

Animal and Plant Health
Inspection Service



A 40-Year Retrospective of APHIS, 1972-2012

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Introduction

While many Americans may not have heard of USDA's Animal and Plant Health Inspection Service (APHIS), the Agency's mission is so far-reaching that most are touched by its regulatory activities or policies every day. Since APHIS was formed in 1972, it has evolved into a multi-faceted Agency with responsibilities that include protecting and promoting U.S. agricultural health from foreign pests and diseases, regulating genetically engineered organisms, administering the Animal Welfare Act, and carrying out wildlife damage management activities.

It has been 15 years since APHIS compiled a history of its mission and activities. This year, 2012, marks both the 40th anniversary of the Agency and the 150th anniversary of USDA, providing a unique opportunity to put that history in context. This retrospective briefly examines the history of animal and plant health regulation within USDA, assesses APHIS' development over four decades, includes biographies of the Agency's Administrators, and provides snapshots of some of the milestone issues and events that define the Agency's history and its accomplishments.

Early History of Plant and Animal Regulatory Authority

The U.S. Department of Agriculture (USDA) was established in May 1862. Its original function was to acquire and disseminate agricultural information. To carry out this mission, a USDA Commissioner was appointed and authorized to conduct experiments, collect statistics, and to collect, test, and distribute new seeds and plants.

USDA's first regulatory activity involved the livestock industry. The Bureau of Animal Industry (BAI) was established in 1884 after outbreaks of contagious animal diseases led to the barring of U.S. meat from some European markets. This ban on U.S. meat exports focused attention on the need for controlling animal diseases. Regulatory activities to protect U.S. crops began three decades later with the 1912 Plant Quarantine Act. For many decades, the BAI and various plant health bureaus—which

maintained their separate organizational identities even after they were transferred to the Agricultural Research Service (ARS)—carried out USDA's animal and plant health inspection, quarantine, and related regulatory activities.

Birth of the Agency

In response to concerns about the competing demands of research and regulatory enforcement, USDA's animal and plant health regulatory functions were removed from ARS in 1971 to form the Animal and Plant Health Service (APHS). In 1972, the meat and poultry inspection functions of the Consumer and Marketing Service (later known as the Agricultural Marketing Service) were moved to APHS, adding the "I" to APHIS' name. The organizational realignment grouped functions that rely on similar professional disciplines (e.g., veterinary expertise, inspection, and quarantine). The first APHIS employees were drawn from the ranks of the animal health, veterinary biologics, plant protection, and agricultural quarantine inspection divisions at ARS. In 1977, the meat and poultry inspection functions were transferred to the Food Safety and Quality Service (which later became USDA's Food Safety and Inspection Service).

Highlights of APHIS' First Decade—the 1970s

From its inception, APHIS focused on protecting the health of U.S. agricultural resources, partnering with State, Federal, and industry cooperators to maintain an effective pest- and disease-fighting infrastructure. The fledgling agency was put to the test soon after it was created, when it spearheaded an enormous effort to control an outbreak of exotic Newcastle disease (END) in Southern California that threatened the Nation's entire poultry and egg supply. Thousands of workers and \$56 million in Federal funding were devoted to the multi-year eradication effort, which resulted in the destruction of nearly 12 million infected and exposed birds. The successful end of the outbreak in 1974 marked the first time any country had eradicated such a widespread outbreak of the deadly disease, and it provided a blueprint for future animal disease control efforts, including effective monitoring and the importance of obtaining producer cooperation. During this decade, APHIS and its cooperators also successfully eradicated sheep scabies and classical swine fever, also known as hog cholera, and continued—and expanded—the fight against bovine brucellosis and tuberculosis.

Although the United States had been free of screwworm, a parasite that causes great damage to livestock and other warmblooded animals, since 1966, outbreaks in the spring of 1972 along the Texas-Mexico border resulted in more than 95,000 detections of the pest—some as far north as Kansas. APHIS began cooperative efforts with Mexico that year to eliminate screwworm through the release of sterile insects, with the goal of eradicating the pest as far south as the Isthmus of Tehuantepec, Mexico. The campaign later expanded to include all of Mexico, as well as

Guatemala and Belize, and ultimately produced hundreds of millions of sterile flies each week, assisted by the opening of a mass-rearing plant in southern Mexico in 1976. The effort paid off—the last cases of screwworm in California, Arizona, and New Mexico were reported before the end of 1979, and Mexico declared screwworm eradicated in 1991. The pest has now been eradicated from North America, Central America, and Panama—a tremendous achievement, and one of the most effective areawide pest control programs ever implemented.

On the plant side, the 1973 ratification of the Convention on International Trade in Endangered Species of Flora and Fauna authorized APHIS—in coordination with the Department of the Interior's Fish and Wildlife

From the beginning, APHIS' focus has been on protecting the health of U.S. agricultural resources.

Service (FWS), which monitors trade in wild animals—to begin enforcing requirements designed to ensure that international trade in plants does not threaten their survival. In 1978, APHIS and its cooperators here in the United States established a cooperative eradication program to deal with a longstanding scourge of cotton producers, the boll weevil. The cooperative program quickly eliminated boll weevil in the Carolinas and Virginia, setting the stage for expansion into other infested areas. Although the science of risk assessment was in its infancy in the early 1970s, APHIS, looking to the future, was an early advocate of developing and applying risk standards to imported commodities that could contain economically significant pests. To strengthen regional standard-setting initiatives, APHIS recommended the creation of what is now the North American Plant Protection Organization (NAPPO), which operates under the umbrella of the International Plant Protection Convention and was



established in 1976. NAPPO includes a wide range of stakeholders from Canada, the United States, and Mexico, who collaborate in developing science-based standards to protect agricultural, forest, and other plant resources.

When the Laboratory Animal Welfare Act was enacted in 1966, ARS was charged with writing regulations for and developing procedures to enforce this law—the first Federal statute aimed at protecting the welfare of laboratory animals. Subsequent amendments to the law, which was renamed the AWA in 1970, refined standards of care and extended coverage to animals in commercial sale, transport, and exhibition, and prohibited animal fighting ventures, with stiff penalties for sponsors and promoters. When APHIS was established, the Agency’s Veterinary Services (VS) program assumed responsibility for enforcing both the AWA and the Horse Protection Act (HPA), which was enacted in 1970 and prohibits the inhumane practice of soring horses to enhance their gaits. In 1976, Congress directed APHIS to expand the HPA inspection program to include qualified personnel hired by the horse industry.

The 1980s

The 1980s brought unprecedented domestic and international expansion of APHIS programs, with new responsibilities for wildlife, international agricultural pest and disease controls, more inclusive approaches to regulation, responses to heightened public concerns about animal welfare issues, and focus on the regulation of biotechnology-derived products.

APHIS assumed a new mandate for wildlife damage management in 1985, after Congress transferred the Animal Damage Control (ADC) program from the Department of the Interior's FWS to USDA. Three years later, as part of a major reorganization, several new program and support units—including International Services (IS), Regulatory Enforcement and Animal Care (REAC—the predecessor of Investigative and Enforcement Services and Animal Care, respectively), and Policy and Program Development (PPD)—joined Biotechnology, Biologics, and Environmental Protection (BBEP), Plant Protection and Quarantine (PPQ), VS, and Legislative and Public Affairs on the Agency's roster.

APHIS' international reach increased markedly when PPQ and VS international programs staff received Foreign Service status, and stretched further when the Agency established IS to spearhead technical trade discussions, cooperative pest and disease surveys, control and eradication activities, and on-site inspections and clearance of agricultural products.

As part of the move to support growth in international trade while fulfilling APHIS' mission to protect American agriculture, APHIS inspectors began preclearing imports destined for the United States before they left their country of origin. These efforts, conducted with the assistance of a few full-time employees and the deployment of several domestically based employees abroad, laid the foundation for APHIS' international capacity building. APHIS also began employing other approaches to ensure that imported commodities were free of pests and diseases. X-ray detection devices began screening baggage for illegal material, and

APHIS' "Beagle Brigade," established in 1984, sniffed out prohibited foods in passenger luggage.

Through the many cooperative programs APHIS undertook with other countries, the Agency helped Haiti and the Dominican Republic eradicate African swine fever, and advanced screwworm and Mediterranean fruit fly eradication efforts southward into Central America. On the homefront, PPQ and its industry partners made great strides expanding boll weevil eradication activities into Georgia, Florida, and Alabama, and efforts to combat an extensive Mediterranean fruit fly (Medfly) outbreak in California—which began in 1985—led to the development of insect pheromone traps and a broadscale, sterile insect release program for the pest.

APHIS increasingly sought out opportunities to work cooperatively with its stakeholders on domestic programs, while emphasizing its role as a service producer. To strengthen its relationship with industry, APHIS broadened participation of affected groups in developing regulations through such approaches as negotiated rulemaking, which involved stakeholders in the early stages of drafting new regulations. The approach affected many industry partners, among them the honey bee industry, which shared concerns about the spread of

For APHIS, the 1980s were marked by unprecedented domestic and international expansion, with new agency responsibilities.

the *Varroa* mite, and the sheep industry, which engaged with APHIS in formulating a regulatory response to scrapie.

The 1985 Farm Bill included amendments to the AWA, known as the “Improved Standards for Laboratory Animals Act,” which resulted in major changes to APHIS’ oversight of research facilities. These included the establishment of Institutional Animal Care and Use Committees, requirements for the relief of pain and distress, a mandate that the research community use electronic databases to search for alternatives to research and experimentation, and provisions for the exercise of dogs and psychological well-being of nonhuman primates. The establishment of REAC as a separate unit within APHIS raised the visibility of the Agency’s animal welfare enforcement initiatives and enabled the program to better focus its resources to improve the humane care and treatment of covered animals.

APHIS’ role in the regulation of genetically engineered products began in 1986 with the “Coordinated Framework for Regulation of Biotechnology,” which outlined a comprehensive U.S. Government regulatory policy for ensuring the safety of biotechnology research and products. Under the Coordinated Framework, APHIS is responsible for ensuring that genetically engineered plant products do not post a plant pest risk, and works in close collaboration with its partner regulatory agencies, the Food and Drug Administration (FDA) and the Environmental Protection Agency. That same year, APHIS licensed the world’s first vaccine—for swine pseudorabies—derived from recombinant DNA technology. In November 1987, after publishing a final rule for regulating the introduction of genetically engineered organisms that might pose risks to plants, APHIS for the first time approved a field test, for a tobacco resistant to the herbicide bromoxynil.

The 1990s

Reinvention, greater involvement in global trade, pitched battles against destructive pests, management of various plant and animal health issues, the introduction of user fees—and an unforeseen tragedy—were hallmarks of APHIS’ evolution throughout the 1990s.

Reorganization efforts also continued during this important decade, with the movement of the Agency’s laboratory and methods development functions to the operational programs, the split of REAC to make Animal Care (AC) and the newly renamed Investigative and Enforcement Services into separate units, and the integration of BBEP program functions into PPQ, VS, and PPD. In 1995, APHIS headquarters moved from Hyattsville to its present location in Riverdale, MD.

For its keen pursuit of the practices advocated in Vice President Gore’s “reinventing government” initiatives, APHIS received several Hammer Awards. The National Veterinary Services Laboratories in Ames, IA, won one of the awards for its efforts to increase customer service by turning staffs into work teams and eliminating the labs’ hierarchical structure at the labs. Another winner was PPQ’s Remote Identification System, which sped up processing of cargo at ports of entry through the use of digital imaging equipment that took detailed photographs of intercepted pests.

In response to continuing pressure to balance increasing workloads with shrinking budgets, APHIS instituted user fees in 1991. These fees allowed APHIS to charge those who benefit from the Agency’s exclusion and safeguarding services, including AQI activities (railroad cars, commercial vessels, and international airline passengers), export certification of

plants and plant products, import and export services for shipments of live animals and animal products, and veterinary diagnostic services.

International trade was one of the decade’s hottest issues, and APHIS rose swiftly to the challenge of balancing its responsibilities to facilitate trade and protect American agriculture. The Agency dedicated many resources to establishing sanitary and phytosanitary (SPS) trade standards related to General Agreement on Tariffs and Trade (GATT) negotiations and the new North American Free Trade Agreement. As a result of GATT agreements and the Agreement on the Application of Sanitary and Phytosanitary Measures promulgated by GATT’s successor, the World

Trade Organization, requests for APHIS technical assistance and support in the areas of plant and animal health skyrocketed. In response, APHIS developed a multi-program staff to deal exclusively with trade issues. The agency

also actively advocated using the SPS principle of regionalization—which recognizes pest- and disease-free zones and regions, allowing trade to occur from those areas—to expand trade opportunities for U.S. producers. To protect U.S. plant resources and facilitate risk assessment related to agricultural trade, APHIS established the Center for Plant Health Science and Technology in Oxford, NC.

The Agency also played a key role in opening foreign markets for many U.S. agricultural products. European nations approved genetically engineered corn and soybean imports—a market estimated at nearly \$1.5 billion a year. U.S. produce, animals, and animal products also flowed into Japan, China, South Africa, New Zealand, Turkey, and Mexico. A “systems approach” of overlapping safeguards allowed imports of fresh Hass avocados from Mexico into the northeastern United States, demonstrating APHIS’ commitment to science-based regulation.

In the 1990s, APHIS experienced reorganization, reinvention—and an unforeseen tragedy.

“Essential agri-data” became a common way to describe the information necessary to certify the health of U.S. animal and plant resources for export. APHIS emphasized the importance of surveillance and monitoring activities through the Cooperative Agricultural Pest Survey and National Agricultural Pest Information Service on the plant side, and the National Animal Health Monitoring System to record information on animals.

During the 1990s, APHIS shifted its strategy for dealing with Medfly infestations. Instead of focusing eradication efforts around specific areas where Medflies had been trapped, the Agency began massive releases of sterilized Medflies over large areas. The new approach successfully eradicated this destructive pest and was instrumental in preventing new outbreaks. The Agency also took quick steps to protect the Nation’s \$5.5 billion wheat export market when Karnal bunt was found in Arizona in 1996. An infestation of Asian gypsy moths introduced via a military cargo ship in North Carolina was also quickly contained and eliminated.

On the animal health side, the Agency’s traditional focus on disease control and eradication expanded to include increased emphasis on surveillance, information analysis, and animal health management. APHIS’ role in aquaculture also expanded dramatically, as the Agency assisted producers with the development of certification processes for domestic and international shipments of fish and fish products and became involved in the development of cooperative State-Federal-industry aquatic animal health improvement programs. A plan to rapidly “knock down” bovine brucellosis, developed in concert with cattle groups, resulted in an 88 percent drop in the number of cattle herds under quarantine from 1992 through 1996. The number of brucellosis-free States also increased. The Agency also instituted an accelerated program to eradicate swine pseudorabies in 1999, which resulted in all U.S. States achieving disease-free status in 2004.

ADC, now renamed Wildlife Services, began a nationally coordinated campaign to combat wildlife rabies, including the aerial distribution of an oral rabies vaccine. The campaign resulted in the elimination of canine rabies in the United States, and no appreciable spread of raccoon rabies to new areas. Currently there are 16 States distributing oral vaccines for

raccoon rabies, while Texas distributes oral rabies baits for the gray fox and coyote variants of the disease.

In a tragic turn of events, APHIS was also touched by terrorism. The bomb blast that devastated the Alfred P. Murrah Federal Building in Oklahoma City on April 19, 1995, killed 168 people, including APHIS employees Olen Bloomer, Jim Boles, Peggy Clark, Dick Cummins, Adele Higginbottom, Carole Khalil, and Rheta Long. APHIS honored these fallen coworkers and friends with a portrait that hangs at its headquarters conference center, now called the “Oklahoma City Memorial Conference Center.”

The 2000s

Terrorism, the threat of rapidly spreading zoonotic diseases, and the need for enhanced emergency preparedness and response put APHIS in the spotlight for much of the next decade.

The events of September 11, 2001, led to a major change in the make-up of the Agency. In accordance with the Homeland Security Act of 2002, APHIS employees who were responsible for carrying out agricultural

important impetus for the establishment of the National Animal Health Emergency Response Corps. The Agency's animal and plant health diagnostic capabilities were also strengthened through the establishment, in 2002, of national laboratory networks.

In 2003, *Progressive Farmer* magazine saluted APHIS employees for "their vigilant efforts and dedication to protecting U.S. crops and livestock from pests, disease, and now bioterrorism" by awarding the Agency its prestigious "People of the Year" Award. This was the first time that the century-old publication gave the award to an organization for its service to American agriculture.

The events of 9/11 led to a major change at APHIS—the transfer of numerous agency employees to the newly formed Department of Homeland Security.

quarantine inspection (AQI) activities at border ports, as well as those who worked at the Plum Island Animal Disease Center, were transferred to the newly formed Department of Homeland Security (DHS) in 2003. Other changes resulted from passage of the "Agricultural Bioterrorism Protection Act of 2002" and creation of the Agency's Agricultural Select Agent Program, which sought to protect American agriculture from potential bioterrorism agents. APHIS' safeguarding authorities were further strengthened by the passage of the 2000 Plant Protection Act and the 2002 Animal Health Protection Act. Both laws consolidated and modernized previous animal and plant health statutes, giving APHIS more tools for protecting agriculture and responding to pest and disease threats.

APHIS' on-the-ground presence assisting with the United Kingdom's 2001 response to a major outbreak of foot-and-mouth disease (FMD) helped prevent the disease from entering this country and provided another

APHIS' Biotechnology Regulatory Services (BRS) program was created in 2002 to bring increased focus to USDA's key role in regulating and facilitating the burgeoning field of biotechnology. BRS strengthened field testing requirements for genetically engineered (GE) plants producing pharmaceutical compounds and clarified the approach to handling low-level presence of regulated GE plant material in commercial seeds and grain. Since APHIS' biotechnology program began, the Agency has overseen nearly 30,000 field trials at over 86,000 different locations and approved over 80 products for nonregulated status—many of which have subsequently been further developed and released as varieties used in agriculture. In 2009, BRS launched the Biotechnology Quality Management System, a voluntary, audit-based compliance assistance program designed to help industry better comply with its regulations. BRS has also made changes to streamline and improve the review process on petitions for non-regulated status, and expects to significantly reduce the length of the process.

In 2002, APHIS—leading a taskforce of Federal, State, and private veterinarians—tackled an outbreak of END in California and other Western States. By the time the emergency was over in late 2003, State and Federal governments had spent more than \$160 million, and nearly 4.5 million birds had been depopulated. APHIS and its partners eradicated this devastating disease in one-third the time and at one-half the cost of prior outbreaks and protected the health of the country’s poultry resources, worth more than \$23 billion at that time. Also in 2002, APHIS assisted Virginia in addressing a significant outbreak of low-pathogenic avian influenza, depopulating affected flocks, securing indemnity for affected producers, and working to remove trade restrictions placed on U.S. poultry.

In December 2003, the first detection of bovine spongiform encephalopathy (BSE) in the United States, or ‘the cow that stole Christmas’, became the focus of APHIS’—and the

Nation’s—attention. W. Ron DeHaven, then Chief Veterinary Officer for the United States and later APHIS Administrator, said the Agency’s handling of the BSE crisis was a defining moment. The detection occurred in a cow in Washington State, which was sampled as part of a targeted surveillance program. The epidemiological investigation revealed that the Washington State BSE case was an isolated incident and that the affected animal originated in Canada.

The United States’ first cases of the rare viral disease monkeypox, in June 2003, led to an extensive collaborative effort among various APHIS programs, the U.S. Geological Survey, the Centers for Disease Control and Prevention, FDA, Customs and Border Protection, and the Department of

Transportation. Infected pet rodents from Ghana spread the disease to domesticated prairie dogs, who transmitted monkeypox to their owners, with cases occurring in six States. The monkeypox response team conducted public health information campaigns, epidemiological investigations, regulation of pet shops which sold the animals, and surveillance trapping. These measures resulted in quick containment of the disease, which had brought wide public attention to the growing threat posed by zoonoses.

Concerns about such threats grew exponentially the following year at the onset of an outbreak of highly pathogenic avian influenza (HPAI) H5N1 virus in China, Thailand, and Vietnam. In this situation, APHIS helped address the virus at its source—in poultry abroad—to reduce the chances of a U.S. outbreak. NVSL personnel trained 99 foreign officials from 62 countries to conduct AI diagnostic testing as

part of capacity building efforts, and APHIS personnel also worked extensively with the White House Homeland Security Council, DHS, and other Federal departments and agencies to develop and implement guidelines regarding how to respond to a potential introduction of HPAI H5N1 in the United States.

On the plant side, following the introduction of citrus greening, sweet orange scab, and citrus black spot diseases into the United States, APHIS provided key scientific support for the development of diagnostics, surveys, risk assessments, commodity treatments, and management methods to address these threats to U.S. agriculture. The Agency also provided pest risk analyses that supported the development of

For many APHIS employees, the December 2003 detection of BSE in the United States will always be remembered as “the cow that stole Christmas.”

regulations to allow fruit to be safely shipped out of quarantine areas in affected States. Using a science-based strategy for addressing and mitigating risks for Asian soybean rust, APHIS and its cooperators educated soybean growers about optimum crop management practices and the use of chemical fungicides. In 2005—the year after the disease was first detected in the United States—American soybean producers' profits increased by \$11 million to \$299 million.

In 2008, APHIS earned a Secretary's Honor Award for helping to eradicate Asian longhorned beetle (ALB) from Illinois. APHIS worked cooperatively with the Forest Service, the City of Chicago, and the State of Illinois to impose quarantines, conduct visual inspections, remove infested trees, and treat potential host trees. The Agency also enlisted the help of the public, asking them to look for the beetle and report sightings. That same year, APHIS declared ALB eradicated from Jersey City, NJ, and, in 2011, the beetle was eradicated from Islip, NY.

APHIS and its partners also achieved other important victories on the pest and disease eradication front. The culmination of a 30-year cooperative, cost-sharing effort, APHIS and its partners eradicated boll weevil from 16 of 17 cotton-producing States, with Texas nearing completion of its eradication efforts. The Agency also worked with the State of South Carolina to achieve zero infested acres in the witchweed program at the end of the 2009 growing season—down from a high of more than 82,000 affected acres. These efforts protected \$50 billion of sorghum in the United States. During 2009, plum pox virus was eliminated in Pennsylvania; the eradication program continues in New York State. Using an integrated pest management approach, the pink bollworm eradication program, begun in 2001, reduced populations of the cotton pest by 99 percent in 4 U.S. and 3 Mexican States. In addition, APHIS and its State and industry partners nearly eliminated European grapevine moth infestations; as a result, domestic commerce and foreign markets have remained open for grapes, stone fruit, berries, and other commodities that would otherwise have been threatened by the pest.

APHIS made numerous technological advances to increase customer satisfaction. The APHIS Technical Assistance Center was established in

2000 as the first point of contact for computer assistance for APHIS employees and customers around the world. In 2001, dozens of manuals and other related documents went online. Later, the Phytosanitary Certificate Issuance and Tracking (PCIT) system allowed the inspection of agricultural products and certified compliance with plant health standards of importing countries, and the Fruits and Vegetables Import Requirements (FAVIR) database allowed importers and others to access current lists of fruits and vegetables eligible for import and see the related requirements. With ePermits, importers, researchers, and others can also apply for, track, and renew permits online, further supporting APHIS' efforts to move at the speed of commerce. Each year, APHIS supports U.S. agriculture through its export certification program. State, county, and Federal officials issue hundreds of thousands of plant and animal health export certificates.

The emergency landing of Flight 1549 on the Hudson River in January 2009 led to more attention on WS's efforts to reduce wildlife hazards at the Nation's airports and military airbases. WS also moved forward with

*The first decade of the
new millennium brought
major successes in
disease eradication,
technological advances,
increased collaboration,
and ever-expanding roles
for APHIS.*

wildlife rabies control activities, working with cooperators to distribute an average of 7 to 10 million oral rabies vaccine baits per year. The program also facilitated rabies surveillance, research, and control in border areas with Canada and Mexico. WS' National Wildlife Research Center (NWRC) developed effective contraceptives to manage populations of Canada geese and white-tailed deer; NWRC research also led to the testing and development of new repellants, and exclusionary and frightening devices designed to protect livestock from predators.

IS, with offices in more than 40 countries, continued to assist in negotiations to facilitate exports and maintain markets for U.S. agriculture, forestry, and fisheries exports worth tens of billions of dollars a year. IS also worked to improve other nations' capacities to respond to pests and disease threats and prevent them from reaching the United States. For example, cooperative efforts with Guatemala, Mexico, and Belize expanded the Medfly-free barrier in Central America to prevent the fly's spread northward.

In accordance with its emergency support authority, APHIS reached out beyond its traditional role and applied its expertise to assist relief efforts. In the wake of Hurricanes Katrina and Rita in 2005, APHIS airboats rescued more than 300 people from the New Orleans flood waters. Fifty APHIS veterinarians and wildlife specialists helped save more than 11,000 small animals and almost 3,000 large animals from storm-ravaged areas. That experience helped strengthen APHIS' emergency response capability for potential disasters in the future and led to standard operating procedures for working with the Federal Emergency Management Agency and other Federal partners. More recently, APHIS personnel were involved in the 2010 emergency response to the Deepwater Horizon Oil Spill, collecting carcasses, preventing wildlife from entering spill areas, capturing oiled wildlife for transfer to rehabilitation facilities, and visiting facilities housing marine mammals to make sure that plans were in place to protect the animals.

By the close of the decade, AC oversaw the care and treatment of animals regulated under the AWA at more than 10,000 licensed and registered facilities throughout the United States and its territories. In response to

the need to enhance the effectiveness of AWA and HPA inspection and enforcement procedures, AC and IES reviewed and made improvements to their respective systems while also pursuing enforcement against violators, including high-profile cases involving the sale of animals by unlicensed dealers, exhibitors whose animals attacked or injured people, and the confiscation and subsequent placement of elephants and other exotic animals from licensed exhibitors. Other AC initiatives designed to improve the welfare of the Nation's animals included the establishment of the Center for Animal Welfare in Kansas City, MO, which serves as a national resource for policy development and analysis, education and outreach, and science and technology, and the creation of specialized teams devoted to enhancing efforts to monitor the care of elephants, big cats, and nonhuman primates.

APHIS Tomorrow

Throughout its history, due to the breadth and sensitivity of the issues with which it deals, APHIS has frequently found itself involved in national political, budgetary, and even cultural debates. As it has grown and developed, the Agency has continued to modernize in order to be proactive, flexible, and responsive in addressing the current and future needs of farmers, exporters and importers, and consumers.

During the second decade of the 21st century, as the Nation has confronted its deepest and most sustained recession since the Great Depression, APHIS is working to increase efficiency and reduce costs. Ever-conscious of the mandate to provide public service, regardless of budgetary constraints, the Agency has proactively sought cost efficiencies through such measures as consolidation of IT customer service support and changes to telecommunications technology. At the same time, APHIS has been analyzing business processes to pinpoint and enact process improvements in areas such as licensing of veterinary biologics, import and export reviews, environmental documentation, and reviews of petitions to determine the regulatory status of genetically engineered crops. These actions—and many others—are saving millions of dollars, as APHIS also strives to better serve its stakeholders and customers.

APHIS leadership has also emphasized that the Agency must better reflect in its makeup the U.S. public that it serves. To that end, APHIS is committed to creating an inclusive, high-performance organization that mirrors the diversity of today's civilian workforce. The Agency is seeking to better incorporate diverse stakeholder engagement in daily operations and to provide its employees the tools to take charge of their own career development.

As this relatively young Agency continues to grow and develop, we are confident that it will continue to be guided by the strong service ethic it has always held, and by a strong commitment to the protection and preservation of the Nation's natural and agricultural resources. These strengths will serve us well as we face new, as-yet-unknown challenges of the future, whatever they are.

APHIS has continued to modernize in order to be proactive, flexible, and responsive in addressing the current and future needs of those we serve.

Timeline of APHIS History

- ❖ **1862**—President Lincoln signs the legislation creating the U.S. Department of Agriculture (USDA).
- ❖ **1883**—A Veterinary Division is established within USDA.
- ❖ **1884**—The Veterinary Division becomes the Bureau of Animal Industry (BAI) with the passage of the Bureau of Animal Industry Act. Congress establishes the Bureau in order to promote livestock disease research, enforce animal import regulations, and regulate the interstate movement of animals.
- ❖ **1890**—The first Meat Inspection Act is passed. In 1891, this Act is amended to cover the inspection and certification of all live cattle for export and live cattle to be slaughtered and their meat exported.
- ❖ **1902**—The first of six U.S. foot-and-mouth disease (FMD) outbreaks begins; the disease is eradicated in 1929.
- ❖ **1912**—Congress passes the Plant Quarantine Act; the Federal Horticultural Board is established to administer the Act.
- ❖ **1913**—Congress passes the Virus-Serum-Toxin Act.
- ❖ **1917**—The cattle TB eradication program is launched.
- ❖ **1954**—USDA acquires Plum Island and establishes a high-security biocontainment facility to study and safeguard against foreign animal diseases with the potential to decimate the Nation's livestock.
- ❖ **1966**—Screwworm is eliminated from the United States, the successful outcome of sterile fly releases.
- ❖ **1966**—Congress enacts the Laboratory Animal Welfare Act, regulating dealers who handle dogs and cats, as well as laboratories that use dogs, cats, hamsters, guinea pigs, rabbits, or nonhuman primates in research.
- ❖ **1970**—The Laboratory Animal Welfare Act is renamed the Animal Welfare Act (AWA) and amended to include the regulation of other warm-blooded animals when used in research, exhibition, or the wholesale pet trade.
- ❖ **1970**—Congress passes the Horse Protection Act (HPA), prohibiting the showing, sale, auction, exhibition, or transport of sored horses. Congress declares the soring of horses cruel and inhumane, and that sored horses, when shown or exhibited, compete unfairly with horses that are not sore.
- ❖ **1971**—The animal and plant regulatory functions are separated from ARS to become the Animal and Plant Health Service (APHS)—the direct progenitor of today's APHIS.
- ❖ **April 2, 1972**—The meat and poultry inspection divisions of the Consumer and Marketing Service (later known as AMS) are added to APHS, grouping functions that rely on similar professional disciplines. This change also adds the word "Inspection" to the Agency's title, putting the "I" in APHIS.
- ❖ **1972**—The United States and Mexico sign an agreement forming the Joint Mexico-U.S. Commission for the Eradication of Screwworms. In 1976, a new sterile fly production plant in southern Mexico begins producing up to 500 million sterile flies a week.
- ❖ **1973**—Sheep scabies is eradicated from the United States.

- ❖ **1973**—The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) treaty is ratified on March 3, 1973, and entered in force on July 1, 1975. The treaty regulates the commercial trade of endangered plants and animals and monitors trade involving species that may become extinct in the future. APHIS enforces the plant provisions and seizes plants that are not appropriately documented.
- ❖ **1974**—A serious outbreak of exotic Newcastle disease (END) in poultry in southern California, which began in 1971, is eradicated.
- ❖ **1974**—The animal quarantine inspection activities at ports of entry previously conducted by Veterinary Services (VS) are transferred to APHIS' Plant Protection division, which then changes its name to Plant Protection and Quarantine (PPQ). Under its new agriculture quarantine and inspection (AQI) program, PPQ conducts all plant and animal port inspection functions.
- ❖ **1976**—The AWA is amended to prohibit most animal fighting ventures and regulate the commercial transportation of certain animals.
- ❖ **1976**—The HPA is amended by Congress to expand the inspection program, directing the Secretary of Agriculture to prescribe, by regulation, requirements for appointing "persons qualified to conduct inspections" for the purpose of enforcing the Act. The Designated Qualified Person (DQP) program is established in 1979.
- ❖ **1976**—The North American Plant Protection Organization (NAPPO) is created in 1976. NAPPO joins Federal plant protection officials in the U.S. Canada and Mexico to develop North American standards for plant protection and quarantine activities.
- ❖ **1977**—APHIS' meat and poultry inspection functions are transferred to the newly created Food Safety and Quality Service, later reorganized as the Food Safety and Inspection Service (FSIS).
- ❖ **1978**—The United States is declared "hog cholera free," the culmination of a 15-year effort against the disease.
- ❖ **1978**—The Boll Weevil Eradication Program is launched with a successful trial program along the Virginia-North Carolina border.
- ❖ **1979**—The Harry S. Truman Animal Import Center, a high-security facility through which animals can be safely imported from countries affected with FMD, is established.
- ❖ **1980**—APHIS begins to emphasize its international role in assisting other nations to deal with plant and animal health problems before pests and diseases can reach American shores. This now-standard APHIS view is supported by the Agency's many foreign cooperative programs.
- ❖ **1980**—International programs against the Mediterranean fruit fly (Medfly) in Guatemala and cooperative programs to eradicate African swine fever in the Dominican Republic and Haiti are initiated.
- ❖ **1982**—The Cooperative Agricultural Pest Survey program begins with 16 States transmitting pest survey data to a central computer.
- ❖ **1982**—X-ray detection devices are introduced at international airports on a trial basis to screen baggage for illegal material.
- ❖ **1984**—APHIS starts using beagles trained to sniff out food in luggage at international airports—the "Beagle Brigade" program.
- ❖ **1984**—The Brucellosis Information System—APHIS' first national computer system—is implemented.
- ❖ **1984**—Screwworm is eradicated in Mexico down to the Isthmus of Tehuantepec near Mexico's southern border. A biological barrier is

- established to prevent screwworm reinfestation and its northward movement.
- ❖ **1985**—PPQ begins using insect pheromones to trap and control exotic pests.
 - ❖ **1985**—The Secretary of Agriculture officially designates APHIS as responsible for regulating biotechnology-derived products that affect animal and plant health. In 1978, the Agency had requested additional appropriations to establish a separate biotechnology program.
 - ❖ **1985**—The Animal Damage Control (ADC) program is transferred to APHIS from the U.S. Fish and Wildlife Service.
 - ❖ **1985**—The Improved Standards for Laboratory Animals Act amends the AWA to create additional standards for the use of animals in research.
 - ❖ **1986**—The Grasshopper Integrated Pest Management project is initiated as a 5-year research effort to develop alternatives to chemical pesticides for grasshopper control.
 - ❖ **1986**—APHIS licenses the world’s first vaccine derived from recombinant DNA. This vaccine, used against pseudorabies in swine, leads to licensing of subsequent genetically engineered pseudorabies vaccines.
 - ❖ **1986**—The Office of Science and Technology Policy publishes the “Coordinated Framework for Regulation of Biotechnology” describing comprehensive Federal regulatory policy for ensuring the safety of biotechnology research and products.
 - ❖ **1987**—USDA publishes a final rule for regulating introductions of genetically engineered organisms that might pose risks to plants.
 - ❖ **1987**—USDA authorizes the first field test of a genetically engineered organism (Calgene’s herbicide-resistant tobacco).
 - ❖ **1987**—APHIS’ international programs staff (within PPQ and VS) are given Foreign Service status, increasing the influence of Agency personnel in the international arena.
 - ❖ **1987**—Congress gives USDA the authority to conduct—and enter into agreements to conduct—control activities for nuisance mammals and birds.
 - ❖ **1988**—The Centers for Epidemiology and Animal Health (CEAH) is formed.
 - ❖ **1988**—APHIS reorganizes into 11 programs. International Services (IS), Regulatory Enforcement and Animal Care (REAC), Policy and Program Development, Science and Technology, and Recruitment and Development are added to the pre-existing programs of PPQ, VS, ADC, Legislative and Public Affairs, Management and Budget, and Biotechnology, Biologics, and Environmental Protection.
 - ❖ **1988**—The boll weevil eradication program is expanded into Georgia, Florida, and Alabama.
 - ❖ **1989**—In response to the Improved Standards for Laboratory Animals Act, USDA amends regulations to establish standards for the exercise of dogs, the psychological well-being of nonhuman primates, minimization of animal pain and distress, proper use of anesthetics, analgesics, and tranquilizers, and to require researchers to consider alternatives to potentially painful or distressful procedures. The amendments also require each research facility to establish an Institutional Animal Care and Use Committee to approve and monitor all research conducted at the institution.

- ❖ **1989**—The National Animal Health Monitoring System is established.
- ❖ **1990**—APHIS establishes the National Biological Control Institute to promote the use of biocontrol tools.
- ❖ **1990**—The Food, Agriculture, Conservation and Trade Act of 1990 strengthens the AWA; USDA can now prevent licensed entities from continuing to violate the AWA while charges are pending.
- ❖ **1990**—USDA begins regulating horses used for biomedical or other nonagricultural research and other farm animals used for biomedical or other nonagricultural research or for nonagricultural exhibition.
- ❖ **1991**—The Agency institutes user fees to cover some of the costs of its services, such as agricultural quarantine inspection activities. These fees allow APHIS to charge those who directly benefit from its services.
- ❖ **1992**—APHIS develops a cross-program staff to exclusively manage trade issues, in response to the increasing need to respond to changes in the global economy. As agricultural trade expands, the Agency seeks to enhance its role and identity as an active facilitator of trade.
- ❖ **1992**—APHIS makes its first determination of nonregulated status for a genetically engineered (GE) plant, Calgene's FLAVR SAVR tomato.
- ❖ **1992**—The National Veterinary Accreditation Program is established.
- ❖ **1992**—The Voluntary Scrapie Flock Certification Program is implemented.
- ❖ **1992**—APHIS begins work on the development and testing of wildlife contraceptives.
- ❖ **1993**—APHIS establishes holding periods for animals in pounds and shelters and certification requirements to ensure that animals have been held for the duration of these periods.
- ❖ **1993**—APHIS simplifies its rules for GE plants by adding a notification system to expedite the field testing and a petition process to exempt qualified GE plants from further regulation.
- ❖ **1994**—AC enters into a Memorandum of Understanding with the Missouri Department of Agriculture. Each Agency agrees to share inspection resources to support the enforcement of the AWA and Missouri's Animal Care Facilities Act.
- ❖ **1994**—The first voluntary certification program for aquaculture is implemented in Washington State and Alaska.
- ❖ **1994**—The Agency establishes a Preharvest Food Safety Team to work with stakeholders to help reduce pathogen levels before animals reach the slaughter plant.
- ❖ **1995**—Boll weevil eradication activities are expanded into south Texas, the rest of Alabama, and parts of Tennessee and Mississippi.
- ❖ **1995**—APHIS headquarters moves from Hyattsville to Riverdale, MD, its current location.
- ❖ **April 19, 1995**—Seven APHIS employees (Olen Bloomer, Jim Boles, Peggy Clark, Dick Cummins, Adele Higginbottom, Carole Khalil, and Rheta Long) are killed when the Alfred P. Murrah Federal building in Oklahoma City is bombed.
- ❖ **1995**—APHIS creates its first homepage on the Internet.

- ❖ **1996**—APHIS mobilizes a task force to combat an outbreak of Karnal bunt, a fungal disease of wheat, durum wheat, and triticale, first detected in Arizona.
- ❖ **1996**—The Center for Veterinary Biologics (CVB) is created.
- ❖ **1996**—The NWRC relocates from Denver to Fort Collins, CO.
- ❖ **1996**—Several changes are made to the Agency’s organizational structure. Among them, the Regulatory Enforcement and AC unit are split, making AC a stand-alone unit. Regulatory enforcement functions are placed under Management and Budget and renamed Investigative and Enforcement Services.
- ❖ **1997**—Wildlife Services (WS)—the newly renamed Animal Damage Control program—implements a nationally coordinated wildlife rabies management program among more than 20 States to control and eliminate rabies virus variants adapted to coyotes, gray foxes, and raccoons.
- ❖ **1997**—APHIS publishes a final rule in the Federal Register that allows recognition of regions within countries for the purpose of importing animals and animal products into the United States. Embracing and promoting the concept of regionalization creates additional import and export opportunities for U.S. producers and consumers.
- ❖ **1997**—WS collaborates with States, the Centers for Disease Control and Prevention (CDC), and others in coordinated oral rabies vaccination campaigns leading to the elimination of canine rabies in the United States, no reported cases of a unique variant of gray fox rabies in Texas for nearly 3 years, and no appreciable spread of raccoon rabies to new areas of the United States.
- ❖ **1997**—APHIS issues a final rule establishing a “systems approach” with overlapping safeguards under which commercial shipments of fresh Hass avocado fruit grown in approved orchards in the state of Michoacán, Mexico, can be imported into the Northeastern United States. This demonstrates the Agency’s commitment to science-based regulatory decisions, as mandated by APHIS trade policy and the World Trade Organization Sanitary and Phytosanitary agreement.
- ❖ **1997**—The APHIS Center for Plant Health Science and Technology (CPHST) is established in Oxford, NC, to provide scientific and technical support for the protection of U.S. plant resources and the facilitation of agricultural trade.
- ❖ **1998**—CVB and the National Veterinary Services Laboratories (NVSL), in partnership with the Institute for International Cooperation in Animal Biologics, receive designation as an OIE Collaborating Centre for the Diagnosis of Animal Diseases and Vaccine Evaluation in the Americas.
- ❖ **1999**—NVSL is the first to isolate West Nile Virus—a deadly zoonotic disease that causes encephalitis in humans—from zoo birds, crows, and horses in New York, and provides the isolate to public health officials.
- ❖ **1999**—APHIS dedicates the \$14 million, state-of-the-art Wildlife Sciences Building, the principle administrative and laboratory facility for the NWRC in Fort Collins, CO.
- ❖ **1999**—APHIS initiates the Accelerated Pseudorabies Eradication Program; about 900,000 swine are depopulated and approximately \$65 million in indemnity payments from the CCC (Commodity Credit Corporation) are made to affected producers.

- ❖ **1999**—AC program successfully negotiates a Cooperative Enforcement Agreement with the horse industry for HIOs to partner with AC officials in enforcement of the HPA.
- ❖ **1999**—PPQ creates the Remote Identification System, using digital imaging equipment, to quickly identify intercepted pests.
- ❖ **1999**—PPQ implements the areawide use of the Sterile Insect Technique for Medfly in Florida, resulting in its 1998 eradication from Florida and establishment of the successful preventive release program still ongoing in 2012.
- ❖ **1999**—APHIS makes its 50th determination of nonregulated status, for AgrEvo male-sterile corn.
- ❖ **1999**—PPQ's Remote Digital Imaging ID program receives a Hammer Award from Vice President Al Gore for its contributions to "reinventing Government." This is one of several APHIS teams that receive Hammer Awards over several years.
- ❖ **1999**—AC publishes a final rule on perimeter fencing requirements for animals covered under the AWA, with emphasis on wild and exotic animals.
- ❖ **2000**—The Plant Protection Act consolidates USDA's authority to regulate plant health into a single statute.
- ❖ **2000**—The Record of Decision for Final Environmental Impact Statement (EIS) and Bison Management Plan for the State of Montana and Yellowstone National Park (YNP) is signed with the goal of maintaining a wild, free-ranging bison population while minimizing the risk of transmitting brucellosis from bison to domestic cattle on public and private lands adjacent to YNP.
- ❖ **2000**—The Electronic Guard, a nonlethal tool to protect sheep from coyote predation developed by NWRC, becomes available.
- ❖ **September 11, 2001**—The terrorist attacks and subsequent events have significant impact on APHIS. More than 60 WS specialists and researchers from 23 States work in 2-week shifts at the landfill where the wreckage of the World Trade Center attacks of 9/11 is brought. As recovery specialists toil around the clock combing through the debris, WS staff disperse thousands of migrating gulls as well as rodents to prevent them from hindering the search for human remains.
- ❖ **2001**—APHIS sends animal health officials to assist with response to a devastating outbreak of FMD in the United Kingdom; more than 4 million animals are slaughtered there. APHIS exclusion activities prevent the disease from entering the United States.
- ❖ **2001**—The first phase of pink bollworm (a cotton pest) eradication begins in El Paso/Trans Pecos region of west Texas, south-central New Mexico, and northern Chihuahua, Mexico.
- ❖ **2001**—APHIS publishes a final rule to address several AWA issues related to marine mammal exhibitors.
- ❖ **2001**—The National Animal Health Emergency Response Corps is established.
- ❖ **2001**—Following a series of Anthrax mailings to Federal buildings, NVSL tests thousands of samples for *Bacillus anthracis*, helping to ensure those spaces are safe for reoccupation.
- ❖ **2002**—The emerald ash borer (EAB), a pest responsible for the death or decline of ash trees, is first detected in southeast Michigan.

- ❖ **2002**—USDA creates the Biotechnology Regulatory Services (BRS) program within APHIS to focus on the Department’s key role in regulating GE organisms.
- ❖ **2002**—The first AgDiscovery summer program is implemented for high school students interested in agricultural sciences.
- ❖ **2002**—The Animal Health Protection Act is passed as part of the 2002 Farm Bill, consolidating USDA’s animal authorities into one law that replaced and updated dozens of statutes, some dating back to 1884.
- ❖ **2002**—The Public Health Security and Bioterrorism Preparedness and Response Act is passed, requiring registration of select agents and toxins, allowing APHIS and CDC to secure such materials while continuing to make them available for legitimate research, diagnostic, and emergency preparedness use.
- ❖ **2002**—USDA distributes \$20.6 million in homeland security funding to States to help establish national animal and plant diagnostic laboratory networks. The National Animal Health Laboratory Network is established.
- ❖ **2002**—APHIS successfully addresses occurrences of low pathogenic avian influenza in Pennsylvania, Maine, and North Carolina, along with a significant outbreak in Virginia.
- ❖ **2003**—The National Animal Health Surveillance System (NAHSS) integrates animal health monitoring and surveillance activities conducted by many Federal and State government agencies into a comprehensive and coordinated system.
- ❖ **2003**—The Agency unveils the APHIS Emergency Operations Center, a state-of-the-art facility with a variety of technologically advanced communications systems that improve the Agency’s ability to respond to animal and plant health emergencies.
- ❖ **2003**—USDA and State agricultural officials successfully contain and eradicate an outbreak of exotic Newcastle disease (END) in a record-setting, 6-month period, and at considerable cost savings. The operation mobilizes close to 1,000 APHIS employees and volunteers.
- ❖ **2003**—After outbreaks of low pathogenic avian influenza and END affect poultry exports worldwide, APHIS is able to retain export markets for U.S. poultry and poultry products worth nearly \$2.2 billion at that time.
- ❖ **2003**—APHIS conducts successful eradication campaigns against two introductions of *Ralstonia solanacearum* race 3, biovar 2, a bacterial pathogen that causes wilt in geraniums, in 2003 and again in 2004. In cooperation with State plant health officials, APHIS officials eradicate this pathogen before it has the opportunity to escape the nursery environment and damage agricultural crops.
- ❖ **2003**—BRS strengthens field testing requirements for GE plants producing pharmaceutical compounds.
- ❖ **2003**—The first cases of monkeypox occur in the United States. Infected African rodents, imported as pets, transmit the disease to prairie dogs, also sold as pets, which then transmit monkeypox to their owners. APHIS AC, VS, and WS work with CDC and the Food and Drug Administration to successfully contain the outbreak and continue surveillance for the disease.
- ❖ **2003**—Responsibility for inspections and operations of the AQI program at U.S. ports of entry, including the Beagle Brigade, is transferred to the U.S. Department of Homeland Security’s (DHS) Customs and Border Protection (CBP), in accordance with the Homeland Security Act of 2002. APHIS continues to be responsible

for developing the agricultural regulations and guidelines that govern the import of agricultural products.

- ❖ **2003**—APHIS wins the Progressive Farmer Award—the first time the award is given to an entire group rather than a single individual.
- ❖ **2003**—The first case of bovine spongiform encephalopathy (BSE) in the United States is detected in a cow in Washington State.
- ❖ **2004**—PPQ collaborates with CBP to develop an integrated training curriculum for CBP agriculture specialists.
- ❖ **2004**—AC begins to apply AWA regulations and standards for the humane transportation of animals in commerce to all foreign air carriers operating to or from any point within the United States, its territories, possessions, or the District of Columbia.
- ❖ **2004**—VS launches an intensive BSE surveillance plan, supported by a new network of 12 geographically distributed public laboratories, to test as many animals in the targeted high-risk U.S. cattle population as possible during a 12- to 18-month period.

In the wake of the detection of BSE, USDA retains 23 markets for beef and beef products worth more than \$330 million world-wide, including important export markets in Hong Kong and Korea for pet food and additional markets in Japan, Europe, and South America for bovine semen and embryos.

- ❖ **2004**—The United States is free of swine pseudorabies.
- ❖ **2004**—APHIS mobilizes an effective response to an international epidemic of highly pathogenic avian influenza (HPAI) in China, Thailand, and Vietnam; that year, NVSL implements a screening test for the H5/N1 virus responsible for the outbreak.

- ❖ **2004**—The new National Response Framework (NRF) organizes government resources into Emergency Support Functions (ESFs) coordinated by DHS' Federal Emergency Management Agency (FEMA) and activated as appropriate during emergencies. APHIS is designated the lead agency for ESF 11: Agriculture and Natural Resources and is responsible for emergency response involving animal and plant diseases and pests as well as providing for the safety and well-being of household pets.
- ❖ **2004**—USDA announces the framework for a national animal identification system to allow rapid traceability in the event of an animal disease outbreak.
- ❖ **2004**—APHIS launches the "Biosecurity for Birds" Web site to promote improved biosecurity practices among poultry producers and owners of pet birds.
- ❖ **2005**—Following back-to-back hurricanes Katrina and Rita in the Gulf region, APHIS veterinarians, wildlife specialists, and other experts work with States, veterinary medical assistance teams, the Humane Society of the United States, and other animal rescue groups to rescue, shelter, and feed displaced and vulnerable livestock, companion animals, and research animals in Louisiana and Mississippi. APHIS helps rescue and shelter more than 11,000 small animals and nearly 3,000 large animals from storm-ravaged areas.
- ❖ **2005**—PPQ implements the Phytosanitary Certificate Issuance and Tracking (PCIT) system, which tracks the inspection of agricultural products and certifies compliance with plant health standards of importing countries.
- ❖ **2006**—WS and IS participate in the inaugural meeting of the North American Rabies Management Planning Team along with CDC, several States and universities; the Navajo Nation; and government representatives from Canada and Mexico. The meeting is convened to discuss a cooperative strategic plan to manage border rabies

issues and strengthen existing working relationships among the three countries by focusing on increased rabies surveillance and communication.

- ❖ **2006**—APHIS' Center for Veterinary Biologics licenses three vaccines to protect horses from West Nile virus (WNV); APHIS continues to work with the CDC and the U.S. Geological Survey's National Wildlife Health Center to survey for WNV in a wide range of wild birds and to determine distribution in U.S. bird and mosquito populations.
- ❖ **2006**—APHIS' Emergency Management Leadership Council (EMLC) is formed to coordinate use of the Incident Command System (ICS), as well as training and credentialing of APHIS personnel to ensure knowledge and authority needed for personnel to act as emergency responders.
- ❖ **2006**—The classical swine fever (CSF) National Surveillance Plan is implemented.
- ❖ **2006**—APHIS implements ePermits, a system that enables importers, researchers, and others to apply, track, and renew their permits online. The same year, the system receives an Intergovernmental Solutions Award from the American Council for Technology and the Industry Advisory Council.
- ❖ **2006**—Working with State officials and industry, APHIS initiates the Citrus Health Response Program, a systems approach to responding to multiple pest and disease threats to Florida citrus.
- ❖ **2006**—The new USDA-Panama screwworm mass-rearing and research facility is inaugurated. Screwworm is now eradicated from the United States south through Panama, and focus shifts to maintaining a barrier at the Darien Gap adjacent to Columbia.
- ❖ **2007**—BRS publishes a policy statement to clarify its approach to handling a low-level presence of regulated GE plant material in commercial seeds and grain.
- ❖ **2007**—APHIS creates the International Technical and Regulatory Capacity Building Center (ITRCB) to standardize approaches to requests, access funding, and standardize training needs. In 2011, the ITRCB Center coordinates 160 requests for subject matter expertise, trainings and other activities, and the International Visitors Center hosts 81 international groups consisting of 585 visitors.
- ❖ **2007**—BRS announces the Biotechnology Quality Management System (BQMS) to help organizations better maintain compliance with APHIS' biotechnology regulations.
- ❖ **2007**—APHIS and Canada establish a bilateral surveillance plan for viral hemorrhagic septicemia.
- ❖ **2008**—The National Scrapie Surveillance Plan and activities are implemented.
- ❖ **2008**—VS launches its "VS: Vision and Science" (originally "VS2015") initiative to position the organization to address new and future challenges in areas such as regulatory flexibility, animal import/export services, emergency management, surveillance, wildlife diseases, and One Health.
- ❖ **2008**—All 50 U.S. States achieve class-free status for brucellosis for the first time in the program's 74-year history.
- ❖ **2008**—The Fruits and Vegetables Import Requirements (FAVIR) database goes online. The database allows importers and others to access an up-to-date list of fruits and vegetables eligible for import and what the related requirements are.

- ❖ **2008**—APHIS declares the the Asian longhorned beetle (ALB) eradicated from Chicago, IL, and Jersey City, NJ. ALB was first discovered in Brooklyn, NY, in 1996.
- ❖ **2008**—WS predation damage management efforts at the Hobe Sound National Wildlife Refuge in Florida increase by 128,000 the number of sea turtles that emerge from nests. The loggerhead, as well as the endangered leatherback, green and Kemp’s ridley sea turtles return to nest at the refuge, where previously up to 95 percent of turtle nests were destroyed by predators.
- ❖ **2009**—WS and VS expand disease surveillance in feral swine to include swine brucellosis and pseudorabies. These diseases are endemic in feral swine and represent the most likely risk of reintroducing the diseases into commercial swine herds.
- ❖ **2009**—Plum pox virus is eradicated in Pennsylvania.
- ❖ **2009**—APHIS holds a series of listening sessions in 14 cities throughout the country to solicit input from the public about advancing animal disease traceability.
- ❖ **2009–2010**—APHIS personnel partner with public health officials on initial characterization of the new, highly publicized H1N1 influenza virus (mistakenly termed “swine flu” by the media) and investigate cases involving apparent transmission between humans and animals. The outbreak is successfully contained.
- ❖ **2009**—A license is issued for swine influenza vaccine against the pandemic H1N1 influenza virus.
- ❖ **2009**—APHIS issues the first “pre-harvest” product license for *Escherichia coli* bacterial extract to reduce prevalence and shedding of *E. coli* O157:H7 in feedlot cattle.
- ❖ **2009**—For the first time, a long-term WS biologist is posted at U.S. military airfields to conduct airport wildlife hazards assessment and operational management (Iraq and Afghanistan). By early 2012, 20 WS biologists have completed 4-month voluntary deployments.
- ❖ **2009**—The Environmental Protection Agency registers GonaCon®, the first single-shot, multiyear wildlife contraceptive for mammals, developed by NWRC, for use in free-ranging female white-tailed deer.
- ❖ **2009**—The “forced landing” of US Airways Flight 1549 in the Hudson River on January 15 after Canada geese were ingested in both engines on the Airbus 320 demonstrates to the public at large that bird strikes are a grave concern to aviation safety and focuses attention on WS efforts.
- ❖ **2010**—On April 15, Secretary Vilsack joins APHIS and other USDA employees in dedicating the new National Centers for Animal Health in Ames, IA, home to NVSL and CVB as well as ARS’ National Animal Disease Center (NADC).
- ❖ **2010**—PPQ launches a state-of-the-art plant inspection station in Miami, FL.
- ❖ **2010**—For more than 5 consecutive months, WS’ emergency response to the Deepwater Horizon Oil Spill protects wildlife; program staff collect over 20 percent of all rehabilitated wildlife throughout the Gulf of Mexico. WS deploys 82 employees and maintains wildlife response teams throughout the Gulf between May and September.
- ❖ **2010**—As a result of WS-Wisconsin trapping of parasitic nesting cowbirds, a successful Kirtland Warbler nesting/fledgling occurs—for the first time in decades—outside the state of Michigan.

- ❖ **2010**—AC creates a traveling elephant exhibitors team, comprised of veterinary medical officers, to inspect USDA-licensed, traveling elephant exhibitors across the country.
- ❖ **2010**—BRS publishes its first final EIS, for glyphosate-tolerant alfalfa.
- ❖ **2010**—PPQ dedicates a new National Detector Dog Training Center in Newnan, GA. The facility earns the prestigious Gold-level Leadership in Energy and Environmental Design (LEED) rating.
- ❖ **2011**—For the first time in nearly 20 years, WS conducts a field trial aimed at licensing an additional oral rabies vaccine to facilitate more aggressive rabies control efforts.
- ❖ **2011**—PPQ implements the Phytosanitary Export Database (PEXD) to provide easy access to export summaries for PPQ and stakeholders.
- ❖ **2011**—BRS approves its 17,000th application to allow the field testing of GE organisms.
- ❖ **2011**—The Federal Highway Administration recognizes WS and the Oregon Department of Transportation with an Exemplary Ecosystem Initiative Award for their migratory bird management and conservation strategy.
- ❖ **2011**—The pink bollworm eradication program reaches a milestone of successfully reducing the pest’s populations by 99 percent in four U.S. States (Arizona, California, New Mexico, and Texas) and three Mexican states.
- ❖ **2011**—APHIS launches the Center for Animal Welfare in Kansas City, MO, to serve as a national resource for policy development and

analysis, education and outreach, and science and technology related to improving the welfare of animals.

- ❖ **2011**—APHIS makes improvements to several key business processes to increase efficiency and better serve customers. The improvements are in a number of areas, including veterinary biologics licensing, making determinations on petitions for nonregulated status for GE organisms, risk assessment and rulemaking on petitions to allow imports of animal and plant products, and the Agency’s enforcement process.
- ❖ **2011**—By establishing temporary export inspection facilities, VS meets a surge in demand for U.S. cattle from Russia, Turkey, and Kazakhstan, helping facilitate a level of cattle exports that doubled in 2011 on top of a 50 percent increase in 2010.
- ❖ **2012**—APHIS and the New York State Department of Agriculture remove more than 300,000 acres in New York—nearly a quarter of the total acres affected— from regulation for golden nematode. Golden nematode was first detected in New York State in 1941.

APHIS Administrators, Past and Present

Francis J. Mulhern (1971-80)



Francis J. Mulhern was the Agricultural Research Service (ARS) Associate Administrator for Regulatory and Control before becoming Administrator of the Animal and Plant Health Service, which became the Animal and Plant Health Inspection Service (APHIS) the following year. A veterinarian by training, Mulhern had a long history of service with the various animal health bureaus (e.g., Bureau of Animal Industry, the Agricultural Research Administration, and ARS).

As the Agency's first Administrator, Mulhern sought to articulate in clear and simple language APHIS' distinct mission—protecting the health of U.S. agricultural resources. In addition, as functions were realigned within USDA to consolidate the new Agency, Mulhern strove to clarify employees' roles in order to boost overall effectiveness and morale. During his tenure, the new Agency dealt with a number of significant animal and plant health issues and the North American Plant Protection Organization (NAPPO) was established.

In 1980, Mulhern left APHIS to direct the animal health program of the Inter-American Institute for Cooperation in Agriculture.

Harry C. Mussman (1980-83)



Harry Mussman came to APHIS after serving as Director of Animal Production and Health for the United Nations Food and Agriculture Organization (FAO) in Rome. He joined APHIS in 1971, and served as Associate Administrator under Frank Mulhern between 1975 and 1977.

Mussman made a major contribution to defining APHIS' organizational identity by solidifying and formalizing the "APHIS Philosophy" that built on Mulhern's ideas of participatory management. This document, which was distributed throughout the Agency, articulated and communicated APHIS' management philosophy and expectations of employees. The "APHIS Philosophy" strove for an organizational climate that enabled employees to work at their highest potential while maintaining open communication with the Agency's constituents and other interest groups, maintaining a lean administrative structure to maximize spending on program delivery, and emphasizing action orientation. Mussman also expanded the Agency's international role.

Bert W. Hawkins (1983-87)



Bert Hawkins, a political appointee, was a former rancher and cattle industry leader. He compared APHIS' role to the "three-horse evener," a hitching device used to distribute the load evenly among a team of three horses. APHIS played a role in evenly balancing the responsibilities undertaken by the three "horses," industry, the States, and the Federal Government. In fulfilling that role, Hawkins sought to reduce APHIS' dominant position and emphasize industry's responsibility in APHIS' cooperative programs.

Hawkins shared Mussman's interest in the Agency's international role in issues such as eradicating pests like screwworm and medfly, and enhancing the APHIS presence abroad through preclearance inspection activities.

When he left APHIS, Hawkins became a special assistant to Agriculture Secretary Richard E. Lyng.

Donald Houston (1987-88)



Donald Houston left his post as Administrator of the Food Safety and Inspection Service (FSIS) to take the same position with APHIS. Houston, a graduate of the University of Illinois at Urbana-Champaign College of Veterinary Medicine, joined USDA in 1961 as a veterinary medical officer in the meat inspection program. He was moved to APHIS in 1972 with the meat and poultry

inspection function, and held several technical and administrative positions involved in food processing and food hygiene. "I have found APHIS to be more diversified and complex than FSIS," Houston said in an *Inside APHIS* article.

One month after Houston became Administrator, USDA Assistant Secretary Kenneth Gilles directed him to conduct a thorough review of APHIS' organization and its management processes. Gilles requested recommendations for reorganizing APHIS in a way that would strengthen its scientific base and allow the Agency to operate more effectively and efficiently. However, Houston died suddenly of cancer after only 100 days as Administrator.

The management review group Houston had tasked to conduct the internal review and formulate a reorganization strategy delivered its report to Gilles in March 1988. James Glosser, Houston's successor, implemented the subsequent APHIS reorganization plan.

James W. Glosser (1988-91)



James Glosser had received a doctorate in veterinary medicine from Washington State University and worked from 1966 to 1973 as a veterinary epidemiologist for the Department of Health and Human Services' Centers for Disease Control and Prevention (CDC). He subsequently worked for the Montana Department of Livestock as chief of the disease control bureau and later as head of the animal health division. He joined APHIS in 1983 as Assistant

Administrator and was Associate Administrator at the time of Houston's death.

Glosser continued efforts to refine the Agency's mission and stabilize its funding; he also worked to improve the Agency's public image by emphasizing its role as a service provider. James Glosser spearheaded the Agency's 1988 reorganization, which led to the creation of five new programs: International Services, Regulatory Enforcement and Animal Care, Policy and Program Development, Science and Technology, and Recruitment and Development.

Robert Melland (1991-92)



Robert Melland's relationship with APHIS began in 1987, when he served as an assistant to the Assistant Secretary for Marketing and Inspection Services, the predecessor of Marketing and Regulatory Programs. In 1990, he became APHIS' Associate Administrator.

Melland had owned and operated a farm machinery dealership in North Dakota and served as a member of the North Dakota Senate. Following a period as Director of the State's Office of Management and Budget, he moved to Washington as a special assistant to a U.S. Senator from North Dakota.

Melland was especially interested in furthering the integration of the Agency into one cohesive unit, bridging cultural differences between the plant and animal programs, and overcoming barriers to participation by women and minorities. During his term, the Agency instituted user fees to cover the cost of delivering services. Melland's tenure was abbreviated; nonetheless he made progress on bringing closure to projects, commitments, and regulations that had been incomplete. Due to illness, Melland left APHIS in October 1992; he died in August 1993.

Lonnie J. King (1992-96)



Lonnie King, a veterinarian, rose through the ranks to be named Acting APHIS Administrator in October 1992. He had served as Deputy Administrator of Veterinary Services from 1988 to 1991 and as the Agency's Associate Administrator under Bob Melland. King was confirmed as APHIS Administrator in July 1995.

King viewed a model agency as one able to successfully convert ideas into action through a three-cycle process of doing, learning, and changing. This view put the overall APHIS mission and vision ahead of the self-interest of individual units and helped create an Agency willing to adopt new techniques, be flexible, maintain a global perspective, and remain outcome based. In part due to his prior staff work with the VS National Animal Health Monitoring System, King focused on moving APHIS from active animal disease control and eradication programs to surveillance, information analysis, and management of animal health.

King left the Agency in July 1996 to become dean of the College of Veterinary Medicine at Michigan State University. In an *Inside APHIS* article, he wrote: "APHIS' innovative, 'just-do-it' spirit has been its hallmark over the years, and these values will continue to serve it well as the agency rises to face the challenges of the next century.... I will remember APHIS fondly because I know what lies within each of you—a profound desire and the ethical sense to make a difference and contribute to each other and to those we serve."

Terry L. Medley (1996-1998)



Terry L. Medley was named administrator on July 8, 1996. In making the appointment, Agriculture Secretary Dan Glickman said, "He has extensive experience in managing complex, scientific regulatory programs."

Before coming to APHIS in 1988 to develop a regulatory framework for biotechnology, Medley spent 10 years as an attorney in USDA's Office of the General Counsel, where he advised

APHIS and FSIS on a variety of technical issues. As head of the APHIS Biotechnology, Biologics and Environmental Protection unit and later as Administrator, he played a central role in the development of U.S. Federal regulatory policy for biotechnology.

In 1993, Medley was named Acting Associate Administrator. In 1995, he left briefly to serve as Acting Administrator of FSIS for 6 months before returning to APHIS as Associate Administrator. He became Administrator the following year. Building on King's vision and legacy, Medley continued to emphasize the importance of surveillance and monitoring activities within APHIS—the Cooperative Agricultural Pest Survey and National Agricultural Pest Information Service on the plant side and the National Animal Health Monitoring System to record information on animals. But he also saw maintaining and expanding agricultural markets as part of APHIS' efforts to protect American plant and animal resources. "This is not an addition or a balance, but an integral part of our mission," he stated, and he also emphasized the importance of maintaining the same health standards for both domestic and international trade.

Medley said a model agency could be determined by results, measured in terms of "four C's"—commitment, competency, communication, and caring. Medley left APHIS in May of 1998 to join DuPont as director of regulatory and external affairs.

Craig Reed (1998-2001)



Craig Reed came to APHIS from FSIS, where from 1993 until 1997, he was Deputy Administrator for inspection operations. He also served as FSIS' Associate Administrator for a year, concentrating on inspection operations and most other field operations.

Reed grew up on a Michigan grain, hay, and livestock farm in and earned a doctor of veterinary medicine degree from Michigan State University. He was a private practice veterinarian prior to launching his USDA career as a veterinary medical officer in Detroit. He later worked for FSIS in Georgia and Kansas, and was director of the Science Division in the Agricultural Marketing Service.

Reed focused on continuing to enhance APHIS' agricultural safeguarding system in the face of increasing global trade and travel, the new threat of bioterrorism, and a devastating outbreak of FMD in Great Britain in early 2001. During his tenure, APHIS made the decision to consolidate 13 regional offices across the United States into two regional hubs in Raleigh, NC, and Fort Collins, CO, a move aimed at cutting Agency costs while locating policymakers near respected agricultural scientists.

After leaving APHIS, Reed became a visiting professor at Virginia Polytechnic Institute and State University and worked on the development of a Joint Institute for Food, Nutrition, and Health.

Bobby Acord (2001-2004)



Bobby R. Acord earned a Bachelor of Science degree in animal science from West Virginia University and began his Federal career in 1966 as an Agricultural Marketing Service agricultural commodity grader in Los Angeles. Prior to becoming Administrator, he served as Deputy Administrator for APHIS Wildlife Services for nearly a decade and as the Agency's Associate Administrator for

2 years. He received two Presidential Rank Awards for his contributions to USDA; one of these recognized Acord's leadership in the arena of wildlife damage management in the 1990s, including the emphasis on identifying and developing nonlethal control methods through the NWRC.

Acord was appointed Administrator shortly after the 2001 9/11 attacks, and his tenure saw an increased emphasis on U.S. agricultural safeguards and enhancement of APHIS emergency response capabilities. Among other significant events, Acord oversaw the Agency's eradication of a serious END outbreak in California. As Administrator during the first U.S. detection of BSE, Acord ably managed stakeholder relations during that emergency, establishing outreach practice—such as regular calls with the National Association of State Departments of Agriculture—that have continued to be used. Acord's term also saw an enhanced APHIS role in

international trade issues. Acord retired from APHIS in 2004 but has continued to engage with the Agency on behalf of animal agricultural stakeholders.

Ron DeHaven (2004-2007)



Ron DeHaven, who spent 28 years with APHIS, became best known as the public face of USDA's response to the first U.S. detection of bovine spongiform encephalopathy (BSE) in 2003.

DeHaven graduated from veterinary school at Purdue University. While working in Mississippi, he earned a master's in business administration from Millsaps College. He began his USDA career as a field veterinary medical officer in Kentucky, where he dealt with more than 400 brucellosis-infected herds. He also served as Director of field operations for the avian influenza task force in Virginia, Assistant Veterinarian in Charge in Mississippi, Regional Director for Animal Care in California, Deputy Administrator for Animal Care, Acting Associate Administrator, and Deputy Administrator for Veterinary Services.

DeHaven's time in VS corresponded to a low pathogenic avian influenza outbreak in Virginia, a big exotic Newcastle disease outbreak in southern California, and the "cow that stole Christmas" BSE detection in Washington State in December 2003. He became APHIS administrator in April 2004. During his tenure as Administrator, in addition to BSE surveillance and rulemaking, the Agency focused on preventing international spread of highly pathogenic avian influenza (HPAI). Concern about BSE and HPAI as well as the occurrence of Hurricane Katrina in 2005 resulted in enhanced emphasis on emergency response. Dr. DeHaven also promoted international capacity building as a mainstay in the protection of the United States from foreign animal diseases of concern.

In 2007, DeHaven retired from Federal service to become executive vice president of the American Veterinary Medical Association.

Cindy Smith (2007-2011)



Cindy Smith began her APHIS career in 1979 as a clerk typist after graduating high school. She gained diverse experience by working her way up through the ranks as well as across the Agency in Plant Protection and Quarantine, Wildlife Services (WS) and Biotechnology Regulatory Services (BRS). From 2001 to 2002, Smith was Associate Deputy Administrator for WS. Eventually, as

Deputy Administrator for BRS, she played a major role in shaping the Agency's biotechnology regulatory structure.

After becoming Administrator in 2007, Smith focused on strengthening the Agency's leadership development and succession planning, and the stated goal of making APHIS a "model civil rights agency." During her tenure, structural changes were made to the Human Resources staff, including the creation of the Talent Management Branch. In April 2008, she accepted the first-ever USDA Diversity Award on behalf of the Agency. In 2009, Smith was temporarily detailed to serve as Deputy Under Secretary for Marketing and Regulatory Programs from January to August.

During her term as Administrator, Smith strove to increase the Agency's engagement with its diverse stakeholders. After stepping down from that position in 2011, she became APHIS' first Chief Advisor for Government, Academia, and Industry Partnership. She also served as the technical advisor to USDA's Advisory Committee on Biotechnology and 21st Century Agriculture, a group that USDA revitalized to address coexistence issues.

Gregory Parham (2011-present)



Gregory Parham stepped into the role of Administrator in April 2011 after nearly 2 years as Associate Administrator. Previously, he had spent 2 years as Deputy Administrator for Marketing and Regulatory Programs-Business Services. He joined APHIS in 2006 as the agency Chief Information Officer.

Parham holds a master's degree from the Johns Hopkins University in administrative science and doctorate and bachelor's degrees from the Ohio State University in veterinary medicine and microbiology. He was a University of Maryland adjunct graduate faculty member and is a Diplomate of the American College of Veterinary Preventive Medicine. Parham began his Federal career in 1980 as an epidemic intelligence service officer with CDC's Public Health Service. He joined USDA in 1982 and has worked for several USDA agencies during his career; including FSIS, the Cooperative State Research, Education and Extension Service—now the National Institute of Food and Agriculture—and the Office of the Chief Information Officer.

During Parham's term as Administrator, the APHIS budget has undergone a significant decrease. In response, Parham has spearheaded a strategic and comprehensive approach to spending reductions while still protecting agriculture and meeting customer needs. This approach includes identifying and implementing significant business process improvements and a continuing emphasis on stakeholder engagement.

Parham sums up APHIS with three words: noble, global, and mobile. "Our mission to protect the health of U.S. agriculture and the environment is noble," he says. "The impact of what we do every day is global. And new technologies and services enable our employees to be more mobile, productive, and responsive to challenges."



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