, the Dominican Republic implemented a response program and declared eradication in July 2017. To reduce the risks of exotic fruit fly outbreaks in the Caribbean, APHIS and cooperating countries in the region increased surveillance for exotic fruit flies, especially Medfly. In FY 2017, 15 Caribbean countries participated in these efforts. APHIS will continue this effort in FY 2018, providing an early warning network for the occurrence of this damaging pest close to U.S. shores. APHIS' exotic fruit fly prevention and eradication activities protect producers of citrus, stone fruits, vegetables, and a variety of other specialty crops from damages associated with the pests, increased production costs, and export restrictions.

APHIS and cooperators also work to address plum pox virus (PPV) and light brown apple moth (LBAM) to protect producers of tree fruit and other specialty crops. APHIS is monitoring areas along the Niagara River that border an area in Canada with a PPV infestation. In September 2015, a single PPV-positive tree was detected in Ulster County, New York, which is more than 200 miles away from previously affected areas. In FYs 2016 and 2017, APHIS and cooperators conducted surveys in the Hudson Valley, Adirondack, and Niagara regions of New York with no additional positive finds. APHIS completed a trace-back investigation in FY 2016 on the single infected tree. While APHIS traced the tree traced back to the nursery where it was purchased and to the nursery's source, this information yielded no actionable information since at least a decade had passed since the plant was produced. APHIS will continue surveys in and around the one-square mile area quarantine for four more years. APHIS continues to support yearly PPV detection surveys through Farm Bill Section 10007 to ensure that any PPV would be found if it appeared in other States.

In FY 2017, APHIS and the State of California continued to monitor for LBAM across California and found that the pest had not spread to any new counties in FY 2017. The quarantined area continues to include 22 counties in California. APHIS requires entities shipping regulated products out of the quarantined area to take measures to prevent the spread of LBAM to new areas. APHIS continues to evaluate pathways through which LBAM could spread and ensure that California products can be moved safely. In August 2016, the Oregon Department of Agriculture identified a small, limited infestation in the Willamette Valley (Polk County). The State implemented an emergency eradication program and did not find any moths in FY 2017. State officials will continue monitoring the area for three years to determine if any LBAM population is present.

APHIS protects natural resources and nursery stock production and trade by limiting the spread of *Phytopthora ramorum* (*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. APHIS and State efforts have kept the disease from impacting natural resources, outside of 15 counties in California and a small area in Curry County, Oregon, for more than 10 years. Over the last several years, APHIS has streamlined the *P. ramorum* regulatory framework for nurseries shipping host nursery stock interstate through two Federal Orders that relieved regulatory requirements on 2,800 low-risk nurseries. Since March 2014, for nurseries outside the quarantine areas, the program is only regulating those that are positive within the preceding three years and that ship host nursery stock interstate. 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. Any interstate shipping nurseries that test positive must participate in a compliance program using disinfestation protocols to eliminate the pathogen and implement required mitigations focused on critical control points to reduce the risk of reintroduction. Currently, 19 nurseries are participating in the program. Along with the streamlined regulatory program, APHIS and State cooperators have targeted inspection efforts toward the highest risk nurseries.

Through all of these activities, APHIS directly protects nursery stock production worth approximately $1.5 billion (2012 Census of Agriculture) and tree fruit production worth approximately $1.1 billion (APHIS Internal Analysis based on NASS data). Through keeping pests and diseases like exotic fruit flies, PPV, and LBAM from spreading to new areas, the program indirectly protects more than $13.5 billion in fruit and nursery stock production (APHIS Internal Analysis based on NASS data).

Potatoes

APHIS addresses two major potato pests, the PCN in Idaho and the golden nematode (GN) in New York. APHIS and cooperators have confined each to a relatively small area, and continued survey and regulatory efforts protect export markets for U.S. potatoes from 36 States. In FY 2017, APHIS tested 27,855 soil samples in Idaho for the PCN eradication effort and more than 7,000 from neighboring States for detection of potato cyst nematodes. 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. Based on survey results in FY 2017, APHIS released 520 acres of fields that had been regulated. The program also added 150 new acres to the regulated area because of new PCN detection. The PCN program regulates a total of 9,333 acres, of which 3,047 acres are infested. In FY 2017, the program conducted eradication treatments on five infested fields, on a total of 665 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, the program tests the viability of 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 return to potato production. These fields remain regulated but benefit from reduced sanitation requirements. One grower planted potatoes on his eligible field in FYs 2015 and 2016, and intensive surveys to check for viable PCN following harvests did not detect any viable PCN. The program is awaiting results from the FY 2017 planting season. If no viable nematodes are found after three years of full-field potato plantings, the fields will be eligible for full deregulation. The program is also continuing the development of new mitigation tools for PCN that may serve as alternatives to methyl bromide fumigations or provide additional control following fumigation. These include the use of trap crops (planting a crop similar to potatoes that will stimulate nematodes to hatch but not allow them to reproduce) and fungus and biological control agents as control tools. APHIS and cooperators planted the trap crop on 36 acres in FY 2017, and will evaluate the results during the upcoming fiscal year.

In FY 2017, APHIS and New York cooperators continued an effective survey and regulatory program targeting GN with a focus on deregulation of all eligible land. In FY 2017, APHIS tested approximately 4,000 soil samples for the GN program in New York and 2,500 samples from neighboring States for potato cyst nematodes. The program conducted 700 regulatory treatments to ensure that equipment moving out of the affected area does not pose a risk for spreading the GN. In FY 2010, the program began a review of its regulatory strategy using the experience of the more recently established PCN program. Adopting strategies used in the Idaho program, the GN program is transitioning to focus on fields that are either infested or associated with infested fields rather than political boundaries such as townships. Over the last several years, these changes have allowed the program to reduce the quarantined area by 76 percent by removing a total of 964,661 acres from quarantine, approximately one third of which had been developed for commercial or residential uses. The program completed the evaluations necessary to deregulate an additional 193,730 acres in FY 2017; the program will publish a Federal Order to release them early in FY 2018. The program uses both greenhouse and in-field bioassay for deregulation of formerly infested fields. Nine potato production fields are undergoing eradication for golden nematode. One of the fields has planted GN-susceptible potatoes for six consecutive years with zero viable cysts detected, a significant success, demonstrating for the first time that eradication of GN is possible. This field will be included in the acres the program will deregulate in FY 2018. Crop monitoring of the remaining fields undergoing eradication continues. The fields remain regulated, some because of proximity to infested fields, but benefit from relaxed sanitation requirements and enhanced crop options.

Together, these efforts to address PCN and GN directly protect potato production worth nearly $440 million in FY 2016 in and around impacted areas. These programs indirectly protect one million acres of potato production nationwide worth $3.6 billion (NASS Crop Values 2016 Survey). Without these programs in place, trading partners might not accept U.S. potatoes. In fact, after a satisfactory review of the PCN program in FY 2017, Japan reopened its markets to Idaho potatoes (except for shipments from the two counties affected by PCN) in FY 2017 for the first time since the detection of PCN in 2006. Total U.S. exports of potatoes were worth approximately $203 million in 2016 (NASS Crop Values 2016 Survey).

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), and gypsy moth. 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 and, 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 and ecosystem services that APHIS protects per program dollar spent is approximately $21,000. In addition, trees in residential areas lower cooling bills, filter pollutants from the air, decrease runoff, and improve residents' quality of life.

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, and Ohio. The program has successfully eradicated ALB from Chicago, Illinois; Islip, Staten Island, and Manhattan, New York; and, Jersey City, Middlesex County, and Union County, New Jersey. The program continues to conduct surveys in regulated areas of New York, Ohio, and Massachusetts.

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. Four years is the minimum amount of time between that last detection of the pest in a given area and the completed final survey cycle. APHIS provides ongoing support to evaluate new methods and protocols to combat regulated pests and tailors project responses to site-specific conditions, resulting in a more efficient program.

In FY 2017, the program continued its long term study of investigating the use of targeted seasonal treatments in Ohio. This study involves identification of 100 percent of the host trees within 20 meter diameter study plots. During the growing season, the program applies treatments to 50 percent of the randomly selected host trees. Evidence of ALB activity may be more apparent when only half of the trees are treated, as it will increase the likelihood that a small, latent beetle infestation will be discovered by subsequent surveys. After three consecutive years of seasonal treatment, the program will compare these host trees to control areas where they did not apply treatments to test the success. This approach also allows the program to fully utilize and investigate low-risk sites since they will not use them as untreated control areas. In FY 2016, the program developed a cost analysis of treating high risk host trees versus removing them for Ohio. In FY 2017, the cost analysis revealed there is no cost advantage to treatment of wood lot trees, but there may be cost advantages to treatments for a limited set of larger diameter landscape trees. The Agency will continue to analyze information from the treatment study, when completed, in concert with the cost analysis to guide development of future control strategies. This long term study will continue in FY 2018.

Emerald ash borer

Another forest pest of program concern is the EAB. In 2002, this pest was first detected in Michigan and has since been detected in 30 additional States and the District of Columbia. In FY 2017, the entire State of South Carolina was added to the Federal quarantine. In FY 2017, the program continued to use a risk-based model to determine the best places to focus survey and trapping efforts, which helped identify the infestations. APHIS, along with Federal, State, and local agencies and stakeholder groups, continues to mitigate the human-assisted and natural spread of the pest and is continuing development of a biological control initiative designed to effectively manage EAB populations.

The program's biological control initiative provides a promising strategy, using several species of parasitic wasps for long-term EAB management. In FY 2017, the program continued conducting trial releases of parasitic wasps and released close to 1 million parasitic wasps in 25 States and the District of Columbia: Arkansas, Colorado, Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and Wisconsin. These releases focused on assessing the impacts of the wasps on EAB populations and tree health at and near release sites.

The program's regulatory framework, which focuses on the leading edge of the infestation and contiguous quarantine areas, maximizes the efficient use of resources while minimizing impacts on regulated businesses in quarantined areas. In FY 2017, the program expanded the quarantine area to approximately 746,000 square miles, based on the detection of infestations in unregulated areas of previously affected States. To decrease further artificial spread, the program regulates EAB host materials such as logs, firewood, and nursery stock. In FY 2017, APHIS maintained more than 1,000 compliance agreements with businesses that handle EAB host materials. With these agreements, the program regulates the treatment and movement of host materials from quarantined areas.

In FY 2017, the program continued its fully contracted national survey. This approach continues to prove its ability to reduce the cost of the surveying and allow for the deployment of greater trap quantities. For example, the program deployed 18,780 traps in FY 2017, up from 15,721 traps in FY 2016. The contracted national survey option continues to gain advantages over the traditional approach by improving data quality received through a single source; having the data more easily managed and controlled also reduces indirect costs by having fewer staff hours spent managing several individual cooperative agreements.

EAB has spread to an extent that cannot be controlled by a regulatory program. To more efficiently control EAB, APHIS is initiating proposed rulemaking to deregulate EAB and redirect resources for controlling the spread of this devastating pest to expanding the application of biological control for EAB.

Gypsy Moth

European gypsy moth (EGM) is a destructive pest to 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 Forest Service and the EGM Slow-the-Spread Foundation, APHIS and cooperators have greatly slowed the spread of EGM and eradicated isolated populations, keeping this pest from becoming a larger issue. In FY 2017, APHIS and State cooperators continued to conduct EGM surveys to detect, delimit, and eradicate any isolated populations. As a result, the program added one additional county in Virginia and four additional counties in Illinois to the quarantine in FY 2017.

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.

APHIS coordinated joint U.S./Canada technical visits to Japan, China and Korea from FY 2014 to FY 2017, and added Far East Russia in FY 2016 (the scheduled FY 2017 Russian visit to the US was postponed due to visa issues), to gain more cooperation from the foreign cooperators, as well as the certifying agencies in each country. As a result of these efforts, the number of egg mass detections on vessels approaching the United States has dropped from 48 in FY 2014 to none in FY 2017, while during the same period the number of vessels with proper AGM certification has increased.

In FY 2017, the program conducted delimiting surveys in Oklahoma in response to single detections of AGM in FYs 2013 and 2014. No additional AGM were detected in Oklahoma in FYs 2015, 2016, and 2017. As a result, APHIS determined the area was free of the pest at the end of FY 2017. In FY 2014, a single detection of AGM was found in South Carolina. Although delimiting surveys in response to this detection discovered an additional single moth in FY 2015, no additional moths were detected in FYs 2016 and 2017. In FY 2015, one moth was discovered in Georgia. In FYs 2016 and 2017, no additional moths were detected during delimiting activities in Georgia. Delimiting surveys in South Carolina and Georgia will continue in FY 2018. If no additional AGM are detected in those States in FY 2018, APHIS will declare these areas pest free. In FY 2015, there were a total of 14 AGM moth detections in Oregon and Washington. In FY 2016, the program treated a total of 19,100 acres on eight different sites in those States using Farm Bill Section 10007 funds. The program detected no AGM during post-treatment delimiting surveys in FYs 2016 and 2017, and will continue delimiting surveys through FY 2018 to ensure the FY 2016 treatments were effective.

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 (WDM) Program. APHIS' wildlife biologists coordinate activities in every State with Federal and State agencies, Tribes, local governments, private homeowners, farmers, ranchers, and other property owners to protect lands.

Agriculture

Feral swine are a harmful and destructive invasive species whose geographic range is rapidly expanding and populations are increasing across the nation. These invasive animals cause significant damage to property, agricultural animal health and crops, natural resources, public health and native ecosystems. The University of Georgia, using a broader data set than previously available, has more recently estimated feral swine damage nationwide to cost at least $2 to $2.5 billion annually, exceeding previous estimates of $1.5 billion annually based on a more limited data set. To address this growing 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 and its Territories. The Agency's strategy is to provide 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 FY 2017, APHIS conducted cooperative, cost-share operational programs on approximately 162 million acres in 41 States and 2 Territories, directly protecting 107 threatened and endangered species and habitats. Over the past two years of the program, APHIS and partners successfully eliminated feral swine from seven States -- Idaho, Maryland, Minnesota, New Jersey, New York, Washington and Wisconsin. We anticipate additional States (e.g., Nevada, New Mexico, Utah, Illinois, Vermont, and Maine) to be declared free over the next several years. After APHIS eliminates feral swine in a given State, the Agency continues to monitor these States for an additional two years to ensure feral swine are not reestablished. APHIS conducts disease surveillance and monitoring to protect the health of domestic swine, other livestock, and people by sampling 2,800 feral swine annually to assess disease risks. The Agency, along with university partners, is working to develop a feral swine toxicant and reproductive inhibitors to achieve permanent sterility in feral swine. Other activities include conducting several 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 establishing a National Feral Swine Genetic Archive to assess the movement of feral swine and determine source populations.

Livestock losses attributed to predators cost producers more than $137 million annually, according to the most recent surveys by National Agriculture Statistics Service. APHIS prevents and reduces livestock predation through technical assistance to producers (education and outreach), and operational management programs. In FY 2017, APHIS provided assistance to more than 4,991 livestock producers. APHIS and cooperators fund livestock protection activities on a cost-share basis.

APHIS plays a major role in the management of wolf and grizzly bear damage in the United States. APHIS personnel work with State wildlife agencies, the U.S. Fish and Wildlife Service, and tribes to conduct wolf damage management programs, and provide additional services to capture and mark wolves and grizzly bears for research and population monitoring purposes. Upon request, APHIS may remove depredating wolves to resolve conflicts. In FY 2017, APHIS responded to 277 reports regarding wolf depredation by providing a combination of direct control and technical assistance. This included 1,017 livestock animals killed in addition to other animals killed, injured, harassed, and threatened by wolves. To avoid or reduce predation, APHIS provides technical assistance to producers on preventative measures to supplement our direct control activities, which producers then implement themselves. In FY 2017, APHIS conducted 63 predator management workshops. APHIS estimates that these efforts help protect more than 15.8 million head of cattle, sheep, and goats valued at more than $2.5 billion.

Black vulture populations have increased in both abundance and range in the past 30 years. The Migratory Bird Treaty Act, enforced by the U.S. Fish and Wildlife Service (FWS), protects black vultures, which prey on livestock. Under the Migratory Bird Act, the public cannot kill, destroy or remove 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. In FY 2017, with cooperator funding, APHIS conducted direct control in 23 States, removing approximately 7,000 black vultures and dispersing approximately 52,000 black vultures, in addition to providing technical assistance to guide private management efforts. APHIS collaborated with FWS to facilitate a meeting with stakeholders and State wildlife agencies to address black vulture damage across FWS regions and streamline the producers' application process for depredation permits.

Fish-eating birds, especially double-crested cormorants, can have major impacts on the U.S. aquaculture industry. Annual fish production is valued at $1.4 billion and the aquaculture industry incurs approximately $25 million in costs associated with bird damage and damage prevention. APHIS provides operational and technical assistance to aquaculture producers, specifically on roost management of double-crested cormorant, harassment of fish-eating birds on catfish facilities, and helping farmers acquire depredation permits that the FWS requires under the Migratory Bird Treaty Act. Work is concentrated at lower Mississippi valley and southeastern aquaculture facilities in the fall and winter. During this timeframe in FY 2017, APHIS removed 154 and dispersed almost 29,000 double-crested cormorants from 28 roosts at 14 aquaculture facilities in three States. Current APHIS work and producers' ability to acquire depredation permits is limited due to court-ordered reviews related to the FWS National Environmental Protection Act (NEPA) process. APHIS collaborated with the FWS on its revised NEPA environmental assessment set for review in late 2017.

Wildlife disease biologists provide technical assistance, conduct surveillance, and maintain control of more than 40 wildlife diseases, pathogens, and syndromes. Internationally, APHIS sponsored the third international training course in "Wildlife Disease Monitoring and Management." Additional international programs include: collaborating with Colorado State University on bat disease surveillance in Cambodia; collaborating with the Chinese Academy of Science on wildlife disease issues; collaborating with Mississippi State University on emergence of avian influenzas in China; and collaborating with the Swedish University of Agricultural Sciences, Makerere University, Uganda Ministry of Agriculture, Animal Industry and Fisheries, Uganda Wildlife Authority, and International Livestock Research Institute to conduct African Swine Fever surveillance in Uganda. Finally, the Agency served on a U.N. Food and Agriculture Organization task force for wildlife disease, and conducted surveillance for Japanese Encephalitis and Chikungunya in Hawaii, Guam, and Pacific Island Territories.

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 FY 2017, APHIS and cooperators distributed more than 10 million ORV baits over 178,999 square kilometers. This is a continuation of the strategic distribution of more than 186 million baits since the program began in 1995. These programs have led to the elimination of canine rabies in coyotes, resulting in the United States being declared canine rabies free in 2007; the near elimination of gray fox rabies from Texas; 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.

APHIS works with the Centers for Disease Control and Prevention and the Wistar Institute, an infectious disease and vaccine research institute, to streamline the use of a rapid rabies diagnostic field procedure to diagnose the disease within an hour. Since 2005, APHIS has conducted 88,479 rabies tests using this procedure, documenting 1,634 rabies cases, which in turn, facilitated science-based wildlife rabies management decisions. 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 surveillance activities, control programs, vaccine development, and field trials. An improved vaccine-bait combination holds promise for enhanced raccoon rabies control in the United States. In FY 2016, APHIS completed the 5-year, multi-State field trial necessary to register the oral rabies vaccine (ONRAB®) targeting raccoon, skunks, foxes and coyotes. Since 2011, APHIS has completed six ONRAB® field trials in five States, and two others are ongoing in eastern Vermont and in the Burlington, Vermont area. These studies have all been part of an effort to evaluate scientific evidence for the potential licensing of this vaccine. In FY 2017, APHIS submitted efficacy data to the Center for Veterinary Biologics in support of the product's registration, which remains under review.

Increased air traffic, faster and quieter aircrafts, increased populations of Federally protected species of birds, and increased populations of other wildlife all impact the safety of aircrafts, particularly in rural communities. Wildlife strikes cost commercial aviation approximately $4.8 billion in the United States since 1990 and annually account for approximately $1.2 billion worldwide. Since 1988, bird and other wildlife strikes have destroyed more than 247 civilian and military aircraft and killed 262 people globally. With funding provided by Federal, State and local cooperators, APHIS works to reduce wildlife impacts on aircraft and human safety. APHIS estimates the value of damaged prevented from wildlife impacts is $99.4 million. In FY 2017, APHIS mitigated wildlife hazards by assisting more than 604 civil and military airports nationwide. APHIS has similar programs at more than 100 domestic and international Department of Defense airbases that reduced wildlife strikes to military aircraft.

Property

Beaver damage in the southeastern United States has exceeded $3 billion over the last 40 years. To address and prevent costly beaver damage, APHIS provides assistance by removing beaver dams that clog waterways and flood roads and timber sources. On average, for every dollar spent in managing beaver damage, approximately $15 of resources are saved. With cooperator funding, APHIS conducted beaver damage management activities in 40 States in FY 2017.

Natural Resources

Non-native, invasive animals can devastate ecosystems. APHIS focuses on eliminating damage from brown treesnakes (BTS), 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 FY 2017, with funding other Federal departments and the Guam Department of Agriculture contributed, 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 intercepted approximately 16,724 BTS in Guam during FY 2017.

Nutria damages 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. APHIS is leading the first large-scale North American effort to eradicate a mainland nutria population in the Chesapeake Bay through agreements with the U.S. Fish and Wildlife Service and other cooperators. Since 2002, in cooperation with Federal and State agencies and private landowners, APHIS has removed nutria from more than 250,000 acres of coastal marshland. APHIS rotates the monitoring of six watersheds, covering 360,000 acres, annually to prevent the re-infestation of the area. In FY 2017, APHIS monitored approximately 450,000 acres in four watershed areas and will continue monitoring and removing any remaining nutria. As a result of these efforts, marsh grasses and native muskrat populations are quickly recovering.

APHIS partners with various Federal and State resource agencies, private organizations, and community groups to conduct damage management that benefit protected bird species by protecting nests, eggs, juveniles, and adults from predation by other birds and mammals. APHIS has estimated damages or damage threats to birds, including threatened and endangered species, to be more than $70 million annually. In FY 2017, APHIS conducted more than 1,000 conservation actions that benefitted protected species in 37 States, Guam, Virgin Islands, and Cuba (Guantanamo Bay).

2. Wildlife Services Methods Development

The Wildlife Services Methods Development (WSMD) Program develops effective and socially responsible methods and information to manage conflicts between people and wildlife to protect agriculture, natural resources, and human health and safety. This program provides research in support of the Agency's animal health programs such as feral swine, invasive species, 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, including discovery, development, and technology transfer of products and management methods. The majority of NWRC studies involve partnerships with State and Federal agencies, non-governmental organizations, universities, tribal governments, and private sector businesses. In FY 2017, NWRC initiated 103 new studies and published 192 scientific papers in 78 professional scientific journals. Scientists also made 278 presentations to scientific and stakeholder audiences.

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, timber, and animal products, and other associated industries.

Established in 2014, APHIS' National Feral Swine Damage Management Program aims to reduce feral swine damage. After conducting the necessary research, the Agency is moving to have a completed toxicant and delivery

system available for use in 2021, which will serve as a critical component in the long-term success of reducing feral swine populations. In FY 2017, NWRC completed studies on product development, laboratory efficacy, chemistry, and formulation, and submitted the necessary information to the Environmental Protection Agency in support of the Agency's application for an Experimental Use Permit (EUP) for field level product testing. EPA approved the EUP on October 30, 2017. The Agency anticipates conducting the product testing in the winter of 2018, which is the next step in final product registration. NWRC also completed bait station designs and tests to minimize non-target hazards, which is critical in the final labeled product. NWRC continued efforts to develop a feral swine genetic archive, and have analyzed approximately 3,000 samples in the genetic archive to identify risks and source populations of feral swine. This information enables the Agency to make better, informed management decisions regarding operational control programs for feral swine.

Influenza A viruses are an important economic burden to domestic poultry production and trade. The Agency works to identify biosecurity risks posed by wildlife and possible mitigation measures. In FY 2017, NWRC conducted experiments that showed cottontail rabbits could pose a biosecurity risk to poultry operations, as a virus-contaminated water source or contaminated environment. Additionally, the detection of aerosolized viruses can serve as an important surveillance and control tool in agriculture, human health, and environmental settings. NWRC modified and improved its virus detection methods for type A and B influenzas viruses as well as the indicators for these viruses. These modification will improve commercial products and surveillance for aerosolized influenza viruses.

Many western ranchers use livestock protection dogs to deter predation by coyotes, but some commonly used species of dogs are not effective against wolves and grizzly bears, which has resulted in the death of the traditional breed dogs. NWRC initiated a series of studies to evaluate three larger breeds of dogs that have been used successfully to deter livestock predation by wolves in Europe. Results indicated that all three of the larger breeds of dogs (Turkish kangal, Bulgarian karakachan, and Portuguese cao de gado transmontano) reduced sheep predation by wolves and grizzly bears. Further, a spatial analysis showed that the dog breeds did not disrupt the natural ecology of the protected predators, and could provide a low impact management technique for protected species. NWRC also improved the design of a portable fencing system designed to keep wolves away from lambing and night pasturing paddocks.

Identifying risk factors impacting aquaculture production is critical in formulating efficient, effective, and targeted management strategies and methods. In FY 2017, NWRC showed that roosting double-crested cormorants (DCCO) negatively impacted soil chemistry, but not water quality. Industry and researchers have been concerned that DCCO, along with white pelicans, great egrets, and wood storks could serve as reservoirs and vectors of Aeromonas bacteria. Aeronomas is a bacterial disease of great concern to commercial catfish farmers in the Southeast, resulting in 3 million pounds of lost production per year. DCCO were also identified as vectors for the fish parasite, Drepanocephalus. NWRC also developed remote sensing visual imaging methods using unmanned aerial vehicle systems. By using this technique, producers could have more targeted management options and population counts, allowing for a better assessment of the impacts and sustainability of control efforts on fish-eating birds protected under the Migratory Bird Treaty Act. NWRC also determined that unmanned aerial vehicle systems can be used to prevent DCCO from landing on aquaculture ponds, however were not determined to be effective in removing birds after landing.

The common vampire bat feeds on the blood of Central and South American wildlife and livestock. Because of the high numbers of cattle and other livestock in northeastern Mexico and southern Texas, wildlife managers and ranchers are concerned that vampire bats could survive in these areas and spread disease. Vampire bats are vectors for rabies transmission to cattle. Recently, vampire bats have been documented within 35 miles of the Texas border. This has caused concern and speculation about the potential movement of vampire bats to areas within the United States as a result of rising global temperatures. Using genetic characterizations of vampire bat populations, NWRC developed predictive models that identified potential invasions routes in the United States (e.g., Florida). These data will help identify zones of invasion risk and direct livestock vaccination efforts.

Natural Resources

The NWRC develops methods that protect natural resources from the impacts of invasive species, while minimizing or eliminating the use of toxicants that could damage the environment or contaminate food sources for non-target animals. The following are examples of efforts to protect natural resources, which include those resources associated with publically managed parks, lakes, State and national forests, fish, and wetlands.

With no native predators, the brown tree snake (BTS) population has increased to an estimated one to two million snakes on the island of Guam. The BTS is responsible for the disappearance of most native bird, bat, and lizard species on the island. In FY 2017, NWRC completed the development, test and technology transfer of an aerial bait delivery system to the Wildlife Services operations program in Guam. This patent pending automated manufacturing and delivery system improves the cost-efficiency of treatment to where large-scale treatment is now feasible. The U.S. Navy has commissioned APHIS to purchase a second system for deployment for its BTS control activities in FY 2018.

In FY 2017, NWRC, in collaboration with three universities and a non-governmental organization, began the development of a genetically engineered vertebrate (mouse) for possible use in conservation and agricultural grain storage protection. The mouse will compete against wild type mice, displacing them until the mitigation action is over, then naturally die off. This method could potentially be used as an alternative to chemical pesticides, reduce environmental burden, be species specific, and be a more humane method for certain pest control. The project is a three year effort that the Department of Defense's Safe Genes program funds.

Human Health and Safety

Wildlife-aircraft collisions (wildlife strikes) with civil and military aircraft pose notable risks and economic losses. NWRC develops risk and management models for the Federal Aviation Administration (FAA), as well as develops methods of mitigation. In FY 2017, APHIS used airstrike data to identify that barn owls pose the highest risk for aircraft collisions below 30 meters at night. Additionally, NWRC developed a model for wildlife-aircraft collision risk and identified the five highest risk bird species and prioritized them for targeted management: red-tailed hawk, Canada goose, turkey vulture, rock pigeon, and mourning dove. NWRC is developing mitigation measures, and has identified the landscape features most important to risk of aircraft damage from all birds at 8 and 13 kilometers from civil airports. The Agency has provided the data to the FAA for consideration in their airport management recommendations and safety circulars to airport managers.

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 partnership involves universities and small businesses. Technologies pursued involve development of devices, baits, formulations, and vaccines. In FY 2017, NWRC furthered its partnership efforts to make sure its research and development activity had a path for commercial development and operational management with the following new activity: 8 Material Transfer and Research Agreements, 7 Cooperative Research and Development Agreements, 4 invention disclosures, 5 patent applications, and one patent issued.

APHIS, along with the Colorado Division of Parks and Wildlife, United States Geological Survey's National Wildlife Health Center, and the United States Fish and Wildlife Service received the 2017 Federal Laboratory Consortium Mid-Continental Region award for "Protecting endangered black-footed ferrets through the development of an oral sylvatic plague vaccine for prairie dogs." The Agency's role included guiding partners through the regulatory process, identifying a private small business partner for vaccine production, and assisting in the design of a commercially scalable bait production system. APHIS' Wildlife Services program serves on the Black-footed Ferret Recovery Implementation Team, and the vaccine serves as more cost-effective way to reduce the impacts of plague in certain areas.

Selected Examples of Recent Progress – Regulatory Enforcement:

1. Animal and Plant Health Regulatory Enforcement

Animal and Plant Health Regulatory Enforcement (APHRE) provides investigative and enforcement support to the Agency's four regulatory programs and Agricultural Quarantine Inspection (AQI) activities carried out through the Department of Homeland Security, 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.

In FY 2017, APHRE initiated 1,734 new cases, issued 523 official warnings, issued 420 pre-litigation settlements resulting in the collection of $558,896 in stipulated penalties, and obtained administrative orders assessing $837,325 in civil penalties. The Agency considers a case complete after it issues an official warning, issues a voluntary settlement to which the recipient agrees, finds there is insufficient evidence to support enforcement action, or refers a case to the USDA Office of the General Counsel. Highlights from APHIS are described below.

To support animal health, APHRE initiated 198 cases, issued 58 official warnings, issued 25 pre-litigation settlements resulting in the collection of $45,025 in stipulated penalties, and obtained administrative orders assessing $84,675 in civil penalties against persons for violations of laws aimed at protecting animal health and American agriculture. APHIS also negotiated a pre-litigation settlement in the amount of $7,500 for an alleged violation of the Animal Health Protection Act (AHPA) relating to the use of fraudulent federal certificates; and a settlement of $8,750 for an alleged violation of the AHPA related to fraudulent blood test submissions. APHIS also obtained an administrative order assessing a $71,650 civil penalty in connection with violations of the Commercial Transportation of Equines for Slaughter Act.

To support plant health, APHRE initiated 66 cases, issued 20 official warnings, and issued 20 pre-litigation settlement agreements resulting in the collection of $67,762 in stipulated penalties. Of note was an investigation into the alleged prohibited importation of Hass avocados into Puerto Rico by a company that settled for a civil penalty of $17,500, and an investigation for an alleged wood packaging materials violation involving a company that produced and used a fraudulent International Standards for Phytosanitary Measures No. 15 (ISPM15) stamp to mark several wooden crates, resulting in a settlement for a civil penalty of $12,500. Additionally, investigators working with the USDA Office of the General Counsel obtained a Decision and Order resulting in a civil penalty of $130,000 to a company for the improper movement of imported fire ants, and a Default Decision resulting in a civil penalty of $12,500 to an individual for attempting to bring wood across the United States / Mexico border without proper permits.

To support AQI activities, APHRE initiated 1,190 cases, issued 58 official warnings, and issued 362 pre-litigation settlement agreements resulting in the collection of $356,259 in stipulated penalties. APHIS negotiated an administrative consent decision with a $17,500 civil penalty for Plant Protection Act violations after a customs broker attempted to hide prohibited and unmanifested agriculture products without the proper permits on three separate occasions. APHIS also issued multiple pre-litigation settlements involving the alleged improper safeguarding of regulated garbage, including settlements with civil penalties totaling $124,000 and alleged agriculture hold violations with civil penalties totaling $33,750.

To support animal welfare, APHRE initiated 205 cases, issued 157 official warnings, issued 13 pre-litigation settlements resulting in the collection of $89,850 in stipulated penalties, and obtained administrative orders assessing $467,150 in civil penalties. APHIS negotiated several strong administrative consent decisions under the Animal Welfare Act (AWA), including one involving a business operating as both a research facility and dealer that agreed to the assessment of a $185,000 civil penalty, and a suspension of its dealer's license. In another case, a business operating as a research facility paid a $33,000 settlement to resolve allegations that the business violated the AWA on multiple occasions.

To support horse protection, APHRE initiated 75 cases involving 380 individuals, issued 213 official warnings, obtained 88 administrative orders assessing $113,000 in civil penalties, and disqualified 85 individuals from participating in activities regulated under the Horse Protection Act (HPA). In one case, APHIS entered into a consent decision in which the individual acknowledged entering or showing five different horses, on five separate occasions in 2013, 2016, and 2017, while the horses were sore, in violation of the HPA. The consent decision disqualified the individual for a period of two years from showing, exhibiting, or entering any horse in any horse show, exhibition, sale, or auction; and assessed a $6,000 civil penalty. In another case, after filing an administrative complaint alleging nine instances of entering, showing, and/or transporting six different horses, while the horses were sore, APHIS entered into a consent decision assessing an uninterrupted seven-year disqualification.

To support biotechnology, APHRE concluded an investigation regarding a high-profile incident involving the possible spread of genetically engineered (GE) corn at research facilities. APHIS confirmed that the research facilities acted within appropriate protocols to control the spread of the GE corn, and provided appropriate

notifications to APHIS. Additionally, as part of an APHIS internal collaborative effort to further the protection and safeguarding of plant health throughout the United States, APHIS created and delivered a training providing "Tips for Non-Investigators: Evidence Collection and Chain of Custody," for the Agency's biotechnology program staff who are sometimes first responders to incidents, and have a requirement to collect evidence.

2. Biotechnology Regulatory Services

APHIS balances a regulatory system that safeguards agriculture while fostering innovative research and development in the field of biotechnology. APHIS has a timely and predictable regulatory process that uses high quality, thorough, science-based reviews. Under the authority of the Plant Protection Act (PPA), APHIS safeguards agriculture by overseeing certain genetically engineered (GE) organisms that might pose a risk to plant health. APHIS' biotechnology regulations implement the Plant Pest provision of the PPA and, under these regulations, the Agency may put specific requirements on field testing, importation, and interstate movement of regulated GE organisms to protect American agriculture and other plants from the risk of damage from potential plant pests until such time as APHIS determines they are unlikely to pose a plant pest risk.

Authorizations

Depending on the characteristics of the GE organism, a developer files an application in the form of either a permit or a notification, referred to as an authorization. A permit is more restrictive than a notification, and is generally issued for GE organisms that APHIS is less familiar with and thus may pose a greater plant pest risk. A notification is a streamlined authorization for GE organisms that APHIS has familiarity with and thus less likely to pose plant pest risks. In FY 2017, APHIS authorized 1,726 permits and notifications in 41 states (plus Puerto Rico and the U.S. Virgin Islands) for 159 organisms.

Risk Assessment and Petitions

When biotechnology developers can provide scientific information that demonstrates their GE organism is not a risk as a plant pest, they can request APHIS to remove a GE organism from regulation. For example, they may request deregulation if they want to commercialize and/or grow the GE organism without APHIS' oversight. Before APHIS makes a regulatory decision, it conducts thorough scientific reviews and gathers data to determine if a new GE organism poses a risk to plant health. APHIS' reviews of the GE organism include analyzing both current, publicly available scientific information and the technical data provided by the applicant. When considering this request, APHIS completes a scientific plant pest risk assessment, as well as an environmental review in compliance with the National Environmental Policy Act. If APHIS determines a GE organism does not pose a plant pest risk, the Agency makes a determination of nonregulated status (deregulation), and the organism can be planted and moved without APHIS' oversight.

In FY 2017, APHIS reviewed and deregulated three petitions: two lines of GE potato, canola, and creeping bentgrass, which required a more extensive review including an Environmental Impact Statement (EIS) to be completed. The cumulative total of APHIS deregulations is 127. In recent years, APHIS has identified and implemented solutions to improve the timeliness and predictability of the petition process while maintaining its high standard of scientific rigor and decision-making. APHIS completed a determination of petitions that do not require an EIS in an average of 287 days, reducing the time by 66 days (from an average of 353 days in FY 2016). APHIS completed the EIS petition in 449 days. APHIS continues to provide the public with opportunities to review and comment on both the petition request and the scientific assessments of the GE organisms in the *Federal Register*.

Since 2011, APHIS' "Am I Regulated?" (AIR) process allows potentially regulated entities to ask the Agency whether an organism is a regulated article by providing specific information including scientific data, the technology used, and other information about the GE organism. APHIS evaluates the description of the product and informs the developer if the GE organism is or is not regulated by the Agency under its current biotechnology regulations. APHIS publishes their responses to AIR letters on its website. In FY 2017, APHIS responded to 14 AIR inquiries; since inception, the Agency has responded to more than 50 inquiries.

Compliance and Inspections

APHIS ensures developers, growers, and others take the important steps to prevent unauthorized releases of regulated GE organisms. The Agency requires developers to comply with notification performance standards or

permit requirements to help ensure the GE organisms are confined and do not persist in the environment. To ensure that GE organisms meet standards outlined in the permit or notification, APHIS inspects fields, equipment, and other associated facilities. In FY 2017, APHIS and the States (authorized by APHIS) conducted more than 750 site inspections, 45 of which were unannounced inspections. Approximately 96 percent of those inspected were in compliance with APHIS biotechnology regulations.

In recent years, following recommendations from the USDA's Office of Inspector General's office, APHIS has taken steps to strengthen its oversight of regulated GE field trials. In FY 2017, APHIS implemented an improved risk-based inspection selection process and expanded permit inspection oversight. APHIS added unique plant characteristics, such as ability to persist in the environment after harvest, as well as compliance history of the permittee, as additional control measures for compliance oversight. The Agency also enhanced compliance effectiveness by expanding efforts for identifying and addressing late and missing planting reports, post-harvest monitoring reports and final field trial reports. In addition, APHIS implemented a compliance incident response plan that efficiently coordinates compliance response with Agricultural Marketing Service and Grain Inspection, Packers and Stockyards Administration, who can serve as first responders in the event of an incident.

Regulatory Changes

Advances in science and technology have altered the biotechnology landscape, enabling the development of products not envisioned when regulations were first established. APHIS is considering how to update the Agency's biotechnology regulations to better align the regulations with the statutory authority and regulatory oversight with risks to plant health. APHIS published a proposed rule in January 2017 and received more than 200 comments. After reviewing the comments received, USDA determined that additional stakeholder engagement would be appropriate in order to explore alternative policy approaches and withdrew the proposed rule. In FY 2018, USDA plans to conduct stakeholder outreach to engage in an open and robust policy dialog to more effectively address the issues raised in public comment.

Partnerships

Beginning in July 2015, APHIS, along with the Food and Drug Administration and Environmental Protection Agency, began the lengthy process to update the Coordinated Framework to clarify roles and responsibilities, develop a long-term strategy to ensure that the Federal biotechnology regulatory system is prepared for future products of biotechnology, and commission an expert analysis of the future landscape of biotechnology products to support these efforts. As part of the process, the three agencies held a series of stakeholder meetings to gather input on the development of these strategies and documents.

On January 4, 2017, the coordinating agencies released two documents to further the objectives of modernizing the regulatory system for biotechnology products: a proposed Update to the Coordinated Framework; and a National Strategy for Modernizing the Regulatory System for Biotechnology Products. Background on this effort and the documents are available at https://www.aphis.usda.gov/aphis/ourfocus/biotechnology/stakeholder-meetings/cf_meetings. The agencies also commissioned a report by the National Academies of Sciences, Engineering, and Medicine, titled "Preparing for Future Products of Biotechnology." The report was released in March 2017, and describes the new types of biotechnology products likely to emerge over the next 5-10 years and assesses whether future products could pose different types of risks relative to existing products.

APHIS also works with international partners to enhance the coordination of regulatory approaches for the safe use of GE organisms and provides capacity building assistance to developing countries for the regulation of GE organisms. These activities promote U.S. exports of GE products by ensuring that trading partners understand and accept the U.S. system for regulating GE organisms. For example, in FY 2017, APHIS worked closely with Mexico and Canada on technical and regulatory biotechnology issues in bilateral, regional, and multi-lateral international venues. APHIS also meets with foreign visitors who are interested in understanding how the United States regulates the safe use of biotechnology-derived organisms. In FY 2017, APHIS gave briefings to 107 foreign visitors from 17 countries. In addition, the Agency serves as the U.S. government lead and the Chair of the Working Group on Harmonisation of Regulatory Oversight in Biotechnology in the Organization for Economic Co-operation and Development. The Working Group works to promote international harmonization in environmental risk/safety assessment and regulation of organisms produced through modern biotechnology. APHIS also provides technical support to USDA's Foreign Agricultural Service, the U.S. Department of State, and other U.S. government agencies in outreach activities related to participation in the Meeting of the Parties to the Cartagena Protocol on Biosafety

held in South Korea. This work is aimed at enhancing coordination of regulatory approaches and providing capacity building assistance for the regulation of GE organisms.

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. It develops strategies, policies, and procedures for incident management and response coordination that meet national and international standards. The EPR's program goal is to respond to an animal health event within 24 hours from the time APHIS decides that it is appropriate to be involved in the response effort. The program develops guidance documents covering the major components of an animal health emergency response, and makes them available to State and industry partners. The program also participates in joint Federal, State, and local animal health and all-hazards test exercises to improve response capabilities, and performs reviews afterwards. These reviews lead to corrective action plans that APHIS uses to update their guidance documents and help States enhance their response plans. In addition, this program works with major commodity groups to ensure the continuous movement of livestock products during an animal health emergency. Effective preparation for and response to animal health events requires advance and continuous preparation, followed by training and exercises to enable a rapid response. This line item funds activities to 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.

The EPR program supports coordinators in each of the 10 Federal Emergency Management Agency (FEMA) regions for Emergency Support Function 11: Agriculture and Natural Resources (ESF #11). The coordinators work with local, State, Tribal, Territorial, Insular Area Governments, and other Federal agencies during actual and potential incidents to respond to animal and agricultural health issues; provide technical expertise in support of animal and agricultural emergency management; ensure the safety and defense of the Nation's supply of meat, poultry, and processed egg products; and ensure the protection of natural and cultural resources and historic properties. In addition, APHIS provides technical support to FEMA for the care of pets and service animals during disasters. The EPR program also maintains Emergency Qualifications System (EQS) Dispatchers, who coordinate the delivery of emergency resources.

Congress supported APHIS' request for additional resources in FY 2017 to enable the Agency to expand its animal health readiness capacity. With this funding, APHIS increased the number of available first responders and improved responder training which enables the Agency to respond more rapidly and effectively to emergency events such as avian influenza. Specifically, APHIS hired 13 additional personnel for preparedness and response. APHIS also enhanced the Select Agents program by hiring additional personnel to handle evolving demands and fully carry out its inspection program. The Agency is continuing investments in both of these areas in FY 2018. This additional funding will help APHIS ensure that capabilities are in place, established, and well-tested when animal threats arise. Further details are highlighted below.

Preparedness, Partnerships, & Planning

In FY 2017, APHIS worked with FEMA to draft various national reports and annexes. Of note is the development of the National Food and Agricultural Incident Annex and updating of the Pandemic Crisis Action Plan. In addition, APHIS coordinators worked with FEMA and the States to develop more than 30 Regional, State, and local plans. The EPR Program also supported the development of the Voluntary Emergency Ready Response Corps, a pool of APHIS employees who are trained to fill commonly requested emergency response positions. By the end of September 2017, 305 employees had volunteered for 826 positions (each employee may apply for multiple positions). Employees are fully trained for 343 of the 826 positions, and most are partially trained for the remaining positions. In addition, APHIS further increased its available resources by expanding training for its safety cadre to provide occupational safety and health support for emergency responses, and developing a security cadre to provide physical and operational security support for emergency responses.

APHIS, State cooperators and industry stakeholders completed the first version of the Secure Milk Supply (SMS) Plan. The SMS Plan provides a workable continuity-of-business plan for dairy premises with no evidence of FMD infection in a regulatory control area. Under the plan, such an operation would be able to move raw milk to

processing that is deemed credible by the responsible regulatory officials (local, State, tribal, and Federal officials, as appropriate). These officials must balance the risks of allowing the movement of raw milk against the risk of the on-farm disposal of raw milk. The SMS Plan resulted from a multi-year collaboration by industry, State, Federal, and academic representatives. The Plan provides guidance only; in an actual outbreak, the responsible regulatory officials will make decisions based on the unique characteristics of each outbreak.

APHIS also serves as a liaison between State and local officials and exhibitors regulated by the Animal Welfare Act to enhance coordination on foreign animal disease preparedness efforts. In FY 2017, APHIS continued investing in the ZAHP Center to close emergency management gaps for the exotic animal industry. As a centralized and non-regulatory emergency management tool, ZAHP employs a whole-community approach, reaching corners of the exotic animal industry that APHIS has had difficulty reaching. With three major hurricanes, APHIS successfully piloted a 24/7 call-and text message line for facilities licensed and registered under the Animal Welfare Act. This tool enabled the Agency to facilitate timely solutions to problems facing these facilities, preventing irreparable harm to the impacted animals.

Preparedness Training and Exercises

A key component to preparedness is training and exercising plans that the program refines based on the results. In July 2017, APHIS began planning a functional exercise that will involve Federal, State, and local agencies, as well as industry. Five States will be involved, and several other States will participate in associated tabletop exercises. This exercise is a cooperative effort with the Multi-State Partnership for Security in Agriculture and is scheduled to occur in May 2018. Its objectives will be to demonstrate effective communication across each level of the response, define the critical information requirements and prioritization strategies necessary to support a request for scarce or critical resources, and identify policies and procedures for engaging/requesting support during an FMD response. Participating entities will need to demonstrate procedures for integrating State and Federal information management systems, demonstrate the capability to manage resources during an FMD response, implement the Secure Food Supply Plans as applicable, validate FMD response plans, and identify gaps in resources and policies that would be needed to effectively respond to an FMD outbreak.

In FY 2017, ESF-11 Coordinators participated in the planning and execution of more than 25 FEMA and State-led exercises ranging from tabletops exercises to drills providing cross-functional coordination and assistance. These exercises included Louisiana's Department of Agriculture and Forestry's Red Cross Cohabitated human/pet sheltering table top exercise; a United States Northern Command and FEMA Interagency Transportation Feasibility Analysis Workshop; FEMA Hurricane Threat Annex Workshops; the Massachusetts Animal Mortality Workshop; Rhode Island's Radiation Workshop; and many other Federal and State-level exercises.

Response Efforts and FAD Investigations

In FY 2017, APHIS conducted 1,708 foreign animal disease investigations, of which 1,469 were vesicular lesion investigations. This is the most disease investigations conducted in a given fiscal year. The high number of vesicular investigations resulted from the ongoing Seneca Valley A virus (SVA) disease in pigs in the United States and Canada. Although SVA is not a regulated disease, it mimics FMD, which is the highest consequence foreign animal disease in terms of regulatory intervention and economic consequences.

In FY 2017, FEMA activated ESF-11 coordinators for 10 responses. APHIS dispatched 874 responders to 38 incidents or events, including the 10 for which the coordinators responded. The Agency's dispatchers worked with the Incident Coordination Group and program contacts to identify personnel and mobilize resources within the timeframes requested by the Incident Commanders. APHIS dispatched employees to respond to New World screwworm in Florida from October 2016 through May 2017; Hurricane Matthew in October 2016; highly pathogenic and low pathogenic avian influenza in Tennessee, Alabama, and Georgia from March through May 2017; spotted lantern fly in Pennsylvania from July through October 2017; cattle fever ticks in Texas from August through October 2017; and Hurricanes Harvey, Irma, and Maria from August to October 2017. and continuing.

Safeguarding of Select Agents

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. Pursuant to the

Public Health Security and Bioterrorism Preparedness Response Act of 2002, any individuals or entities possessing, using, or transferring select agents or toxins must register them with APHIS (if the agent affects animal or plant health) or the CDC (if the agent affects human health). The FSAP administers the select agents and toxins regulations in coordination with the Federal Bureau of Investigation. Facilities must meet safety requirements, including biosecurity and physical security measures that ensure the safety and security of the agents and toxins and to prevent their release. APHIS and CDC inspect facilities that use or transfer these agents to ensure compliance, and they also inspect each other's facilities to eliminate potential conflicts. APHIS' Agriculture Select Agent Services (AgSAS) ensures that facilities address all non-compliances appropriately, and for initiating enforcement actions. In FY 2017, AgSAS met with the Department of Homeland Security (DHS) to plan the select agent registration of the National Bio and Agro-Defense Facility, which is being built in Manhattan, Kansas.

As of September 30, 2017, 39 entities that contain select agents covered under APHIS authority are registered with AgSAS, and 43 entities that contain these agents are registered with CDC. In FY 2017, AgSAS received 390 amendments consisting of 348 administrative amendments (personnel addition or removal, and role changes), 29 technical amendments that required on-site inspections, and 13 amendments that were *both* technical and administrative. AgSAS averaged 34 days to complete each of the 382 amendments. In addition, AgSAS conducted 64 inspections as follows: 27 verification inspections, 22 renewal inspections, 7 compliance inspections, 5 inspections involving amendments, and 3 inspections for movement permits. APHIS issued corrective letters for minor violations and for more serious noncompliance issues found during the inspections. The Agency conducted joint inspections with CDC, DHS, and the Department of Defense, as applicable.

In 2014, six incidents at CDC laboratories involved the possible release of select agents from the laboratories. These incidents led to the formation of Federal working groups to review regulation gaps and identify areas for FSAP to improve. These reviews prompted APHIS and CDC to institute many changes in operations and policies in FY 2016. In addition, both agencies increased their engagement with the regulated community to improve customer service and enhance the inspections process, strengthen FSAP's regulatory oversight, and increase FSAP's transparency. Continued improvements through FY 2017 included APHIS' publication of a final rule that clearly defines inactivation and identifies standards to ensure more robust oversight of inactivation procedures, specific biosafety oversight requirements, and the publication of the second Annual FSAP Aggregate Report, which increases program transparency. The most significant improvement in FY 2017 was the development of a joint CDC-APHIS select agent database, which will house essential data and records, and provide improved reporting and workload management capabilities. The new system allows registered entities to provide information directly through a secure portal, eliminating data entry errors and reducing cycle time for submitting amendment requests and responses to APHIS information requests. The new system became operational in December 2017, although specific modules and functions are still under development.

Biosecurity

APHIS participates on the Biosurveillance Indications and Warning Analytic Community (BIWAC) steering committee to increase understanding of agricultural threats across the Federal interagency, particularly providing context and characterization for threats that may also affect human health and/or the U.S. economy. Through this interaction, APHIS leverages tools that all partners use to augment other APHIS global biosurveillance initiatives. In FY 2017, APHIS hosted the second annual BIWAC Analyst Knowledge Exchange with other members of the Biosurveillance Indications and Warning Community. This exchange enabled front line bio-surveillance analysts to share knowledge with their peers across the bio-surveillance partnership. Also in FY 2017, an APHIS official participated in briefings by the National Biosurveillance Integration Center (NBIC) on global emerging human, animal, and zoonotic disease updates. NBIC integrates, analyzes, and distributes information about health and disease events to help ensure the nation's responses are well-informed, save lives, and minimize economic impact. The APHIS official provided context and global epidemiological perspectives to the updates, and situation updates to the NBIC Daily Monitoring List, which is distributed throughout the Federal government. These updates involved highly pathogenic avian influenza, low pathogenic avian influenza, and New World screwworm.

SAFE TRADE AND INTERNATIONAL TECHNICAL ASSISTANCE

Current Activities: APHIS monitors animal and plant health throughout the world and uses the 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 ensure that these policies are enforced 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 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. Moreover, 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 conducts activities related to the 2008 Farm Bill amendments to the Lacey Act, which prohibit the importation of any plant, 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 issue regulations, provide guidance to importers regarding the declaration, perform compliance checks, provide enforcement agencies with declaration information to assist their investigations, and house documents.

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 animal diseases through importation. In FY 2017, APHIS completed several evaluations and published regulatory actions based on these evaluations in the *Federal Register*. These include proposals to recognize Mexico as free of classical swine fever and Japan as free of highly pathogenic avian influenza and exotic Newcastle disease, a final rule to allow the importation of ovine meat from Uruguay under certain conditions, final recognition of the animal health statuses of Malta and Cyprus for swine diseases, and a decision concurring with the World Organisation for Animal Health risk designations of 7 regions for BSE.

APHIS' science-based review is consistent with international trade requirements. In addition to detailed risk analyses of the regions, the Agency conducted eight site visits in various regions to confirm that the regions' surveillance, prevention, and control measures are sufficient to minimize the likelihood of an introduction of foreign animal diseases into the United States. APHIS added four countries (Bulgaria, Zimbabwe, Uganda, and Philippines) to the list of regions affected with highly pathogenic avian influenza. Additionally, APHIS implemented a review process for regions that have previously been granted animal health status recognition, and began this process with three regions (New Zealand, Chile, and Costa Rica).

APHIS addressed import issues related to live animals and animal products arising at the ports, especially in regards to facilitating cattle imports from Mexico. The Agency is working to improve traceability of imported animals by implementing the use of identification scanners at the Mexican border that will upload ear tag information into our traceability databases. APHIS also continues to work with Mexico in implementing a joint strategic plan to control

and eradicate bovine tuberculosis in both countries. In FY 2017, APHIS issued 12,686 import permits for live animals, animal products, organisms, and vectors. These include new permits, renewals, and amendments.

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. APHIS worked to develop more regulatory flexibility, and removed the import permit requirement for certain low risk and exempted animal origin ingredients and products. APHIS also collaborated with Canada to harmonize the trade protocols for thermally processed pet food, pet treats and chews, resulting in removal of these requirements for import permits and streamlining the health certification necessary. Each of these regulatory changes allow U.S. importers to streamline processes and reduce costs associated with importing products, while still maintaining animal health protection.

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 FY 2017, APHIS negotiated or re-negotiated 110 export protocols for animal products (24 new markets, 3 expanded markets, and 83 retained markets). This includes retaining market access for poultry exports in numerous countries that imposed prohibitions due to the 2017 avian influenza outbreaks, and countries where markets were regained after being lost due to the 2014-15 avian influenza outbreaks. This also includes an agreement with the European Union to expand market access for used cooking oil, valued at $300 million. Together, these markets are valued at more than $10.6 billion for a range of commodities.

APHIS negotiated 126 export protocols for live animals (64 new or reopened markets in 28 countries, 22 retained markets in 14 countries, and 40 expanded markets in 26 countries), including new markets for in-vitro fertilized bovine embryos to Colombia, turtles to Italy, sheep and goats for breeding to Mexico, and horses to Qatar. APHIS conducted voluntary inspections of more than 1,006 U.S. manufacturing facilities to maintain, expand, or open export markets in many countries, including Australia, Canada, China, the European Union, Indonesia, Malaysia, Mexico, Peru, Russia, South Africa, South Korea and Turkey. APHIS participated in industry stakeholder meetings, provided technical support for World Trade Organization cases, coordinated or supported 11 audits, and engaged in bilateral trade meetings with 15 countries, including the first bilateral with the European Union in three years and the first bilateral with Australia in nine years. APHIS also developed information packages and questionnaire responses from various countries to maintain, expand, or open export markets.

The New World screwworm outbreak that occurred from 2016-2017 impacted the U.S. exports of multiple live animal species. During the outbreak, APHIS maintained market access for 22 commodities in 14 different countries including cattle to Barbados, Belize, El Salvador, Guatemala, Honduras, New Zealand and Nicaragua.

APHIS endorses export certificates for live animals and inedible animal-origin products, documenting the animal health status and facilitating export to all markets. In FY 2017, APHIS endorsed more than 178,800 export health certificates for animal products, more than 38,600 certificates for livestock, poultry and germplasm, and more than 71,000 certificates for pets.

APHIS continues to increase the number of certificates issued electronically this year by expanding the system's capabilities. APHIS has digital signature capabilities, a certificate upload feature, and is working on expansion of the number of countries and commodities electronic certification is available for. This includes establishing bilateral pilot projects with Mexico and expansion of the ongoing project with Canada to allow or extend exports with electronically issued and digitally signed certificates.

Lacey Act

In FY 2017, APHIS continued focusing on development and implementation of the Department of Homeland Security's Customs and Border Protection's (CBP) Automated Commercial Environment (ACE) system for the Lacey Act program. ACE is part of a government-wide effort to streamline export and import processes for U.S. businesses. In FY 2017, APHIS received approximately 1 million Lacey Act declarations, including those received through ACE, APHIS' electronic filing system (the Lacey Act Web Governance System, or LAWGS), and on paper. More than 90 percent are filed through ACE. The number of declarations received in FY 2017 represents a significant increase over the 450,000 declarations received in FY 2016. The increase is likely related to ACE, which alerts importers of specific Lacey Act requirements associated with imported product types. Along with increasing

awareness and compliance among importers, ACE has also reduced unnecessary filings by allowing importers to incorporate information from several entries to a single entry. It also has the potential to reduce errors in Lacey Act filings by prescribing the types of responses allowed for certain fields and allowing APHIS to reject declarations with certain types of errors, forcing the importer to re-file with correct information. These improvements will allow APHIS to focus its analytical capabilities on potentially fraudulent declarations. APHIS is continuing to develop a module in LAWGS that will further enhance compliance reviews by automating initial screenings of declarations and flagging certain types of issues for further review. To continue building compliance capabilities, APHIS is working with the U.S. Forest Service to determine if existing wood identification tools could be used in port environments to inspect imported shipments and determine if the species listed on the Lacey Act declaration is accurate. This two-year effort will determine if the tools are practical and feasible for port-of-entry inspections or compliance checks. APHIS continued to work with importers to clarify and establish requirements for Lacey Act declarations for timber and timber products admitted into U.S. foreign trade zones (areas near ports of entry where imported goods are not subject to tariffs during storage, manufacturing, and exhibiting processes) and into bonded warehouses through numerous meetings and outreach events with the trade community. Because ACE does not currently recognize tracking numbers associated with imports to foreign trade zones, APHIS established a temporary solution through LAWGS to allow importers to file Lacey Act declarations. Additionally, APHIS continued to work with its counterparts in other countries to establish cooperative relationships regarding ways to combat illegal logging and other activities the Lacey Act is designed to reduce.

2. Overseas Technical & Trade Operations

Through the Overseas Technical & Trade Operations (OTTO) program, APHIS helps U.S. farmers and ranchers export their products to other countries by resolving concerns over animal and plant health issues that affect trade in agricultural products. APHIS uses its technical expertise to develop science-based agreements with other countries for U.S. exports and international standards for trade. The Agency also collaborates with USDA's Foreign Agricultural Service, the Office of the U.S. Trade Representative, and other technical agencies to provide a coordinated effort on trade issues that affect U.S. producers.

In addressing sanitary and phytosanitary (SPS) barriers to trade, 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. These scientists build relationships with counterparts and use scientific principles to make the case for American agricultural exports and explain to foreign officials why U.S. commodities are safe to import. These conversations take place in ongoing, technical bilateral meetings and in multilateral fora. To strengthen APHIS' ability to respond quickly to trade issues, the Agency has scientists, including veterinarians and entomologists, stationed throughout the world in more than 30 countries to collaborate on animal and plant health issues with their foreign counterparts in support of U.S. exports.

Highlights of APHIS efforts in FY 2017 include, among others: restoring access for U.S. distiller's dried grains valued at $230 million to Vietnam; reopening the $10 million annual market for Idaho potatoes in Japan; reopening the $5 million annual market for U.S. table eggs to South Korea; and negotiating new access for U.S. horse exports to Qatar for an estimated export value increase of $2 million annually. APHIS also helped open new markets and maintain existing access for a wide range of products, including U.S. beef to China, worth $12 million in FY 2017, and day-old chicks to Morocco, worth an estimated $300,000 in FY 2017.

APHIS continues to enhance U.S. efforts to retain markets threatened or lost due to outbreaks of HPAI. As part of this effort to advocate for U.S. poultry producers, APHIS met with officials from key trading partners in South America, the Middle East, and Asia; responded to individual countries' concerns through numerous venues; and helped coordinate two HPAI workshops in Africa and the Middle East. Key successes following the March 2017 avian influenza detections in Tennessee included the timely lifting of the nationwide ban from Korea and regionalization to the State or county level (as opposed to nationwide bans) for the majority of the 50-plus restrictions imposed after the detections. APHIS' outreach to its counterparts in other countries on the U.S. surveillance system for avian influenza continues to lessen the impact of individual detections on U.S. poultry trade.

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 delayed at foreign ports, APHIS negotiates the overseas process to get products moving again. The exchange of technical and scientific information can often convince an importing country that the risk associated with imported products is less

than originally perceived or can be safely addressed through risk mitigation measures. APHIS successfully secured the release of more than 282 shipments worth $43 million in FY 2017. These detained shipments ranged from lemons to Japan to bovine genetic material to Israel.

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. In FY 2017, APHIS educated 529 foreign officials about the U.S. regulatory process by hosting them during 75 visits. APHIS also coordinated and prioritized 80 requests received for subject matter expertise, trainings, and other outreach-related activities. For example, APHIS worked with the Food and Agriculture Organization of the United Nations (FAO) to train a group of 30 veterinarians from 12 South African countries in emergency management, preparedness, and response for HPAI. Plant health officials from 22 countries attended the APHIS Plant Health Systems Analysis Courses held in FY 2017. Providing courses in animal and plant health surveillance and emergency response to participants from other countries is designed to help other countries increase their regulatory capacity, which over the long term, will help prevent the trans-national spread of serious pests and diseases as well as increase other countries' ability to engage in safe agricultural trade.

APHIS emphasizes the use of scientific principles as a basis for international trade decisions to help ensure that the same rules apply to countries around the world and foster a successful trading environment. To achieve this level playing field, APHIS works with international standard setting bodies such as the World Organisation for Animal Health and the International Plant Protection Convention to encourage other countries to follow this model. By gaining support for scientific-decision-making internationally and following international standards when considering what can be imported into the United States, APHIS increases U.S. agricultural exports. In FY 2017, APHIS participated in a special thematic session on regionalization for animal disease outbreaks held in Geneva along with the July 2017 World Trade Organization (WTO) SPS Committee meetings. This allowed the United States to promote our system for carrying out regionalization for animal disease outbreaks (both for managing outbreaks within the United States and for taking action on imports from other countries that experience animal disease outbreaks) and encourage other WTO members to use similarly transparent and science-based systems to evaluate U.S. exports.

In FY 2015, APHIS began comprehensive succession planning of its workforce, with special emphasis on its Foreign Service cadre. This recruitment and developmental process emphasizes applicants' animal and plant science backgrounds, focusing on increasing new officers' knowledge of all APHIS mission areas, as well as increasing cooperation with other international partners, such as USDA's Foreign Agricultural Service. The process further develops their diplomatic, cross-cultural, and leadership skills. APHIS recruited a class of eight Foreign Service trainees beginning in FY 2015, and a second class of nine in FY 2016, to augment current overseas staff (many of whom are eligible for retirement in the next five to ten years) and help ensure that APHIS has trained staff to support U.S. exports and overseas animal and plant health programs. In FY 2017, APHIS began deploying new Foreign Service officers to Mexico, Brazil, China, and other locations in key markets for U.S. exports. In addition, APHIS developed a process to evaluate the location of its overseas offices and to determine the most effective way to support the Agency's mission. These efforts will strengthen APHIS' ability to address SPS and other issues overseas in traditional and emerging markets, maintaining a more consistent overseas presence.

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

ANIMAL WELFARE

Current Activities: 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 (HPA) of 1970 as amended (15 U.S.C. 1821-1831). These activities include inspection of certain establishments that handle animals intended for research, exhibition, wholesale pet trade, or transported in commerce. APHIS places primary emphasis on inspection of facilities, records, investigation of complaints, inspection of problem facilities, and training of inspectors. APHIS also administers the HPA, as amended, which

prohibits the showing, sale, auction, exhibition, or transport of sore horses. Program personnel attend and monitor certain horse shows to prevent this cruel act of soring from occurring.

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, education, and enforcement efforts. Fifty years ago, in 1966, the AWA was signed into law. Since that time, APHIS, acting through the Animal Welfare Program and its predecessors, has safeguarded and protected millions of regulated animals used in research, exhibition, and the pet trade as well as those transported in commerce. In FY 2017, the program oversaw 8,470 licensees and registrants associated with 12,179 facilities.

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 licensees to ensure that applicant understands the requirements of the AWA regulations and standards and demonstrates compliance with those regulations and standards. The Agency develops individualized materials and presentations to focus on specific aspects or issues at each facility, as well as allows facilities up to three inspections to demonstrate compliance prior to issuing a license. In FY 2017, APHIS conducted 971 pre-licensing inspections, and issued 996 new licenses, some of which had pre-licensing inspections in the prior fiscal year and the license issued this year. The Agency determines on-going compliance by conducting unannounced inspections within three months of issuing the license. At the first unannounced inspection, 97 percent of these newly licensed facilities were in substantial compliance, with no direct, critical, or repeat AWA citations on the inspection report.

During 2016, APHIS conducted a review of the application processes required of AWA applicants. The review identified areas to reduce burden on new applicants, as well as allowing applicants to submit approved revisions to initial applications through less costly and more efficient processes. We also instituted a new process to assist applicants with calculating their licensing fees to promote consistency and reduce errors involving fee calculations; invested in a phone system that will connect applicants with the appropriate staff in a more timely and efficient manner; and, created a system for distribution of work to build continuity of service and better balance the workload. In FY 2017, APHIS processed 90 percent of new applications within the improved timeframe, resulting in a 32 percent improvement in the overall time a new applicant for a license or registration must wait before engaging in regulated activities (i.e., a decrease in wait time from 65 days in FY 2016 to 45 days in FY 2017).

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 FY 2017, APHIS conducted 11,072 inspections and found 96 percent of all facilities to be in substantial compliance with the AWA.

For those facilities struggling to achieve or sustain compliance with the AWA, APHIS offers free compliance assistance programs, which includes conducting a root cause analysis of the compliance challenges, working with the licensee to develop an individual plan to address the non-compliances, and providing supplemental education to employees. Since 2012, 88 facilities have participated in these compliance assistance programs, with 20 new facilities in FY 2017. For those participating facilities, the Agency helped increase compliance rates by 55 percent at the third routine inspection.

In support of USDA Agricultural Research Service's (ARS) efforts to promote animal welfare and establish the fully functioning Institutional Animal Care and Use Committees at its animal research facilities, APHIS has registered 35 ARS research facilities under the AWA. After completing pre-compliance visits to assess welfare conditions at ARS research facilities in FY 2016, the Agency focused on monitoring the health and welfare of animals housed at ARS facilities through the use of our unannounced inspection process. In FY 2017, APHIS conducted 36 inspections at 35 ARS facilities.

Enforcement Activities

In FY 2017, the Agency found approximately 96 percent of all regulated entities in substantial compliance with the AWA. However, when APHIS inspectors discover conditions or records that are noncompliant with the regulations, the Agency establishes a deadline for corrective action and increases 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.

APHIS initiated 205 cases, issued 157 official warnings, issued 13 pre-litigation settlements resulting in the collection of $89,850 in stipulated penalties, and obtained administrative orders assessing $467,150 in civil penalties. APHIS negotiated several strong administrative consent decisions under the Animal Welfare Act (AWA), including one involving a business operating as both a research facility and dealer that agreed to the assessment of a $185,000 civil penalty, and a suspension of its dealer's license. In another case, a business operating as a research facility paid a $33,000 civil penalty to resolve allegations that the business allegedly violated the AWA on multiple occasions.

Outreach/Stakeholder Activities

APHIS' Center for Animal Welfare serves as a national resource for policy development and analysis, supports compliance efforts through non-regulatory methods such as education, training, and outreach to stakeholders to convey critical and current animal welfare information, and reviews and promotes science and technology related to improving the welfare of animals. The Center maintains a team of animal welfare specialists to conduct additional visits to regulated facilities with specialized species. In FY 2017, these specialists provided more than 100 consultations, and conducted 48 visits to support the compliance inspection process.

APHIS' Animal Welfare Program continued to place emphasis on public outreach and education. The following are examples of efforts using non-regulatory solutions to promote animal welfare:

- Developed a new introductory course for dealers of guinea pigs, hamsters, and rabbits to provide helpful information about licensing and regulatory requirements under the AWA;
- Hosted the fourth annual Breeder Leaders Forum to brainstorm solutions to compliance and regulatory changes, discuss formal and informal industry-administered inspection approaches, and identify the industry's top priorities for USDA support;
- Participated in 13 breeder events that reached 765 members of the regulated community to openly exchange information about AWA compliance;
- Co-sponsored the Canine Care Workshop along with Missouri Department of Agriculture to administer training and respond to questions from 100 participants;
- Administered training to nearly 350 commercial dog breeders from the surrounding Amish community and presented a children's seminar to nearly 50 kids involving a hands-on, up-close look at proper animal husbandry practices;
- Hosted a symposium on primate care and enrichment involving 100 participants and a blend of experts to support licensees and registrants with AWA compliance and posted presentation materials on the APHIS website as resources for those who were unable to attend;
- Established a joint venture with six other Federal agencies to administer active-learning training to 120 administrators of Institutional Use and Animal Care Committees;
- Sponsored and delivered training to 300 attendees of the annual Public Responsibility in Medicine and Research conference by hosting 10 workshop sessions and participating in a plenary panel;
- Collaborated with the National Institutes of Health and a third-party certification entity to deliver four Institutional Use and Animal Care Committees 101 training sessions to nearly 200 participants; and,
- Developed an electronic version of the Dog Breeder Guide and made it available on the APHIS website while distributing more than 600 hard copies of the publication when attending breeder events.

Regulatory Changes

APHIS is proposing to amend the AWA regulations to establish de minimis thresholds for businesses breeding, selling or exhibiting regulated animals. Businesses considered to be de minimis are of a sufficiently small size to

not warrant Federal licensing and inspection for animal welfare. On August 4, 2016, APHIS published the proposed rule that defines de minimis and measures business size using criteria including the number of breeding females maintained, number of animals exhibited, and number of times per year that an animal is exhibited. This proposed rule would also amend the regulations to exempt owners of household pets that are exhibited occasionally, generate less than a substantial portion of income, and reside exclusively with the owner. The comment period closed on November 2, 2016, and APHIS received 28 responses to the proposed changes. APHIS anticipates publishing a final rule in FY 2018.

On August 23, 2017, APHIS published an advanced notice of proposed rulemaking seeking public input into potential revisions to the licensing requirements under our AWA regulations to promote compliance with the Act, reduce licensing fees, and strengthen existing safeguards that prevent any individual whose license has been suspended or revoked, or who has a history of noncompliance, from obtaining a license or working with regulated animals. The Agency will collect input through November 2, 2017, before determining options for reducing regulatory burden and ensuring the sustained compliance of licensees with the Act.

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 certain gaited breeds of horses are subjected to chemical and/or mechanical irritants to enhance their gait and provide a competitive advantage in shows, exhibitions, sales and auctions. This practice is used primarily in training Tennessee Walking Horses, racking horses and related breeds to provide a competitive edge during show events. USDA conducts oversight of the program through evaluate the performance of industry-licensed inspectors and conducting unannounced inspection at horse shows, sales, auctions or other regulated events.

Inspection Activities

The HPA requires all horses to be inspected prior to participating in HPA-covered events. USDA uses a third-party inspection program to support the administration of the HPA. The program includes the USDA certifying Designated Qualified Person (DQP) programs that the Horse Industry Organizations (HIOs) initiate and maintain. These HIO individually train and license DQPs to inspect horses for HPA compliance. In FY 2017, DQPs attended 257 HPA events and inspected 47,373 horse entries. In total, DQPs identified 337 HPA noncompliances, and show management disqualified 317 entries.

APHIS attends select HPA-covered events to evaluate DQP performance and oversee HIO and participant compliance with the HPA requirements. In FY 2017, APHIS refined the Agency's inspection program to ensure that USDA and HIOs are working together to enforce the HPA. APHIS hosted joint training for its inspectors and DQPs to promote consistency in compliance inspections. When attending HPA-covered events, APHIS inspectors conducted sample inspections and did not inspect a horse if a DQP had already detected a specific type of noncompliance with the HPA. Due to these changes, APHIS inspection numbers are lower than in prior years. In FY 2017, APHIS attended 52 horse events, inspected 1,536 horses and identified 129 instances of suspected noncompliance with the HPA. Based on results from an APHIS inspection, show management disqualified 99 horses. Of the approximately 250 horse events each year, the Tennessee Walking Horse National Celebration show is the largest and most prestigious Tennessee walking horse event. At the 2017 Celebration show, DQPs inspected 2,064 horses and found 101 HPA noncompliant items throughout the 10-day event. USDA inspectors attended 4 days of the event, inspected 103 horses, and identified evidence of soring or other HPA noncompliant items involving 11 horses. As a result, show management disqualified 9 of the USDA-inspected horses, and in total, disqualified 92 horses from the 2017 Celebration. Finally, APHIS analyzed 219 samples to provide confirmation of the use of a chemical agent, of which 63 percent tested positive for a prohibited substance.

APHIS has made significant efforts to increase transparency regarding inspection techniques and results. This includes providing full inspection report data, including noncompliant items identified by type, and number of horses show management disqualified from participating in HPA-covered events on the APHIS website: https://www.aphis.usda.gov/aphis/ourfocus/animalwelfare/SA_HPA.

Enforcement Activities

APHIS initiated 75 cases involving 380 individuals, issued 213 official warnings, obtained 88 administrative orders assessing $113,000 in civil penalties, and disqualified 85 individuals from participating in activities regulated under the HPA. In one case, APHIS entered into a consent decision in which the individual acknowledged entering or showing five different horses, on five separate occasions in 2013, 2016, and 2017, while the horses were sore, in violation of the HPA. The consent decision disqualified the individual for a period of two years from showing, exhibiting, or entering any horse in any horse show, exhibition, sale, or auction, and assessed a $6,000 civil penalty. In another case, after filing an administrative complaint alleging nine instances of entering, showing, and/or transporting six different horses while the horses were sore, APHIS entered into a consent decision assessing an uninterrupted seven-year disqualification.

Outreach/Stakeholder Activities

Upon request by the HIO, APHIS provides instruction on the HPA and regulations during the HIO DQP yearly training seminars. In FY 2017, APHIS provided four training sessions, of which one the Agency presented in conjunction with industry inspectors. The sessions provide refresher training to existing DQPs and USDA inspectors, and initial training for those interested in becoming DQPs. In FY 2017, APHIS focused on improving relationships with industry leaders by attending shows and establishing regular in-person meetings to open lines of communication between the industry and USDA. Examples of these efforts include: developing and issuing guidance documents for the walking horse industry that describe the HPA inspection process, responsibilities of managers of HPA-covered events, and responsibilities of participants in HPA-covered events; posting inspection training materials and video demonstrations on the website for the industry's ease of access and review; and attending HPA-covered events to observe industry inspector's performance and provide on-the-spot guidance on improving performance. The Agency will continue to work collaboratively with horse industry leaders in FY 2018.

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 to ensure 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, and telecommunications 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; improve integrity and accessibility of information, processes, and resources available to assist programs in emergencies; and improve APHIS' cyber-security. APHIS uses AITI funding to maintain annual software license and hardware agreements, and for life-cycle replacement for enterprise hardware.

The FY 2017 accomplishments listed below support these objectives:

- License Renewal – APHIS supported approximately 8,500 users 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 this fiscal year. The

AITI program also maintained applications availability outside of the normal operational hours, on weekends, and holidays to ensure availability of systems.

- Technology – APHIS continued its long-term, Agency-wide initiative of utilizing commercial cloud provided hosting services for its systems. In compliance with the Federal Information Technology Acquisition Reform Act, APHIS participated in a pilot for the Microsoft cloud system to determine its potential use in the future.
- 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 reducing vulnerabilities of our systems.
- Security Monitoring –The Agency upgraded its security monitoring systems to track 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.

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 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, 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 FY 2017, the program provided training to more than 3,200 Agency employees, including seminars relating to active shooter situations, situational awareness, illegal drugs, self-defense, terrorism, local crime trends, and travel safety. The program also provided workplace violence training seminars and multiple security briefings for employees who work along the international border or in foreign countries. To enhance preparedness and response, APHIS continued to require Active Shooter training for all employees through on-line and classroom based training. In addition, the POS program planned and delivered six live active shooter training exercises at the Agency's offices in Idaho Falls, Idaho; Worcester, Massachusetts; Miami, Florida; Atlanta, Georgia; Fort Collins, Colorado; and Bethel, Ohio. These scenario-based active shooter training exercises involved more than 350 employees, and provided a dynamic, interactive exercise for all personnel, as well as participating local law enforcement officers.

The POS program investigates, assesses, and mitigates all internal and external threats directed at Agency facilities, programs and personnel. These threats include death threats, terrorist threats, and assaults, among others. In FY 2017, APHIS investigated 95 external threats to its employees, and 41 workplace violence incidents. The POS program also works to ensure the safety of employees working at or near the Mexican border, and throughout Mexico and Guatemala.

Additionally, the POS program ensures the safety of APHIS 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 challenging environments. With regard to safeguarding APHIS employees entering private property, POS provided security during 21 inspections of regulated AWA entities, 60 HPA events, and 7 AWA confiscations.

In FY 2017, the program completed physical security assessments at 83 facilities. Of those facilities assessed, the POS program provided 22 major facility upgrades, along with approximately 75 repairs, to ensure that the buildings are compliant with Homeland Security Presidential Directive-12 (HSPD-12) and the Interagency Security Committee (ISC) recommendations. The HSPD-12 and ISC directives create the standard for secure and reliable forms of identification for facility/network access and compliance regarding physical security at Federal facilities. Additionally the POS program was responsible for issuing, activating, or updating more than 5,300 personal identification verification (PIV) cards, bringing APHIS employees in compliance with PIV use.

In FY 2017, the program assessed APHIS facilities directly affected by Hurricanes Matthew, Harvey, Irma, and Maria. These assessments sought to determine physical damage, safety of personnel, locate personnel who had not

been reached, and address any possible security threats from these storms. As a result, the program immediately addressed any building deficiencies before confirming that the facilities were back up to security standards.

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. In FY 2017, APHIS had 351 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 currently supports rental payments associated with 243 General Services Administration (GSA) leases and Department of Homeland Security (DHS) payments. The funding allows APHIS programs to continue carrying out 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, without diverting fiscal resources from operations to cover these costs.

APHIS continued to take steps to reduce rent expenses and better manage its space portfolio overall. Based on the previous year analyses, APHIS was able to better manage space in its Raleigh and Minneapolis hub locations. APHIS consolidated three Raleigh locations to two, reducing the footprint by 12,513 rentable square feet and the overall number of leases in FY 2017. The Agency also moved into a new space at the Minneapolis hub location, reducing the footprint by 10,131 rentable square feet. To maximize the available space, the Minneapolis hub incorporated a number of space management practices such as having unassigned workstations and offices. In addition, APHIS demolished its outdated facility in Ames, Iowa, which reduced the Agency's footprint by another 146,179 rentable square feet. The Agency also initiated a detailed analysis of the Riverdale hub to identify opportunities for space reduction or consolidation.

APHIS continues to implement other measures for managing its space portfolio. For example, in working with GSA, APHIS identified an opportunity for GSA to directly bill the Agencies, which removed several steps for funding transfers between the USDA and its Agencies (including APHIS). USDA implemented the direct billing of GSA lease payments at the beginning of FY 2017. In addition, APHIS' senior management continued to approve space changes (e.g., requests for new or increases in space) to ensure it is within the allowable footprint and funding allocations.

These efforts, coupled with program specific space reductions, made it possible for APHIS to reduce its footprint by more than 170,000 rentable square feet in FY 2017, exceeding the USDA's goal to reduce by 7.5 percent (125,034 rentable square feet) by 2018.

MULTI-AGENCY COORDINATION (MAC) GROUP

Selected Examples of Recent Progress in Multi-Agency Coordination Group:

1. Huanglongbing

Huanglongbing (HLB) is a serious disease of citrus that threatens U.S. citrus production valued at $3.4 billion in 2016 (National Agricultural Statistics Service). HLB is widespread in Florida resulting in higher production costs, lower yields, and lower productive acreage. Additionally, the disease is present in all of Texas' citrus producing areas and residential areas of Los Angeles, Orange, and Riverside Counties in California. HLB's insect vector, the Asian citrus psyllid (ACP), is widespread in urban areas in southern California, threatening the State's more than $2 billion citrus industry. ACP is also present in Arizona, Nevada, Texas, Louisiana, Alabama, Georgia, Florida, and South Carolina. APHIS established the HLB Multi-Agency Coordination (MAC) response framework in December 2013, to help address the citrus industry's immediate and long-term needs in dealing with this devastating disease. In addition to APHIS, the MAC is comprised of representatives from USDA's Agricultural Research Service, National Institute of Food and Agriculture, Office and Pest Management Policy, and the Risk Management Agency;

the Environmental Protection Agency; State departments of agriculture in Florida, Arizona, California, and Texas; citrus research organizations in California and Texas; and citrus industry organizations in Florida, California, and Texas. Since FY 2014, the HLB MAC group has funded a total of 47 projects carried out by State cooperators, universities, private companies, and Federal agencies. The projects have 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 FY 2017, the HLB MAC funded eight new projects. One project is documenting the impact of ACP population suppression activities to make recommendations to growers on grove management priorities. A second project is examining the impacts of thermal therapy on tree health in Texas orange and grapefruit groves. The MAC funded some equipment for a new biosecurity level 3 laboratory in California that will allow more HLB research to be conducted in California by California researchers. The MAC funded two projects on ACP biological control, two projects on early detection technologies, and one project on a novel trap for ACP. The MAC also approved funding to retrofit screen houses at the University of Riverside to provide adequate space to evaluate and propagate potentially resistant or tolerant root stock and scions. The HLB MAC conducts an in-depth review of all projects to monitor progress and verify usefulness to the citrus industry. They will consider projects that will result in the highest value to the citrus industry for funding in FY 2018.

Over the last several years, HLB MAC funded projects have:

- Tripled the production and release ACP-killing wasps, from 4 million to 12 million per year. These wasps have reduced ACP populations by more than 50 percent in Texas and as much as 99 percent around California release sites.
- Removed nearly 6,000 acres of abandoned groves in Florida through a demonstration project showing that eliminating uncontrolled ACP habitat can help prevent pest and disease spread and prompting State legislation to incentivize further removal of abandoned groves.
- Trained and field tested canines to detect HLB in commercial and residential settings.
- Applied thermotherapy to more than 3 million HLB-infected trees in Florida to extend trees' productive life by promoting new growth and slowing the progress of the disease.
- Helped move thermotherapy technology to market by delivering a prototype machine to growers who used the design to build their own machines and private companies who improved the technology and now offer thermotherapy services.
- Developed soil acidification technology that could be used on a broad scale to lower the pH of infected tree roots, helping to improve overall tree health and production.
- Saved growers from investing in ineffective technologies by researching and disproving claims that adding microbials to grove soil would improve tree growth.
- Field tested two antimicrobial treatments to improve the overall health and quality of infected trees. Florida then used that data to obtain a Section 18 exemption from the Environmental Protection Agency, allowing them to use antimicrobials on an emergency basis.
- Initiated a rapid propagation project to accelerate field testing of 35 varieties of HLB-tolerant mandarin and sweet orange trees, which will make them available 2 years earlier than traditional propagation practices.

Growers are using one out of every three HLB MAC-funded shovel-ready technologies today. In Florida, growers had planted 3.5 million new trees in 2016, indicating confidence in new solutions. The 2017 hurricanes interrupted what had promised to be the first increase in production in Florida in a decade as growers have implemented HLB MAC funded tools in their grove management. APHIS will continue working closely with our partners in industry, private research, state department of agriculture, and other government agencies to support continued development of tools to address HLB.

EMERGENCY ACTIVITIES FUNDED BY TRANSFERS FROM COMMODITY CREDIT CORPORATION (CCC)

1. Avian Influenza

In FY 2017, APHIS spent approximately $21 million in Commodity Credit Corporation funds to address avian influenza (AI) outbreaks in the southeastern United States and to enhance preparedness for possible future outbreaks. In March 2017, the Agency confirmed HPAI in two flocks in Lincoln County, Tennessee. The laboratories identified the virus as H7N9 of North American wild bird lineage (unrelated to Asian H7N9 viruses). Both of these flocks were depopulated (approximately 129,000 birds). Also in March, APHIS confirmed LPAI H7 or H7N9 on 12 premises in Alabama, Georgia, Kentucky, and Tennessee. On these premises, nearly 124,000 birds were depopulated using various methods.

A State-Federal Incident Command involving APHIS and the States of Alabama and Tennessee responded to the HPAI and LPAI detections. Georgia and Kentucky managed their LPAI-infected premises with support from APHIS, as requested. Under this State-Federal response, the program conducted the following activities: identification and sampling of all commercial premises (109) in the HPAI control and surveillance zone, and door-to-door surveillance to identify all backyard premises in these zones. For LPAI detections, State or Federal personnel sampled 435 premises in Alabama, Georgia, Kentucky, and Tennessee, including all surveillance in the surveillance zones.

Molecular and epidemiological evidence indicated a lateral spread between the first and the second HPAI-infected premises. For LPAI, the evidence suggested multiple, independent introductions. All response operations, including virus elimination, environmental sampling, and restocking approvals were completed by the late spring of 2017. On average, it took premises 48 days from LPAI virus confirmation to restock approval. HPAI premises took an average of 87 days. APHIS released the last infected premises from quarantine on June 16, 2017. Approximately 11 countries imposed restrictions on poultry and/or poultry products from the entire United States. Most countries chose a regionalization approach, which significantly limited the economic impact of the incident.

This incident provided another opportunity for APHIS to test its AI preparedness and response procedures, along with improved processes. A major component of the response effort, for both initial diagnostics and surveillance activities, was the laboratory services that APHIS' National Veterinary Services Laboratories and State-operated laboratories within the National Animal Health Laboratory Network conducted. The lessons learned from previous outbreaks helped APHIS, States, and industry mount an effective and rapid response to the 2017 incident. APHIS implemented processes in FY 2017 that they developed as a result of challenges during the 2014–2015 outbreak. The Agency rapidly distributed indemnity payments for the two HPAI-infected premises, and distributed flat-rate payments to HPAI-infected premises for virus elimination activities. These outbreaks reaffirmed the value of surveillance for rapid detection and a quick response to depopulate infected flocks. The Agency's actions in this emergency program served to safeguard U.S. poultry and egg producers and reduce the effects of AI on agriculture and public health, while also enhancing readiness for other animal health emergencies.

APHIS' National Training and Exercise Program (NTEP) Team serves as a cross-business team covering all animal diseases and as a liaison to external stakeholder emergency responders. This team functions as a sounding board and advisor for training and exercise inquiries including, for example, the extent of APHIS involvement in training and exercise events sponsored by external organizations and appropriate corrective actions for improvement plans. In FY 2017, there were 58 NTEP-sanctioned events (7 management events, 28 training events, and 23 exercise events) that aligned with NTEP priorities and objectives. The program decreased the number of events by 10 when compared to FY 2016, while maintaining the enhanced response capabilities of additional response personnel. All events engaged both APHIS and external emergency response stakeholders to the extent possible.

In May 2017, APHIS updated its *HPAI Response Plan*. This Plan incorporates policy guidance developed during previous outbreaks, as well as updates to other Foreign Animal Disease Preparedness and Response Plan materials. The objectives of this plan are to identify (1) the capabilities needed to respond to an HPAI outbreak and (2) the critical activities that are involved in responding to that outbreak, and time-frames for these activities. These critical activities are the responsibility of a unified Incident Command in an outbreak situation.

2. Cattle Fever Ticks

In FY 2017, APHIS spent approximately $660,000 in Commodity Credit Corporation funds on efforts to address a cattle fever tick (CFT) outbreak in Cameron and Willacy Counties, Texas. CFT transmit babesiosis, a severe and often fatal cattle disease. Even when not transmitting this disease, CFT can cause blood loss, damage to hides, and an overall decrease in the condition of livestock. CFT remains well established within a 500-mile buffer zone from Del Rio, Texas, to the Gulf of Mexico. When CFT is detected outside of the buffer zone, APHIS and the Texas Animal Health Commission (TAHC) take quick action to prevent any further spread. In October 2014, the TAHC issued a Temporary Preventative Quarantine Area encompassing 222,520 acres in Cameron County that will be in effect until they can release all premises within it from CFT quarantine and determine that the area is no longer at risk of infestation. In early FY 2017, the TAHC released 14,460 acres in the southwest corner of the quarantine area, maintaining a quarantine area of approximately 200,000 acres.

By the end of FY 2017, APHIS and the TAHC identified 52 infested premises outside the quarantine area (in the tick-free area) in Cameron and Willacy Counties. During FY 2017, APHIS and the TAHC inspected 29,090 animals (24,477 cattle and 4,613 horses) and treated 20,907 animals (18,827 cattle and 2,080 horses) in this area. The joint Incident Command System, developed by APHIS and the TAHC, has the ability to determine the extent of CFT spread, prevent further spread, and control CFT on nilgai (an Asian antelope), white-tailed deer, and other ungulates capable of hosting CFT. This effort involves systematically inspecting and treating all premises, livestock, and other hosts within the temporarily quarantined area, as well as controlling the movement of livestock and hunted animal trophies. The Agency continued collaborative efforts with the Fish and Wildlife Service (FWS) to harvest nilgai in the area. In FY 2017, the Agency used pesticides to kill ticks on appropriately identified livestock and wildlife, and conduct tick surveillance through the controlled removal of nilgai and inspections of wildlife harvested during public hunting events on FWS refuges. In addition, APHIS fed ivermectin medicated corn to white-tailed deer to control CFT off FWS refuges. In FY 2017, APHIS placed 59,100 pounds of ivermectin treated corn in deer feeders in the Incident Command Post work area. The Incident Command Post encompasses the area around an outbreak that is outside of the permanent and temporary quarantine zones.

3. Tuberculosis

In FY 2017, APHIS spent $3.2 million in Commodity Credit Corporation funds (CCC) on tuberculosis (TB) eradication activities. The Agency confirmed TB in four herds in Michigan, two herds in New Mexico, three herds in South Dakota and one herd in Indiana. APHIS used CCC funds to remove cattle testing positive for TB from these herds and also used funds to continue test and remove operations on a previously confirmed herd in Texas. In addition, the Agency traced out exposed animals to 14 other States.

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.

4. Farm Bill

The Agricultural Act of 2014 consolidated two of APHIS' Farm Bill programs under Section 10007: Plant Pest and Disease Management and Disaster Prevention Program (formerly Section 10201 of the Food, Conservation, and Energy Act of 2008) and the National Clean Plant Network (NCPN) (formerly Section 10202 of the Food, Conservation, and Energy Act of 2008). For FY 2017, the Farm Bill provided $62.5 million for the consolidated program. These funds are subject to the sequester of mandatory funds ($4.3 million in FY 2017).

Through the program, APHIS funds projects for early plant pest detection and surveillance, identification and mitigation of plant pests and diseases, and technical assistance in the development and implementation of audit-based certification systems and nursery plant pest risk management systems. Since 2009, APHIS has funded more than 3,000 projects in 50 States and 3 U.S. territories, strengthening the Agency's and cooperators' abilities to protect U.S. agriculture and natural resources from foreign pest threats. In addition, the NCPN provides reliable sources of pathogen-free planting stock of high-value specialty crops. Since 2009, APHIS and cooperators have provided funding and other support to 27 clean plant centers and associated programs in 19 States or U.S. territories representing fruit trees, grapes, citrus, berries, hops, sweet potato, and roses.

Plant Pest and Disease Management

APHIS and cooperators have identified six major strategies (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) developing programs to safeguard nursery production; 5) enhancing outreach and education; and 6) enhancing mitigation capabilities. APHIS funded 482 projects in FY 2017, supporting a variety of stakeholders, including Federal, State, academic, Tribal, and private entities.

Enhance Plant Pest Analysis

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. In FY 2017, the program provided approximately $2 million for 24 projects in this goal area. Examples include studies of emerging invasive plants in several states, large-scale data analysis of the results of several years of honey bee pest and disease surveys, and development of a new model to categorize and prioritize exotic pests for survey.

Enhance Plant Pest Survey

Under this goal, APHIS supports surveys for multiple, high-risk pests in port environs, across pathways of introduction, and in specialty crop commodities nationally. These surveys provide protection for and help small growers and nursery owners avoid control costs through a more rapid and thorough detection of pests that threaten their operations. Overall, the program provided approximately $16 million for 192 projects in this goal area, including approximately 90 commodity- and taxon-based surveys targeting 80 different pests. 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 and State cooperators. In FY 2017, the Survey Supply Program procured and distributed nearly 870,000 traps and lures that target exotic pests to all 50 States and several territories for use in surveys. These surveys complement those conducted through the 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 FY 2017, this program supported 105 national priority surveys in 46 States and 2 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 Asian defoliators, exotic woodborers, bark beetles and other forest pests, cyst nematodes, mollusks, and pathway surveys covering multiple agricultural systems.

Target Domestic Inspection Activities at Vulnerable Points in the Safeguarding Continuum

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 FY 2017, the program continued to support canine team efforts in California where 14 teams work at Express Couriers and U.S. Postal Service offices in 10 counties, and in Florida where 6 teams work at Express Couriers in 4 counties and are cross trained to detect giant African snails. With their keen sense of smell, dogs can detect hidden agricultural products at an accuracy rate higher than 90 percent. The program uses canine teams to enhance capacity for early detection and better response to exotic pests found during surveys; increases liaison 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 $5 million for five projects in this goal area in FY 2017.

Enhance Pest Identification and Technology

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 supports the Regional Identification Center for Bark Beetle and other wood boring beetles in Oregon, a Pulse Crop Diagnostic Laboratory in Montana, and the Western States Lepidoptera Diagnostic Center. Other projects include training for state diagnosticians at National Plant Diagnostic Network laboratories,

development of attractants for the spotted lanternfly, and development of early detection tools for boxwood blight, among others. APHIS spent approximately $5 million on 66 projects in support of this goal in FY 2017.

Safeguard Nursery Production

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 developing and harmonizing 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 FY 2017, include continued support for the National Ornamentals Research Site at Dominican University of California, audit training for State and Federal personnel on Plant Pest Management Accreditation; best management practices for managing bacterial gall on loropetalum varieties, including many popular nursery plants in the witch hazel family; an apple certification program in New York, and national harmonized systems approaches for nursery certification. The program also supported the Systems Approach to Nursery Certification (SANC) pilot program. SANC brings together the National Plant Board and nursery industry groups to promote audit-based programs for nursery stock to reduce the risks of pest spread. The program provided approximately $2 million for 20 projects in this goal area in FY 2017.

Education and Outreach

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 changes in behavior among the public and the regulated community that enhance efforts to prevent the introduction or spread of high-consequence pests into and throughout the United States. FY 2017 projects in this goal area include raising invasive species awareness on tribal lands in Washington and Wisconsin, supporting a "Don't Pack a Pest" campaign targeting international students coming to the United States to study with information about the risk to agriculture and the environment from invasive species that could hitchhike on their belongings from home, and a variety of programs across several States designed to engage youth in invasive species reporting efforts. Overall, the program provided approximately $3.5 million for 58 projects in this goal area in FY 2017.

Enhance Mitigation and Rapid Response Capabilities

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 provided support for development of new methods or treatments for economically significant pests including exotic fruit flies, giant African snail, and Coconut Rhinoceros beetle. These projects also include an effort to explore the use of unmanned aircraft to engage in and support sterile insect technique release, survey and treatment in response to invasive plant pests. FY 2017 projects also included continued support for the coordinated response to spotted lanternfly, a plant pest detected in Pennsylvania for the first time in FY 2014. It threatens grapes, apples, and stone fruit, as well as more than 70 types of ornamental and woody trees. In FY 2017, Federal, State, and local officials in Pennsylvania continued efforts using tree-banding, egg scraping, pesticide applications, and host treatments and removals to control the pest. APHIS and cooperators are also continuing development of biological control programs against spotted lanternfly and other methods that may be crucial for long-term management of the pest. APHIS spent approximately $19 million on 117 projects in this goal area in FY 2017.

National Clean Plant Network (NCPN)

In FY 2017, APHIS used $5 million in Section 10007 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 22 cooperative agreements with clean plant centers and related entities in 16 States and one U.S. territory (Puerto Rico). The clean plant centers that receive NCPN funding are using the resources to: 1) diagnose for harmful pathogens that cause disease in covered specialty crops; 2) apply therapeutic measures to eliminate these pests; 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; and 5) engage in the process of establishing and governing a network of collaborative clean plant centers. These activities will result in clean

plant centers providing additional sources of healthy planting stock for fruit trees, grapes, citrus, berries, and hops -- as well as sweet potato and roses. This healthy planting stock will be 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.

Since the program's inception, the clean plant centers on an annual basis have helped the following commodities:

- Fruit Trees - Maintain approximately 2,250 clean fruit tree accessions in foundations (blocks of pathogen-tested plant materials) that have delivered more than 500,000 cuttings, scions, and plantlets as well as more than 1.7 million buds to nurseries and growers.
- Grapes – Maintain approximately 1,000 selections of clean grapevine accessions in foundations and distribute more than 700,000 clean grape-wood cuttings, buds, plants, or special seed to industry.
- Berries – Diagnose and clean approximately 75 new berry accessions annually and maintain clean plant foundations that provide mother plants to industry that have produced nearly 30 million clean berry plants annually.
- Citrus – Maintain approximately 1,000 clean citrus tree accessions in foundations and deliver 'starter material' to industry that has resulted in more than 60 million clean citrus trees over the past 8 years.
- Hops – Maintain more than 50 clean hop selections in foundations that are used to accommodate about 30 percent of the world's need for clean hops. The program has distributed more than five thousand clean propagative units to industry; each unit can be expanded rapidly to provide thousands of plants for planting annually.
- Sweet potato – Add approximately 40 new sweet potato accessions annually to existing foundations, with 170 accessions currently available for use by industry in addition to numerous heirlooms and introductions maintained. Clean plant centers delivered more than 200,000 clean plants to industry in 2016-2017.
- Roses – Continued advanced testing of approximately 600 rose selections currently maintained in foundations, with 6 acres currently housing rose clean plant material with a goal of reaching an industry need of 15 acres in foundational material.

SUMMARY OF KEY FY 2016 CCC FUNDED EMERGENCY ACTIVITIES

	Emergency/Activity	Total Available in FY 2017 a/	Total Obligations in FY 2017
1	Avian Influenza	$116,510,466	$20,912,184
2	Cattle Fever Tick	657,253	657,253
3	Tuberculosis	27,264,457	3,223,660
4	Farm Bill	58,353,530	57,352,847
	Total	$202,785,706	$82,145,944

a/ Total Available includes account recoveries, where applicable.

The estimates include appropriations language for this item as 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 acquisitof land as authorized by 7 U.S.C. 428a, [$3,153,000]$2,852,000, to remain available until expended.

Buildings and Facilities

Lead-Off Tabular Statement

Budget Estimate, 2019	$2,852,000
2018 Annualized Continuing Resolution	3,153,000
Change in Appropriation	-301,000

Project Statement
Appropriations Detail and Staff Years (SYs)
(On basis of appropriation)
(Dollars in thousands)

Program	2016 Actual Amount	SYs	2017 Actual Amount	SYs	2018 Estimate Amount	SYs	Inc. or Dec. Amount	SYs	2019 President's Budget Amount	SYs
Discretionary Appropriations:										
Buildings and Facilities	$3,175	-	$3,175	-	$3,153	-	-$301	-	$2,852	-
General Provision 743 Fruit Fly Rearing Facility	-	-	47,000	-	46,681	-	-46,681	-	-	-
Total Appropriations	3,175	-	50,175	-	49,834	-	-46,982	-	2,852	-
Balance available, SOY	2,107	-	755	-	49,149	-	+37,834	-	86,983	-
Recoveries	3,680	-	17	-	-	-	-	-	-	-
Total Available	8,962	-	50,947	-	98,983	-	-9,148	-	89,835	-
Balance available, EOY	-755	-	-49,149	-	-86,983	-	+38,536	-	-48,447	-
Total Obligations	8,207	-	1,798	-	12,000	-	+29,388	-	41,388	-

Project Statement
Obligations Detail and Staff Years (SYs)
(Dollars in thousands)

Program	2016 Actual Amount	SYs	2017 Actual Amount	SYs	2018 Estimate Amount	SYs	Inc. or Dec. Amount	SYs	2019 President's Budget Amount	SYs
Discretionary Obligations:										
Buildings and Facilities	$8,207	-	$1,686	-	$3,000	-	$500	-	$3,500	-
General Provision 743 Fruit Fly Rearing Facility	-	-	112	-	9,000	-	+28,888	-	37,888	-
Balance available, EOY	755	-	49,149	-	86,983	-	-38,536	-	48,447	-
Total Available	8,962	-	50,947	-	98,983	-	-9,148	-	89,835	-
Recoveries	-3,680	-	-17	-	-	-	-	-	-	-
Balance available, SOY	-2,107	-	-755	-	-49,149	-	-37,834	-	-86,983	-
Total Appropriations	3,175	-	50,175	-	49,834	-	-46,982	-	2,852	-

Justification of Increases and Decreases
Buildings and Facilities

A decrease of $301,000 for the Buildings and Facilities account ($3,153,000 available in FY 2018).

The Buildings and Facilities (B&F) program addresses APHIS' 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 facilities.

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, security, 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 attends on-site construction progress meetings, and APHIS collects performance data through contractor reports and on-site verification.

In FY 2017, APHIS awarded 39 design/construction tasks associated with projects at a cost of approximately $11.9 million, and completed 42 construction projects. Approximately 50 percent of these repairs were major renovations and 50 percent were minor repairs. Among these projects were the modernization of an Agency facility in Gainesville, Florida; deconstruction of building in Ames, Iowa; and replacing a laboratory chiller at Moore Air Base in Edinburgh, Texas. As of October 2017, there are 20 active projects that APHIS' B&F Appropriation supports.

Without the B&F program, APHIS would be unable to centrally coordinate and prioritize these types of projects. As a result, necessary maintenance and repairs to facilities would not occur unless funded at the expense of an Agency operational activity. This would create program delays, possible environmental consequences, and noncompliance with State and local laws and codes. In addition, it would accelerate the pace of the deferred maintenance backlog and associated cost, which currently exceeds $88 million. 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, sound, sustainable, and high-performance facilities that support APHIS' mission.

Approximately 99 percent of the B&F funding supports indefinite delivery, indefinite quantity contracts (e.g., architect and engineering support) and construction contracts. These contracts, which provide for an indefinite quantity of supplies or services during a fixed time period, help streamline the contract process and expedite service delivery. The remaining funds support operating costs.

This program supports USDA's goal to create a USDA for the 21st century that is high performing, efficient, and adaptable. In FY 2019, the Agency will use funds to continue conducting the necessary maintenance, repairs, and renovations identified during the facility condition assessments at approximately 13 APHIS facilities.

Reduce funding for maintenance and repairs (-$301,000)

At the requested level, APHIS will reduce funding available for the maintenance and repair of its facilities. The program will continue to centrally coordinate and prioritize facility improvement projects using the remaining available funds.

Buildings and Facilities

Geographic Breakdown of Obligations and Staff Years (SYs)
(Dollars in thousands)

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
United States:								
Arizona	$55	-	$32	-	$86	-	$86	-
California	-	-	-	-	71	-	71	-
Colorado	106	-	90	-	100	-	100	-
Florida	268	-	79	-	540	-	540	-
Hawaii	414	-	-	-	-	-	-	-
Idaho	-	-	34	-	-	-	-	-
Iowa	4,110	-	1,195	-	601	-	801	-
Maryland	-	-	88	-	90	-	90	-
Massachusetts	-	-	47	-	46	-	46	-
Mississippi	-	-	-	-	71	-	71	-
Montana	100	-	-	-	-	-	-	-
New York	498	-	102	-	138	-	238	-
North Carolina	17	-	19	-	-	-	-	-
Texas	711	-	112	-	10,257	-	39,345	-
Wyoming	623	-	-	-	-	-	-	-
Mexico	1,305	-	-	-	-	-	-	-
Total direct obligations	8,207	-	1,798	-	12,000	-	41,388	-

Buildings and Facilities

Classification by Objects
(Dollars in thousands)

		2016 Actual	2017 Actual	2018 Estimate	2019 President's Budget
Other Objects:					
25	Other Services.....	$8,207	$1,798	$12,000	$41,388
	Total direct obligations.....	8,207	1,798	12,000	41,388

STATUS OF MAJOR CONSTRUCTION PROJECTS

Buildings and Facilities

The Buildings and Facilities (B&F) appropriation funds major, nonrecurring, construction projects in support of program activities, and recurring construction, alterations, and repairs of existing facilities. These projects and activities allow other programs and employees to focus on APHIS' mission of protecting the health and value of agriculture, and natural resources nationwide. The goal of the B&F program is to systematically address the Agency's needs for maintaining and repairing existing facilities, as well as constructing new facilities. 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.

This program serves a vital role in maintaining APHIS' facilities so that employees can carry out their responsibilities safely and efficiently. Maintaining the condition and functionality of these facilities is an ongoing process that demands significant management of capital resources. This program creates private sector construction jobs. If the B&F program were not funded, APHIS would be unable to centrally coordinate and prioritize these projects. As a result, all necessary maintenance and repairs to facilities would have to be funded at the expense of an Agency operational activity. This could create program delays, possible environmental consequences, and could jeopardize human health and safety. In addition, it would accelerate the pace of the deferred maintenance backlog and associated cost, which currently exceeds $88 million. 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 can be 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 for an indefinite quantity of supplies or services during a fixed time 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

In FY 2000, APHIS began a comprehensive Facilities Condition Assessment 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. The consulting firm tasked with assessing APHIS' facilities has an automated process for assessing the relative condition of assets, and facilitating comparisons both within and among facilities. The consulting firm calculates an FCI for each facility by program and Agency. At the end of FY 2017, the FCI for the 47 facilities assessed was 0.12, meaning the cost to correct currently identified and anticipated deficiencies is 12 percent of the estimated replacement value for the 47 facilities. Of these 47 facilities, 27 scored above a 0.10 and 20 scored below a 0.10. The Agency strives to maintain an FCI below 0.10.

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 contract 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 in person, on-site, or virtually and APHIS collects performance data through contractor reports and on-site verification.

As of October 2017, APHIS' B&F Appropriation supports 20 active projects. In FY 2017, APHIS awarded 39 design/construction tasks associated with projects at a cost of approximately $11.9 million, and completed 42 construction projects. Approximately 50 percent of these repairs were major renovations and 50 percent were minor repairs. Among these projects were the modernization of an Agency facility in Gainesville, Florida; deconstruction of building in Ames, Iowa; and replacing a laboratory chiller at Moore Air Base in Edinburgh, Texas.

National Wildlife Research Center (NWRC) Field Station Modernization Project, Gainesville, Florida

The laboratory at the NWRC Florida Field Station addressing feral swine and other wildlife diseases did not have the adequate space, infrastructure, or capacity to support its existing activities as well as emerging research needs. Specifically, the Agency had to undergo significant renovations to address identified deficiencies (e.g., asbestos-containing materials, laboratory exhaust systems, fire alarm and suppression) to bring the facility into compliance with the Americans with Disability Act, and modernize business practices within the facility. In FY 2013, APHIS tasked an architectural and engineering firm with developing a program of requirements for this modernization project. APHIS awarded a Design-Build Construction contract in FY 2014, and work continued under this contract through FY 2017. The Agency anticipates that this project will be complete during the first quarter of FY 2018.

National Centers for Animal Health, Building #400, Ames, Iowa

The National Centers for Animal Health, Building #400, was originally scheduled for deconstruction in FY 2015; however, APHIS postponed its deconstruction while the Agency used the facility to support its response to the notifiable avian influenza outbreak. The building housed Agency and contractor personnel and served as an active command post in the second half of FY 2015. APHIS awarded the deconstruction contract in FY 2016. The Agency's deconstruction of Building #400 supports the Office of Management and Budget policy to reduce the Federal real property footprint. The full deconstruction was complete during the fourth quarter of FY 2017.

The Center for Plant Health Science and Technology Laboratory Building #6414 at Moore Air Base, Edinburgh, TX

The Center for Plant Health Science and Technology Laboratory is responsible for identifying, developing, and providing technology transfer of a wide range of scientific methods to local and State cooperators. Specifically, the laboratory staff cooperates with stakeholders and researchers to provide expertise regarding epidemiology of plant diseases, remote sensing/geographic information systems, biological control, area-wide pest management, and sterile insect technology support for the Mexican fruit fly (Mexfly) eradication program. In FY 2017, APHIS had to replace the existing chiller to continue fruit fly rearing efforts at the current facility until it can be replaced (see below). A functioning chiller is a critical component in maintaining temperature control during the rearing process for sterile fruit flies rearing.

General Provision 743

The FY 2017 Consolidated Appropriations Act provided $47 million to APHIS through the Buildings and Facilities account for fruit fly rearing facilities. APHIS will use the funding to replace the Mexican fruit fly (Mexfly) rearing facility at Moore Air Base. The current facility is more than 30 years old and, despite upgrades, it often incurs production losses due to aging infrastructure and building environmental problems that prevent the facility from meeting the capacity needed for sterile Mexfly releases. High temperatures and humidity in the facility facilitate the growth of mold in the heating, ventilation, and air conditioning system, and the interior of the building, including doors, door hardware, flooring, ceilings, air registers, and other hardware, is in need of repair or replacement. Once complete, the new facility will produce and rear sterile Mexflies, and possibly other fruit flies if required, encompassing their entire lifecycle up to releases in the field. The proposed building design would increase size and capacity of the facility. APHIS plans to increase sterile Mexfly production from a current maximum of 150 million sterile Mexflies per week to 400 million per week, the amount needed to eradicate and exclude this pest from the Lower Rio Grande Valley, protecting Texas and other vulnerable areas of the United States. APHIS has developed a program of requirements for the facility and engaged the U.S. Army Corps of Engineers (ACOE) to manage the construction process through an interagency agreement. In FY 2017, APHIS spent $111,985 on the interagency agreement with ACOE and on a contract to finalize the program of requirements for the facility. APHIS and ACOE will begin the contracting process to build the facility in FY 2018, with occupancy expected in 2020. Because the facility will increase in size and capacity, APHIS anticipates that operational costs will increase and is currently determining the impact of the new facility on operating costs.

Summary of Budget and Performance

The mission of the Agency is to safeguard the health, welfare, and value of American agriculture and natural resources. In carrying out this mission, the role of APHIS is to collectively do what individuals and individual organizations cannot do; for example, responding to animal and plant pest and disease emergencies, addressing widespread pests and diseases, and providing scientific information to support the movement of U.S. agricultural exports. Together with its stakeholders, APHIS protects the health of livestock, poultry, and crops from pests and diseases. The Agency also helps to promote animal welfare, mitigates agricultural damage caused by wildlife, defends the environment from invasive species, regulates the movement and release of specific genetically engineered organisms, and protects natural resources.

USDA Strategic Goal 2: Maximize the ability of American agricultural producers to prosper by feeding and clothing the world

American agriculture is continually faced with threats arising from domestic and foreign pests and diseases. Animal and plant pests and diseases can have negative impacts on American agricultural production, commerce, and trade. Once a pest or disease becomes established or spreads, it can result in substantial costs to producers and consumers. Detecting a new pest or disease quickly is crucial to a quick and effective response. APHIS works with partners in State departments of agriculture and industry to expand the Agency's detection and emergency response capabilities. The Agency provides guidance on identifying high-risk threats, develops surveillance and monitoring tools and techniques, and carries out nationwide surveys for plant pests and diseases and surveillance for foreign animal diseases with State partners. Each year, APHIS and partners conduct surveys for the pests and diseases that present the highest risk. APHIS also ensures that the United States has the diagnostic capability to identify the pests and diseases that are found through monitoring and surveillance efforts. The Agency supports diagnostic capability through animal and plant laboratory networks with State and university personnel. APHIS works closely with State and industry partners to address ongoing agricultural pest and disease issues and mitigate wildlife damage to agricultural resources. The Agency also continually improves and develops new methods of managing pests and diseases.

Performance Measure	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Number of hours it takes to mobilize resources once it is determined that a Federal emergency response is needed to manage an agricultural outbreak (target of within 24 hours)	24	24	24	24	24	24	24
Percent of high-risk plant pests for which early detection surveys are conducted	86%	88%	93%	92%	96%	93%	80%
Number of National Animal Health Laboratory Network laboratories that have the capability to electronically message veterinary diagnostic test results	NA	NA	15	21	31	35	38

Selected Past Accomplishments Toward the Achievement of the Key Outcome:

- Deployed an approved contractor and completed depopulation of avian influenza infected broiler breeder flocks in Tennessee within 24 hours of notification.
- Conducted surveys in 52 States and Territories for 276 individual high-risk plant pests, pathogens, and noxious weeds.

- As of the end of FY 2017, 31 of the 59 State, Federal, and university diagnostics laboratories participating in the National Animal Health Laboratory Network (NAHLN) were capable of electronically messaging animal disease test results data to APHIS.
- Since 2014, APHIS and partners have eliminated feral swine from seven States – Idaho, Maryland, Minnesota, New Jersey, New York, Washington, and Wisconsin.
- Produced biological control agents targeting the Asian citrus psyllid, a vector for spreading the devastating citrus greening, or Huanglongbing disease, resulting in a 93 percent reduction of vector population.

Selected Accomplishments Expected at the FY 2019 Proposed Resource Level:
- Continue to deploy countermeasures against the most damaging animal diseases, and assist States, Tribes, and Territories with preparing countermeasures during an animal health event.
- Increase the number of NAHLN laboratories capable of electronically messaging animal disease test results data to APHIS.
- Continue to eliminate or reduce damage to agricultural resources and property caused by feral swine.

USDA Strategic Goal 3: Promote American agricultural products and exports

Agricultural exports are crucial to U.S. farmers' and ranchers' economic viability. APHIS supports agricultural exports by providing technical and scientific expertise to successfully address animal and plant health issues and prevent and resolve barriers to U.S. food and agricultural exports. When shipments are held up at foreign ports, the Agency works with its agricultural counterparts in other countries to resolve the issues and secure the release of the shipments. The Agency also works to ensure that the same rules apply to countries around the world through international standard setting.

Performance Measure	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Target	2018 Target	2019 Target
Value of retained, expanded, and new country access for agricultural products (in billions)	$2.9	$2.7	$2.5	$2.6	$2.6	$2.6	$2.6

Selected Past Accomplishments Toward the Achievement of the Key Outcome:
- Restored access to U.S. dried distillers' grains to Vietnam valued at $230 million and opening China's markets to U.S. beef worth $12 million.
- Successfully secured the release of 282 shipments worth $43 million.
- Negotiated 110 export protocols for animal products, and 126 export protocols for live animals.

Selected Accomplishments Expected at the FY 2019 Proposed Resource Level:
- Continue to help 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.