

## STAFF SUMMARY FOR OCTOBER 7-8, 2015

**18C. OTHER ITEMS – FEDERAL REPORT****Today's Item**Information Action 

This is a standing agenda item to receive reports on any recent federal agency activities of interest not otherwise addressed under other agenda items.

**Summary of Previous/Future Actions (N/A)****Background**

**U.S. Department of Food and Agriculture (USDA):** USDA's Office of the Inspector General conducted an audit of the Animal and Plant Health Inspection Service (APHIS) Wildlife Services to, among other things, determine if wildlife damage management activities were justified and effective. The audit does not identify problems with wildlife damage management activities, but makes seven recommendations related to the management information system (Exhibit C1).

**National Oceanic and Atmospheric Administration (NOAA):** NOAA announced the availability of approximately \$10 million in competitive grants to address the needs of fishing communities and to increase opportunities to keep working waterfronts viable. The deadline for proposals is Nov 2 (Exhibit C2). The new NOAA Fisheries Climate Science Strategy identifies seven key steps that aim to reduce the effects of climate change on fisheries and living marine resources (Exhibit C3)

**U.S. Fish and Wildlife Service (USFWS):** USFWS announced that California will receive nearly \$16 million in grants (over 40% of grant monies awarded to 20 states) to boost collaborative endangered species conservation efforts (Exhibit C4).

Other USFWS activities and announcements include:

1. A new fish screen and intake facility will improve fish passage on the Sacramento River, especially important for migratory fish like salmon and steelhead (Exhibit C5)
2. Restoration efforts in south San Francisco Bay are paying dividends for two key endangered species (Exhibit C6).
3. Central Valley refuges are benefiting from a forward-looking conservation process, the California Landscape Conservation Cooperative (Exhibit C7).
4. USFWS and its partners are working to combat killer chytridiomycosis in declining California frog populations (Exhibit C8).
5. For the first time in two years water is being pumped via the Ady Canal into Lower Klamath National Wildlife Refuge, the most significant feeding and nesting habitat for waterfowl in the Western U.S., to increase the amount of water available for migrating waterfowl (Exhibit C9).

**Significant Public Comments (N/A)****Recommendation (N/A)**

## STAFF SUMMARY FOR OCTOBER 7-8, 2015

**Exhibits**

- C1. DOI news release: *OIG Audited APHIS' Wildlife Services (WS) to determine whether its damage management activities complied with applicable laws and requirements*, Audit Report 33601-0002-41, dated Sep 2015
- C2. NOAA news release: *NOAA announces up to \$10 million available to support fisheries projects under Saltonstall-Kennedy Grants Program*, dated Se 3, 2015
- C3. NOAA Fisheries news release: *CNOA's new Climate Science Strategy aims to reduce effects of climate change on fisheries and living marine resources*, dated Aug 25, 2015
- C4. USFWS news release: *California to Receive Nearly \$16 million in Grants to Boost Endangered Species Conservation Efforts*, dated Aug 13, 2015
- C5. USFWS field notes entry: *Pritchard Lake Fish Screen and Intake Facility to Improve Fish Passage on the Sacramento River*, dated May 29, 2015
- C6. USFWS field notes entry: *Restoration Efforts Paying Dividends for Two Key San Francisco Bay Area Endangered Species*, dated Aug 21, 2015
- C7. USFWS field notes entry: *Refuge Benefits from Forward-Looking Process to Conserve California's Central Valley*, dated Aug 26, 2015
- C8. USFWS field notes entry: *Service Working to Combat Killer Chytrid in California Frog Populations*, dated Aug 28, 2015
- C9. USFWS field notes entry: *Fall Waterfowl Migration Underway at Lower Klamath NWR*, dated Sep 10, 2015

**Motion/Direction (N/A)**

**From:** Orthmeyer, Dennis L - APHIS  
**Date:** September 18, 2015 at 2:57:48 PM EDT  
**To:** Sonke.Mastrup  
**Subject: Office of Investigator General (OIG) Audit of Wildlife Services**

Sonke,

Please distribute to the commissioners if you feel appropriate

Thanks

Dennis

<http://www.usda.gov/oig/webdocs/33601-0002-41.pdf>

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United States Department of Agriculture

OFFICE OF INSPECTOR GENERAL





## APHIS Wildlife Services – Wildlife Damage Management

Audit Report 33601-0002-41

### What Were OIG's Objectives

Our objectives were to determine if wildlife damage management activities were justified and effective, assess controls over cooperative agreements, assess MIS for integrity and reliability, and review WS' accountability for hazardous materials and equipment.

### What OIG Reviewed

In FY 2014, we observed 40 WS field specialists from 5 sampled States based on their (1) high number of takes of selected predators, (2) most unintentional kills, or in some cases (3) most hours on the job with the fewest takes. To assess data accuracy in MIS, we sampled and reconciled 29,958 logbook entries from January 2012 through March 2014.

### What OIG Recommends

APHIS should develop and implement procedures that require a second party reviewer to sample and reconcile field specialists' logbook entries to corresponding MIS entries. APHIS also should enforce the requirement to renew Form 12s at least every 5 years.

## OIG audited APHIS' Wildlife Services (WS) to determine whether its damage management activities complied with applicable laws and requirements.

### What OIG Found

WS assists a variety of cooperators (farmers, ranchers, and other entities) by providing wildlife management advice and controlling wildlife damage with nonlethal and lethal methods. Wildlife control arrangements are formalized on Form 12s (also known as Work Initiation Documents), and WS field specialists record the results in a database called Management Information System 2000 (MIS).

OIG's audit did not reveal problems with wildlife damage management activities, or with WS' system for tracking controlled materials. WS' actions in these areas complied with all applicable Federal and State laws and regulations. Thus, this report contains no findings or recommendations associated with the first and last objectives of our audit. However, we found that MIS contained inaccurate information, including external party access and data entry errors. These conditions resulted in inflated wildlife control numbers and the transmission of inaccurate data to the public.

WS also was not following its policy of renewing Form 12s at least every 5 years. We found that, nationally, 47,362 (or 30.5 percent) of Form 12s were older than 5 years. WS personnel were not renewing Form 12s because WS policy was not clearly communicated. Almost all WS personnel OIG interviewed believed that the 5-year life cycle for Form 12s was a best practice, not a policy. WS also did not have controls to enforce compliance with its policy. While MIS flagged expired Form 12s, WS personnel ignored them without consequence.

APHIS agreed with our findings and recommendations, and we accepted management decision on all seven recommendations.



United States Department of Agriculture  
Office of Inspector General  
Washington, D.C. 20250



DATE: September 8, 2015

AUDIT  
NUMBER: 33601-0002-41

TO: Kevin Shea  
Administrator  
Animal and Plant Health Inspection Service

ATTN: Marilyn Holland  
Deputy Administrator  
Marketing and Regulatory Program Business Services

FROM: Gil H. Harden  
Assistant Inspector General for Audit

SUBJECT: APHIS Wildlife Services - Wildlife Damage Management

This report presents the results of the subject review. Your written response to the official draft is included at the end of the report. Excerpts from the response and the Office of Inspector General's (OIG) position are incorporated into the relevant sections of the report. Based on your written response, we have accepted your management decision on all seven recommendations.

In accordance with Departmental Regulation 1720-1, final action is to be taken within 1 year of each management decision to prevent being listed in the Department's annual Agency Financial Report. For agencies other than the Office of the Chief Financial Officer (OCFO), please follow your internal agency procedures in forwarding final action correspondence to OCFO.

We appreciate the courtesies and cooperation extended to us by members of your staff during our audit fieldwork and subsequent discussions. This report contains publically available information and will be posted in its entirety to our website (<http://www.usda.gov/oig>) in the near future.

# Table of Contents

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<b>Background and Objectives .....</b>	<b>1</b>
<b>Finding 1: WS' Database Contains Inaccurate Information.....</b>	<b>10</b>
<b>Recommendation 1 .....</b>	<b>14</b>
<b>Recommendation 2 .....</b>	<b>14</b>
<b>Recommendation 3 .....</b>	<b>15</b>
<b>Recommendation 4 .....</b>	<b>16</b>
<b>Finding 2: WS Did Not Timely Renew its Form 12s .....</b>	<b>17</b>
<b>Recommendation 5 .....</b>	<b>18</b>
<b>Recommendation 6 .....</b>	<b>19</b>
<b>Recommendation 7 .....</b>	<b>19</b>
<b>Scope and Methodology.....</b>	<b>20</b>
<b>Abbreviations .....</b>	<b>24</b>
<b>Exhibit A: Audit Sites Visited.....</b>	<b>25</b>
<b>Agency's Response .....</b>	<b>26</b>

# Background and Objectives

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## Background

The Animal Damage Control Act of 1931, as amended, authorized the Secretary of Agriculture to conduct activities for controlling injurious animals.<sup>1</sup> As a result, the U.S. Department of Agriculture (USDA) established the Wildlife Services (WS), a non-regulatory program. In 1939, Congress transferred the program from USDA to the U.S. Department of the Interior. In 1985, Congress returned the program to USDA wherein it was placed under the purview of Animal and Plant Health Inspection Service (APHIS). The Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988, authorized the Secretary of Agriculture to enter into agreements with cooperators<sup>2</sup> and conduct animal damage control activities of nuisance mammals and birds.<sup>3</sup> The WS program also operates under the provisions of numerous other laws, including the National Environmental Policy Act of 1969, as amended,<sup>4</sup> and the Endangered Species Act of 1973, as amended.<sup>5</sup>

WS' Office of the Deputy Administrator, located in Washington, D.C., provides national program oversight and policy guidance. WS has two regional offices (ROs). One is located in Raleigh, North Carolina, and the other in Fort Collins, Colorado. WS also has 42 State offices that work directly with various cooperators to resolve wildlife conflicts.<sup>6</sup> The State offices are divided into districts; each district is assigned a supervisor and field specialists. The National Wildlife Research Center (NWRC), a research arm of WS, conducts scientific research and assessments to refine wildlife management methods and develop new science-based solutions to contemporary wildlife challenges, such as rabies control and reproductive control methods to limit the population of deer and Canada geese.

### *Funding Sources and Allocation*

WS receives both Federal appropriations funding and cooperator-provided funds to sustain its operations.<sup>7</sup> WS uses Federal appropriated funds for its national and regional office operations, and for its research functions. It funds State office operations through a combination of Federal appropriated and cooperator-provided funds. WS' total program funds in fiscal year (FY) 2013 were about \$165 million, including \$85 million in direct appropriations and \$80 million in

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<sup>1</sup> 7 U.S.C. §426-426b (March 2, 1931).

<sup>2</sup> To help address wildlife damage problems and recover costs for the services provided, WS enters into various agreements with cooperators including interagency agreements with federal entities, and cooperative or reimbursable agreements with state, county, city, university, airport, and private entities (i.e., associations, boards, businesses, and individuals).

<sup>3</sup> 7 U.S.C. §426c (December 22, 1987).

<sup>4</sup> 42 U.S.C. §4321 et seq. (January 1, 1970).

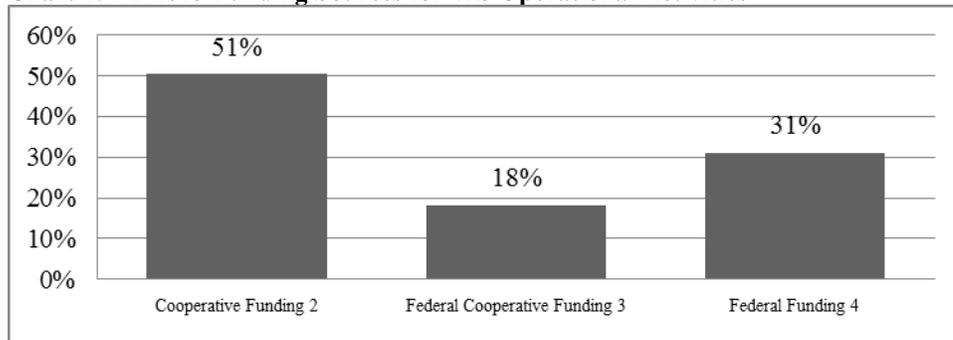
<sup>5</sup> 16 U.S.C. §1531 et seq. (December 28, 1973).

<sup>6</sup> Conflicts occur when wildlife negatively impact agricultural and natural resources, properties, and public health and safety.

<sup>7</sup> WS conducts research and delivers program services that assist cooperators in resolving wildlife damage challenges. Cooperators reimburse WS for the cost of services.

cooperator-provided funds. Of the \$165 million, WS used \$116 million (\$36 million of appropriated funds, plus \$80 million of cooperator-provided funds) to support operational activities at the State level (the summary of funding sources for all States is shown in Chart 1 below).

**Chart 1: FY 2013 Funding Sources for WS Operational Activities <sup>1</sup>**



<sup>1</sup> Chart 1 shows three different funding sources and their proportion to support WS nationwide (except National Office and Regional Office) operational activities in FY 2013: 51 percent from cooperative funding, 18 percent from federal cooperative funding, and 31 percent from federal funding.

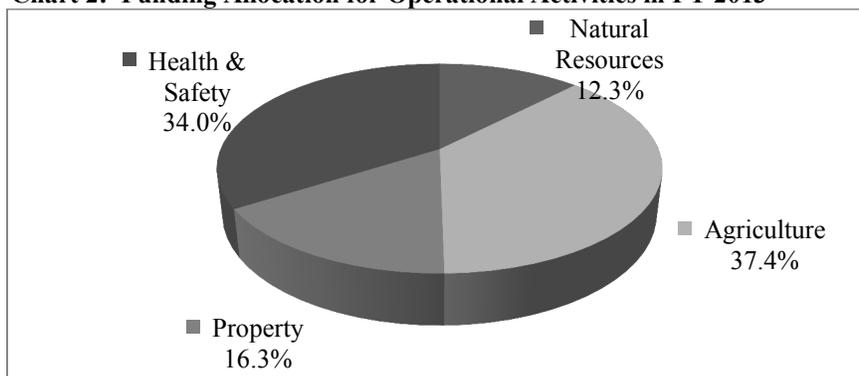
<sup>2</sup> Cooperative funding is funding received through Cooperative Service Agreements with State and local governments and private entities.

<sup>3</sup> Federal Cooperative funding is funding received through Interagency Agreements with other Federal agencies.

<sup>4</sup> Federal funding is funding received through Congressional appropriations.

WS' operational activities at the State level provide wildlife damage control assistance in four major areas: (1) agriculture resources, which includes protecting livestock from predators and alleviating bird damage at aquaculture facilities; (2) natural resources, which includes protecting threatened and endangered species and managing invasive species; (3) property, which includes protecting homes, landscaping, and industrial facilities from damage by mammals and birds; and (4) health and human safety, which includes reducing the risk of aircraft strikes of wildlife around airport runways as well as reducing and monitoring the spread of wildlife diseases to livestock, pets, or humans. The funds allocated to the four major areas in all States for FY 2013 are shown in Chart 2.

**Chart 2: Funding Allocation for Operational Activities in FY 2013 <sup>1</sup>**



<sup>1</sup> Chart 2 shows the proportion of \$116 million allocated to each of the four major areas in which WS conducted operational activities in FY 2013: 34 percent for health & safety, 12.3 percent for natural resources, 16.3 percent for property, and 37.4 percent for agriculture.

WS monitors its fund allocation and expenditures through the Financial Management Modernization Initiative (FMMI).<sup>8</sup> FMMI provides online, real-time transaction capabilities and access. FMMI was designed to improve the agency's planning, budgeting, and reporting process through the use of integrated data from financial and non-financial sources. It also enables the agency to be financially accountable and transparent in its spending. To ensure consistency in its financial control and cost management activities, WS also issued a new directive in August 2013, to provide field offices with specific guidance on cost recovery and accounting oversight for various cost-share agreements.<sup>9</sup>

#### *Coordination with Cooperators*

WS enters into memoranda of understanding (MOU) with other Federal agencies and State regulatory agencies to establish the framework governing its activities and coordinate efforts in managing predatory animals.<sup>10</sup> The MOUs define and clarify the respective roles and responsibilities of each agency for resolving wildlife conflicts. An MOU between WS and a State wildlife agency requires both parties to conduct wildlife damage management activities in accordance with applicable Federal, State, and local laws and regulations. While WS assumes primary responsibility for resolving wildlife conflicts involving migratory birds, Federally protected species, and airport hazards, State agencies are responsible for providing wildlife damage assistance with State-regulated species. State agencies also cooperate with WS to ensure that proper permits are secured for wildlife damage management activities.

<sup>8</sup> FMMI is an initiative by the U.S. Department of Agriculture, Office of the Chief Financial Officer, to modernize the Departmental accounting system. APHIS, including WS, adopted FMMI in October 2011, as part of a Departmental mandate.

<sup>9</sup> USDA APHIS Wildlife Services, *Financial Control and Risk Management*, Directive 2.215(August 23, 2013).

<sup>10</sup> WS has signed MOUs with the U.S. Fish and Wildlife Service, the Bureau of Land Management, the U.S. Forest Service, the Federal Aviation Administration, and the Department of Defense. It also has MOUs with many State wildlife, agriculture, natural resource, and public health and safety agencies.

In addition to performing specific wildlife damage tasks directed by Congress and providing technical assistance to the general public,<sup>11</sup> WS enters into cooperative service agreements (CSAs) to resolve specific wildlife conflicts at the request of cooperators, which can be a State, county, city, or private entity (such as a business or an individual farmer or rancher). WS uses CSAs to establish a cooperative framework with the cooperator and recover the partial or entire cost of its services. For each CSA, the WS State office develops both an annual work plan and a financial plan. The work plan describes the actions to be taken and the types of animal to be controlled. The financial plan describes the amount of funds to be spent on the project. The cooperators must review and approve both plans. In order to follow laws unique to State and local governments, cooperative arrangements with WS may vary considerably. In some cases, cooperators pay all of the costs associated with wildlife damage management.<sup>12</sup>

After a CSA is signed, WS field specialists can work directly with cooperators or landowners to address wildlife damage problems.<sup>13</sup> After a landowner makes initial contact with WS, the field specialist will conduct a site visit to assess wildlife damage, examine the property, and discuss options for reducing losses. If the landowner requests that WS conduct direct control activities, both parties negotiate and sign a Work Initiation Document called a Form 12.<sup>14</sup> A Form 12 gives the field specialist access to the cooperator's property; it also specifies WS' methods, tools, and species to be managed.

Although WS uses various methods to mitigate wildlife damage problems, and prevent future predation, WS policy requires its field specialists to address wildlife damage problems by using an integrated wildlife damage management approach. Thus, when selecting damage management techniques for specific wildlife damage situations, the WS field specialists must consider the frequency, extent, and magnitude of the damage. In addition to confirming and assessing damage to the cooperator's property, they must consider the status of target and potential non-target species, local environmental conditions, relative costs of applying management techniques, environmental impacts, and social and legal concerns specific to the case.<sup>15</sup> WS field specialists must formulate a management strategy that minimizes harmful effects on humans, non-target species, and the environment while applying practical wildlife damage prevention methods. For example, if a field specialist uses M-44 (sodium cyanide) devices, he or she must ensure that they are not used near roads, where they could be set off unintentionally, or near a water supply, where they could cause adverse effects on humans or animals.<sup>16</sup>

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<sup>11</sup> Technical assistance is provided in the form of advice, recommendations, information, and materials for use in managing wildlife conflicts.

<sup>12</sup> If a private entity requests WS' direct assistance and the activity is not funded by another source, the entity enters into a CSA with WS and the entity pays WS for all the costs associated with the service provided.

<sup>13</sup> Field specialists are appointed to state-level positions by the State Director. They are responsible for conducting operational activities in the field and responding to requests from the public.

<sup>14</sup> WS field specialists provide direct assistance with their knowledge and expertise to disperse, remove, or relocate the wildlife causing damage, such as vultures, raccoons, coyotes, and bears.

<sup>15</sup> The agreement between WS and the cooperator (Form 12) must list specific target species that need to be managed. If a species is not listed on the agreement, it is considered a non-target species.

<sup>16</sup> M-44(sodium cyanide capsules) devices may only be used for the control of coyotes, red and gray foxes, and wild dogs that are vectors of communicable diseases or are suspected of preying upon livestock, poultry, and Federally designated threatened and endangered (T/E) species. They may also be used for control of arctic foxes that

WS provides both technical and direct assistance to entities and individuals who request help with wildlife conflicts. WS field specialists may provide technical assistance by providing information and guidance, and, at times, they may lend equipment so the requester could resolve wildlife conflicts by themselves. When the wildlife conflict is complex and cannot be safely and effectively resolved by the use of technical assistance, direct assistance will take place, and field specialists use their knowledge and expertise to disperse, remove, or relocate the offending species.

### *Information Systems*

The Management Information System (MIS) is WS' system of record for monitoring wildlife damage management and predator control activities.<sup>17</sup> MIS records efforts to resolve wildlife threats and damage to agricultural products and livestock, private and industrial property, human health and safety, threatened and endangered species, natural resources, and public infrastructure.<sup>18</sup> WS field specialists are required to report in MIS their daily tasks, animal "takes"<sup>19</sup>, methods used, resources protected and lost, and all other pertinent data.

MIS enables WS managers to have access to valuable data in a timely manner. It also assists researchers by making data available that, in the past, could not be collected. It provides field specialists with the independent capability to generate specialized reports for cooperators that include the number of takes on a property, the species taken on a property, and the value of the livestock killed by predators. It facilitates enhanced information gathering and distribution, both internally, for decision makers, and externally, for those requesting information through appropriate channels.<sup>20</sup>

Within MIS is an inventory system called Controlled Materials Inventory Tracking System (CMITS), which allows WS to fully account for its hazardous materials (e.g., M-44 devices, poisonous chemicals, etc.). Field specialists who use hazardous material are assigned a virtual CMITS warehouse; for instance, if an M-44 device is deployed in the field, field specialists enter a work task in the system accordingly, and the system deducts the M-44 device from the virtual warehouse. WS upgraded its security and storage facilities for hazardous materials after receiving additional funding in FYs 2002 and 2003.

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depredate Federally designated T/E species in the Aleutian Islands, Alaska. M-44 devices must be used in accordance with the U.S. Environmental Protection Agency use restrictions.

<sup>17</sup> MIS is a non-mission critical system.

<sup>18</sup> USDA APHIS, System Security Plan (SSP) for Management Information System 2000 (January 15, 2014).

<sup>19</sup> "Takes" is the common term used by WS to denote animals that are relocated, dispersed, released, captured, or killed.

<sup>20</sup> USDA APHIS, System Security Plan (SSP) for Management Information System 2000 (January 15, 2014).

## *Related Prior Audits*

In 2004, the Office of Inspector General (OIG) audited WS' controls over its hazardous material inventory.<sup>21</sup> The audit found that WS was unable to fully account for its inventories of hazardous pesticides and controlled drugs. Furthermore, these inventories were not always stored in a safe and secure manner. Since WS management had not established effective controls over its inventories to ensure full accountability and effective safeguarding measures were in operation, hazardous materials remained vulnerable to undetected theft and unauthorized use, which posed a threat to human and animal safety. The audit did not review CMITS because it was being implemented at that time.

In 2001, the U.S. Government Accountability Office (GAO) conducted a review of WS' program to determine (1) the nature and severity of threats posed by wildlife, (2) the actions the program had taken to reduce such threats, (3) the studies done to assess specific costs and benefits of program activities, and (4) opportunities for developing effective nonlethal methods of predator control on farms and ranches.<sup>22</sup> The review found that some wildlife can pose significant threats to people and their property, leading to costly damage and loss. Most nonlethal control methods for these animals – such as fencing, guard animals, and animal husbandry practices – are most appropriately implemented by the livestock producers themselves, with technical assistance from WS.

## **Objectives**

Our objectives were to: (1) determine whether wildlife damage management activities were justified and effective, (2) assess the controls over cooperative agreements, (3) assess WS' information system for reliability and integrity, and (4) follow up on the implementation of prior audit recommendations, such as the accountability over hazardous materials and equipment.

## **Overview of Objectives**

WS' wildlife damage management activities can be controversial among the general public, animal rights organizations, and conservation groups. The agency has received considerable media attention due to alleged unsanctioned activities conducted by some of its field employees. OIG has received numerous hotline complaints and letters from the public outlining concerns about WS' employees and wildlife management activities. The complaints by animal rights organizations have included the following concerns: (1) WS uses indiscriminate methods to kill animals, which result in the killing of animals that are not the target of WS' wildlife management activities; (2) animals suffer because WS' wildlife management activities do not result in immediate death; and (3) WS wildlife management activities are not transparent. The organizations that raised these complaints, as well as some members of Congress, requested that we perform an audit of WS' wildlife management activities.

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<sup>21</sup> Audit Report 33001-05-Hy, *Animal and Plant Inspection Services Control over Hazardous Material* (July 2004).

<sup>22</sup> GAO-02-138, *Wildlife Service Program Information on Activities to Manage Wildlife Damage* (November 2001).

In light of these concerns, based on the complaints we received, we undertook to determine in this audit whether WS' wildlife management activities were justified and effective. We examined Federal and State laws, as well as State and local requirements, to determine whether WS was in compliance with these requirements and therefore justified in their actions. We also examined WS' policies and procedures and determined that WS was generally in compliance. We also performed extensive tests of agency records and observed conditions at numerous locations in the field. While performing site visits, we observed WS field specialists conducting wildlife damage management activities, and we verified that the results of those activities were in accordance with agency policies and procedures. In addition, during our site visits, we determined that WS specialists were using WS' decision model<sup>23</sup> to assess the damage and to justify the course of action to pursue.

We interviewed owners or managers of 15 properties and 27 State game and wildlife officials. Based on OIG's interviews, we concluded that they found WS activities to be necessary and effective.<sup>24</sup> As one property owner put it, "WS guys are an absolute necessity for our business. The number of sheep they save is huge and we cannot function without them. [...] WS specialists are professional and good at what they do." In support of this same point, a State game official we interviewed explained that WS provides help for wildlife and is run efficiently. A State agricultural official we interviewed characterized the collaboration of State and Federal programs to manage control predators and protect domestic livestock and wildlife as "seamless". Operationally, WS received \$80 million in cooperator-provided funding for wildlife damage management during FY 2013. These cooperative funds provide evidence of the public's need for WS' services. The following subsections describe the work we performed as it relates to our first objective to determine if WS' actions were justified and effective.

### *Observation of Field Specialists*

During our field site visits, we observed WS field specialists conducting activities, which included the setting and checking of traps, snares, M-44 devices, shooting, and other typical field activities. We also interviewed each field specialist we accompanied to determine that specialist's process for assessing predation on a landowner's property. During our visits, we confirmed that livestock had been killed by predators.<sup>25</sup>

There were two matters of concern raised by several animal rights organizations and members of Congress that we also deemed significant: (1) the indiscriminate killing of non-target animals that were not the target of WS' wildlife damage management activities, and (2) the suffering of animals not immediately killed by WS. We specifically watched for these conditions during our field visits, and observed that agency officials were generally following prescribed and allowable practices to either avoid or mitigate these conditions.

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<sup>23</sup> USDA APHIS Wildlife Services, WS Decision Model, Directive 2.201 (July 21, 2008). WS' personnel use the WS Decision Model to determine the appropriate damage management method(s) to implement. WS personnel evaluate the appropriateness of strategies, and methods are evaluated for availability (legal and administrative) and suitability based on biological, economic, and social considerations.

<sup>24</sup> We accompanied the field specialists to 99 properties based on the activities reported in MIS. We did not pre-announce our visits to the selected properties. However, we were able to meet with owners or managers of 15 of the 99 properties we visited during our field visits.

<sup>25</sup> We observed the carcasses of three lambs, three goats, a chicken, and a deer.

We did, however, occasionally observe the unintentional killing of non-targeted animals by WS, as well as targeted animals not killed immediately. We noted in each case, however, that the WS field specialist had followed prescribed agency practices, which adhered to applicable laws and regulations. For instance, we observed 8 targeted animals (out of 27 targeted animals caught by snares or hit by M-44s) that were still alive during our field visits. Seven coyotes were still alive in snares and one coyote was still alive after being hit by an M-44 device. The WS specialists subsequently euthanized the coyotes. The field specialists had set the snares and M-44 devices, which we determined to be the appropriate actions and in accordance with laws and regulations. We also observed three unintentional deaths: two javelinas<sup>26</sup> were trapped by snares, and a porcupine was killed by a foothold trap. In these cases, the field specialists had set the traps, which we concluded were in accordance with applicable laws and regulations. Lastly, we observed one field specialist as he freed a javelina that had been caught in a snare.

We also observed two separate aerial hunting operations and reviewed their records in MIS.<sup>27</sup> Before these operations began, WS personnel planned and coordinated activities between the aerial crews and the ground crews. The ground crews were responsible for tracking and spotting targeted animals and radioing their location to the pilots. The aerial hunting operations that we observed resulted in the killing of 14 coyotes and 28 feral swine. Based on our observations, the aerial hunting crews' wildlife management activities adhered to applicable laws and regulations.

While conducting fieldwork, we also observed the application of non-lethal means for predator control, such as fencing, guard dogs, and human herders, which were the responsibility of the producers. We noted that, on all the sites we visited, the producers were using some form of non-lethal predator control. It is WS' position that, currently, in predator control, the number of non-lethal direct control methods available to WS personnel is limited and these available methods focus on resource management rather than control of the offending animal. Further, WS believes that these methods are more appropriately applied by the resource owner.

Our observations of both the field specialists' activities and WS' aerial hunting operations revealed no systemic problems with the process or manner with which WS conducted its predator control program. WS field specialists complied with both Federal and State requirements, including WS directives, in carrying out wildlife damage management activities. We also recognized that Federal law provides WS broad authority in conducting its program. It allows WS to take any action the Secretary considers necessary, with regards to injurious animal species, in conducting the program.<sup>28</sup>

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<sup>26</sup> Javelinas are members of the peccary family. There are three species of peccaries, but the only species found in the United States is the collared peccary, also known as a javelina.

<sup>27</sup> We selected the two aerial facilities in Texas because at the time of our site visit there were ongoing scheduled aerial operations that we were able to observe. We did not accompany WS personnel on a third operation in Utah because the pilot and specialist were both injured in a helicopter crash prior to our arrival at the facility. We selected Texas due to the high number of aerial activities and Utah because WS' Aviation Program and Training Center was located at Cedar City, Utah. The other three States in our sample (see Scope and Methodology section under "Selected Sample States"; CA, MN, and WY, did not have aerial operations at the time of our visit.

<sup>28</sup> 7 U.S.C. §426.

WS is required to follow all applicable State and local laws that do not directly and substantively conflict with WS' Federal statutory authorities.<sup>29</sup> We noted that WS field specialists complied with State laws. For example, the State of California banned the use of M-44 devices. While we were conducting site visits in California, we examined the hazardous materials records of WS' State and district offices, and of its field specialists. In addition, we conducted a physical inventory of WS' State, districts, and field specialists' hazardous materials inventories. We determined that WS in California did not use or maintain M-44 devices. Additionally, while we were out with a field specialist taking a mountain lion, we verified he had the proper permit from the State.

We also interviewed various State game wardens to determine if WS' field specialists were substantively following all applicable State laws and regulations, and the State game wardens confirmed that they were.

Finally, our audit did not identify any findings related to the Controlled Materials Inventory System (CMITS), WS' system for tracking controlled materials. Thus, this report contains no findings or recommendations associated with the first and last objectives of our audit.

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<sup>29</sup> USDA APHIS Wildlife Services, Compliance with Federal, State, and Local Laws and Regulations, Directive 2.210 (October 27, 2009).

## Finding 1: WS' Database Contains Inaccurate Information

WS' Management Information System 2000 (MIS), which tracks the agency's wildlife management activities, contained inaccurate data. Specifically, we found data entry errors, unsupported data, and data for activities carried out by external non-agency individuals. We attributed these conditions primarily to weak controls over data integrity, which included an inadequate verification of whether the information entered into MIS was accurate and complete, as well as the lack of policy addressing whether external party activities should be entered into MIS. Consequently, WS incorrectly reported its official wildlife management activities to the public and other parties.

WS Directive 4.205 states that "all WS personnel are accountable for field activities and technical assistance work they conduct while on official duty." The directive further states, "employees are expected to accurately report work activities conducted [...], and to accurately and completely report all wildlife damage management activities, animals taken (species, number, intentional/unintentional, etc.), methods employed, resources protected and lost, recommendations made to the cooperator, methods tried by the cooperator, and all other pertinent data prescribed on MIS data entry forms and formats [...]"<sup>30</sup>

WS summarizes MIS data into reports that may be disseminated to internal and external parties, and used in actions such as investigations and court proceedings. For example, field specialists can generate a property itinerary for cooperators, which details the WS activities conducted on the cooperator's property for a specific timeframe.<sup>31</sup> Therefore, MIS data must accurately and reliably reflect the program's activities.

Our audit in 5 States and 12 districts found numerous instances where the data in MIS did not accurately reflect WS' activities, which included the entering of external party activities in MIS, and data entry errors.

### *External Party Activities were Recorded in MIS*

WS limits direct access to data in MIS to WS personnel;<sup>32</sup> however, WS had not established policy or guidelines concerning the recording of external activities in MIS. We identified numerous instances where external party activities were included in MIS, thus overstating WS' take numbers. The following are some examples of our findings:

- Four individuals in California, who were county employees and not supervised by WS, had entered wildlife management activities into MIS since 2005. The current WS State Director informed us that WS had a long history of collaboration with county officials in California, and that a former WS State Director had granted

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<sup>30</sup> USDA APHIS Wildlife Services, Data and Activity Reporting, Directive 4.205 (July 2013).

<sup>31</sup> Activities include "takes," which are animals killed/euthanized, removed from the area, freed/released/relocated to another area, and/or dispersed back to nature.

<sup>32</sup> Access to WS data is determined by the data usage role of the employee, which is determined by their duties and responsibilities. Direct access to data in the system is limited to WS personnel only, with one exception for the USDA-OCIO-National Information Technology Center.

those individuals access to MIS. The agricultural commissioners of the counties where the four county employees worked had originally requested access to MIS because it was a better record keeping system than the counties' systems. The current WS State Director stated that he was not completely comfortable with the arrangement and added that WS' activities were inflated by the county employees' activities.

WS did not have any guidance on whether external party activities should be included in MIS. However, the WS handbook stated that access to MIS was limited to WS personnel.<sup>33</sup> We analyzed the activities of the four county employees and determined that they entered 1,864 and 2,036 takes into MIS for FYs 2012 and 2013, respectively.<sup>34</sup> Those numbers increased WS' activities in California by 12 percent in FY 2012, and by 14 percent in FY 2013.

- The WS supervisors in four of eight districts in Texas included activities in MIS from private aerial companies, contracted by the Sheep and Goat Predatory Management Board to conduct aerial hunting. WS employees were not aboard the flights. However, the State Director explained that WS coordinated with the contractors and the district offices validated the invoices before the Sheep and Goat Predatory Management Board made payments. The State Director explained that for transparency reasons, he decided to have the district offices enter the activities into MIS. He stated it was best to fully report the direct and indirect consequences of the program rather than appear to try and hide the activities. Consequently, reporting such activities increased WS' aerial takes in Texas by 2,350 (30 percent) and 1,099 (12 percent) for FYs 2012 and 2013, respectively.

We discussed this issue with WS national officials, and they agreed that the external parties should not have access to, or be allowed to enter, information into MIS. Further, they agreed it was not appropriate to include any external party data in MIS because it inflated WS' take numbers. Additionally, they agreed that guidance was warranted to establish whether external party activities can be recorded in MIS.

#### *Data Entry Errors*

Typically, WS field specialists use daily hand-written logbooks to note the cooperators they serviced, the time spent on a work site, the activities performed (such as the number and types of species takes), the number of livestock losses, and the equipment used or checked while in the field. WS requires its field specialists to, on a periodic basis, transfer information from their logbooks into MIS.<sup>35</sup>

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<sup>33</sup> USDA APHIS Wildlife Services, *2012 Information and Data Management Handbook* §9 (2012).

<sup>34</sup> Our analysis only included the specific species taken (killed and euthanized) by the four county employees. Those species included black bears, beavers, bobcats, coyotes, feral dogs, gray foxes, mountain lions, woodchucks, minks, Virginia opossums, raccoons, striped skunks, fox squirrels, western squirrels, and feral swine.

<sup>35</sup> Field specialists enter data into MIS at different frequencies, but the majority of them do it once every 1-2 weeks.

According to the WS Directive, the district supervisor and then the State Director review the entries in MIS for accuracy. A district supervisor might determine if the time spent on a particular agreement appeared consistent with the type of work. However, district and State offices did not generally reconcile field specialists' logbook entries to the corresponding MIS entries to ensure accuracy of the data.

We reconciled 40 sampled field specialists' logbook entries to the corresponding MIS entries and noted the following deficiencies:<sup>36</sup>

- We found that 32 of 40 sampled field specialists made data entry errors. In our view, since nearly all of the field specialists made data entry errors, WS needs to implement additional controls, such as having a second party review to compare information in the field specialists' logbooks to data entered into MIS. Most errors we found were related to the number of takes entered into the system by the field specialists that included instances of both under reporting and over reporting.<sup>37</sup> We found numerous instances of entries in logbooks that were not entered into MIS. Conversely, we found numerous entries in MIS that were not supported by the logbooks. Additionally, field specialists had not always entered producer losses in MIS, even though they were recorded in the logbooks. Table 1 summarizes the types of discrepancies we identified.

**Table 1: Summary of Discrepancies**

Discrepancies	Totals
Under reported or over reported takes	425
Entry in MIS, but not in logbook	118
Entry in logbook, but not in MIS	80
Equipment related*	31
Method related**	15
Double entry	9
Reported loss not reported in MIS	8
Incorrect site location	1
<p>The table above summarizes the types of discrepancies we identified when we reconciled field specialists' logbooks against their corresponding MIS entries.            * Equipment related discrepancies relate to equipment that must be accountable such as M-44 devices and traps.            ** The method used to take the animal was not reported correctly in MIS.</p>	

- We also determined that 6 of the 40 field specialists we accompanied on our site visits had incorrectly reported their activities or takes in MIS on the dates of our

<sup>36</sup> We reviewed 29,958 entries and found discrepancies with 619 entries. Some entries contained multiple discrepancies; thus, the total discrepancies we identified do not equal total entries with errors.

<sup>37</sup> Takes were either under reported or over reported depending on the individual MIS entry we reviewed.

visits.<sup>38</sup> We identified several entry errors when we verified each of the MIS entries associated with our observations. We found instances where takes were both under reported and over reported and where a method associated with the takes was not correctly reported in MIS. For example, one field specialist reported in MIS that one coyote was taken during the field visit. However, we did not observe any coyotes taken during the visit.

### *Form 12 Discrepancies*

Before WS begins work on a property, the landowner or a representative must sign a Work Initiation Document (Form 12).<sup>39</sup> The Form 12 includes information such as the location of the work site, what species will be managed, and what methods or tools will be used on the property. WS field specialists transfer the information from the Form 12 into MIS and the signed form is then sent to the WS State office where the records are kept. At the State Offices, WS needs to strengthen controls to prevent unsupported changes to Form 12 information in MIS. Under the current system, a specialist can change information in MIS without any supporting documentation.

It is essential that information, such as species and methods authorized, on the Form 12s be accurately reflected in MIS. For instance, if coyotes were listed in the “species” section of the agreement, then all coyote takes will subsequently be classified as “target” takes in MIS.<sup>40</sup> Conversely, if coyotes were not listed in the “species” section, then all coyote takes would subsequently be classified as “non-target” takes in MIS. We sampled 756 agreements (including addenda) for accuracy, and found data integrity issues with MIS.

Our analysis also disclosed discrepancies between the species and methods listed on 224 Form 12s (30 percent), and the corresponding information listed on Form 12s entered into MIS.<sup>41</sup> Our analysis further identified data integrity issues; specifically, there were 77 instances where species or methods were listed in the agreements but not entered into MIS; and 231 instances of species or methods that were entered into MIS, but were unsupported by both the agreement and addenda. Consequently, there were 22 instances of “takes” that were misclassified in MIS as “target” rather than “non-target”.

Based on the aforementioned deficiencies, we conclude that WS needs to ensure that information entered into MIS accurately reflects program activities. It is essential that WS work towards data integrity as MIS is especially important for recording and reporting activities in several areas of the wildlife damage management program. WS uses the data to annually report its performance measures to Congress and to report its activities to cooperators. WS needs to determine whether

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<sup>38</sup> During site visits with the selected field specialists, we recorded all activities and takes observed during our visit.

<sup>39</sup> A permission document signed by a cooperator allowing WS access to lands owned or controlled by the cooperator, and allowing the use of stipulated methods to address identified damage agent(s) in a WS conducted activity (*WS Information Data Management Handbook* Pg. 1). The signed Form 12 is sent to the State office for approval, and a specialist at the State office would approve the corresponding version in MIS. The original signed Form 12 is maintained at the applicable State office.

<sup>40</sup> Target is defined by what species is (identified) on the Form 12 (MIS Manual FAQ).

<sup>41</sup> Some of the agreements included more than one type of discrepancy.

external party activities can be recorded in MIS. WS should also revise its directives to require a second party reviewer to sample and reconcile field specialists' logbook entries to the corresponding MIS entries. To ensure accuracy, WS needs to implement a second party review and sign-off on all changes to Form 12 information in MIS.

### **Recommendation 1**

Remove MIS access privileges from non-WS affiliated individuals.

#### **Agency Response**

APHIS agrees with this Recommendation. Effective April 1, 2015, WS' managers and supervisors notified non-WS affiliated individuals that they would no longer be able to use the MIS to report and document non-WS activities, nor have access to the MIS. In addition, the WS Deputy Administrator will issue a revision of WS Directive 4.205 by August 20, 2015, to all supervisors and managers communicating the new procedure, and stating that written approval is required from the WS Deputy Administrator or his designee for access to MIS data base by non-WS personnel.

#### **OIG Position**

We accept APHIS' management decision on this recommendation.

### **Recommendation 2**

Determine whether external party activities should be recorded in MIS.

#### **Agency Response**

APHIS agrees with this recommendation. WS has determined that external party activities, such as species taken, will not be entered into the MIS data base; however, such activities as cooperator employed methods, depredation permit information, or similar activities that provide documentation of the WS decision model will be entered. As stated in our response to Recommendation #1, the WS Deputy Administrator will issue a revision of WS Directive 4.205 to all supervisors and managers stating that written approval is required from the WS Deputy Administrator or his designee for access to the MIS data base by non-WS personnel.

#### **OIG Position**

We accept APHIS' management decision on this recommendation.

### **Recommendation 3**

Develop and implement procedures that require a second party reviewer to sample and reconcile field specialists' logbook entries to the corresponding MIS entries.

### **Agency Response**

APHIS agrees with this Recommendation and will implement the following:

- A reminder will be issued by September 30, 2015, that all field supervisors immediately review item 14 of WS Form 82, Field Inspection Report, that requires the supervisor to review the field log (i.e. diary, book, electronic device) for consistency with the specialist's MIS itinerary report.
- During the employee field inspection visit, the field supervisor will randomly pick 4 weeks of MIS electronic data from the previous 12 months and verify against the employee field diary or log book records. Checking item 14 on WS Form 82 will be acknowledgement that the verification has been accomplished at least once each year.
- In addition, WS will issue guidance by September 30, 2015, to all personnel and require all WS personnel who enter data into the MIS to review and electronically verify the accuracy of their data entries as reported in a standard MIS monthly employee itinerary report.
- Employee Data verification will occur every 30 days.
- In most cases, field personnel should enter data into the MIS on a daily basis, if not a weekly basis; but not less often than every 2 weeks.
- WS personnel who do not enter MIS data on a daily basis, will be required to record these activities in a journal, field diary, paper, or electronic form and transfer the data into MIS as required.
- Employees who are not able to abide by these requirements because of remote connectivity issues should work with their supervisor to resolve them and implement measures that allow for regular and consistent data entry until the connectivity issues have been resolved.

### **OIG Position**

We accept APHIS' management decision on this recommendation.

## **Recommendation 4**

Establish a policy requiring a second party review and sign-off on all Form 12 information in MIS.

### **Agency Response**

APHIS agrees with this Recommendation. WS will issue new guidance by August 31, 2015, to all WS supervisors and managers reasserting that the appropriate data technicians will review all work initiation documents (field agreements) by comparing the electronic copy against the signed hard copy for any discrepancies and only switch the work initiation document from a pending to an active status when all data fields have been verified for accuracy.

### **OIG Position**

We accept APHIS' management decision on this recommendation.

## Finding 2: WS Did Not Timely Renew its Form 12s

WS did not timely renew 47,362 of 155,481 (30.5 percent) Work Initiation Documents (Form 12)<sup>42</sup>. Some WS personnel incorrectly believed renewing Form 12s after 5 years was a best practice, not a policy. Also, some personnel were unaware of the requirement because it was in a directive concerning information and data management and security. Furthermore, for the WS personnel who were aware of the policy, WS did not have sufficient controls in place to ensure the policy was followed by the field staff. As a result, if the Form 12s for ongoing projects are not renewed timely, WS cannot ensure that it has current information on changes in ownership, address, and borders at the properties it serves. This may lead to inadvertent trespassing by WS personnel. Further, the cooperators may no longer want the same species targeted or the same methods used on their property.

WS policy states that the “life cycle of a Work Initiation Document [WID] is five years” for ongoing projects, WIDs “must be renewed through review, update, and signature of a new document by the Cooperator or his/her assigns at least every five years.”<sup>43</sup> The WID “identifies the location of the work site, what species WS will manage, [and] what methods or tool will be used.” The policy was co-mingled in a directive concerning information and data management and security,<sup>44</sup> rather than in a separate directive. WIDs are also known as Form 12s.

In the five States we sampled, we found 219 of 975 (22 percent) Form 12s had not been renewed after their 5-year life cycle. Of these, 59 forms were signed 20 to 30 years ago, and 12 were more than 30 years old. We later expanded our scope and determined that the nationwide rate for Form 12s that were not renewed beyond the 5 year life cycle was 30.5 percent as of February 2015. Even though these Form 12s were out of date, WS field personnel continued to perform work on these properties.

OIG found that many WS personnel believed the 5-year life cycle was not a requirement, but rather a best practice. Only two of the five State Directors we interviewed knew it was a WS policy. The 12 district supervisors and 14 of the 15 field specialists we interviewed also were unaware that the requirement to renew Form 12s for ongoing projects was a WS policy documented in a Directive.<sup>45</sup>

In addition to the lack of timely renewal, WS did not provide specific guidance to its personnel on how to renew a Form 12. We noted inconsistent renewal practices among the States and, at times, within the same districts. Many field specialists did not fill out the “species” and “methods” sections of the new Form 12, but simply wrote “same ...” or left it blank and had the cooperator sign it. Because some cooperators have several addenda added to their prior

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<sup>42</sup> The number was obtained from MIS by a WS IT Staff Officer on March 2, 2015; the actual number could be higher than 30.5 percent, because the “Last Signed” field in MIS does not always match the date that the Form 12 was signed.

<sup>43</sup> USDA APHIS Wildlife Services, *2012 Information and Data Management Handbook*, §3 (2012).

<sup>44</sup> USDA APHIS Wildlife Services, Information and Data Management Security, Directive 4.130 §4 (August 29, 2011).

<sup>45</sup> Although we interviewed 40 field specialists in 12 different districts, only 15 provided us with information regarding Form 12s’ renewal process and only 1 field specialist was aware of the WS policy.

agreements, it could lead to a misunderstanding between WS and the cooperator on which species and methods the cooperator has authorized. Further, this could lead to WS targeting species and using methods not actually authorized by the cooperator.

WS needs a system that will allow employees to track expiring or out of date Form 12s. The current system does not always accurately track the 5-year life cycle of Form 12s. WS uses MIS' "Last Signed" field to track the age of Form 12s. However, we noted that the "Last Signed" field in MIS did not always match the date that the Form 12 was signed. For example, we found a few Form 12s that were beyond the 5 year life cycle, but were listed as current in MIS. Additionally, we also found that on almost half of the 219 Form 12s we reviewed, the signed date differed from the "Last Signed" date in MIS. According to the IT Staff Officer, who wrote the 5-year life cycle policy and is responsible for coordinating WS' annual report, the "Last Signed" field in MIS changes if something is added to or edited in MIS, but in the Form 12 document, the date remains the same.

The IT Staff Officer, who wrote the 5-year life cycle policy, affirmed that the 5-year requirement applied to all Form 12s, including those in place prior to the issuance of the policy in August 2011. WS national officials and some employees also stated that the 5-year life cycle policy was an appropriate and important measure. A national official agreed that renewing Form 12s every 5 years is an appropriate requirement due to changes in addresses, land ownership, and property borders in the regions.

In order to prevent potential problems arising from the failure to follow the 5-year life cycle policy, OIG recommends that WS ensure its personnel are aware of and follow the 5-year renewal requirement, and establish a process regularly to remind employees of when their Form 12s are near the end of the 5-year life cycle; further controls should be implemented to ensure the enforcement of the policy.

## **Recommendation 5**

Ensure WS personnel are aware of and follow the policy to renew Form 12s at least every 5 years.

## **Agency Response**

APHIS agrees with this Recommendation. On August 5, 2015, the WS Deputy Administrator reissued WS Directive 4.130, "Information and Data Management and Security," to all WS managers and supervisors reasserting the WS policy requirement to renew Form 12 every 5 years. Specifically, the Directive states that the life cycle of the Work Initiation Document (WID) is five years and that the "Wildlife Services Information and Data Management Handbook" provides additional information about the initiation, completion and renewal of the WID.

## **OIG Position**

We accept APHIS' management decision on this recommendation.

## **Recommendation 6**

Establish a process that will give employees a formal reminder of expiring Form 12s, and include more detailed procedures for the renewal of Form 12s.

### **Agency Response**

APHIS agrees with this Recommendation. By August 31, 2015, WS will issue new guidance directing all supervisors and managers to issue a report, "Agreements, Years old Listing" or equivalent report, every 6 months to all field personnel that lists all Work Initiation Documents set to expire at the end of the current 5 year cycle. This new guidance will include detailed instructions addressing requirements for amending species and methods information; signature requirements for renewing including signatures by absentee landowners; no activity within a 5 year period; and distribution of hard or electronic copies to supervisors and data technicians. This new guidance will also reinforce the current requirement for a completed Work Initiation Document to be in place prior to any work being initiated. The MIS Field Handbook will be modified, by September 30, 2015, to reflect this new guidance.

### **OIG Position**

We accept APHIS' management decision on this recommendation.

## **Recommendation 7**

Ensure MIS can accurately track the 5-year life cycle of the Form 12 by including a "Form 12 signed date" field in MIS that cannot be changed.

### **Agency Response**

APHIS agrees with this Recommendation. By August 31, 2015, WS will issue new guidance that reasserts the need to enter the current agreement date into the MIS data field entitled, "Form 12 signed date". The current data field entitled, "Last Signed Date" will be converted to, "Form 12 signed date" and will be hard coded and only select personnel with the appropriate administrative rights can manipulate this data field, if needed.

### **OIG Position**

We accept APHIS' management decision on this recommendation.

## Scope and Methodology

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We conducted a nationwide audit of APHIS' WS animal damage management activities covering FY 2012 through the second quarter of FY 2014.<sup>46</sup> To accomplish our audit objectives, we performed fieldwork at APHIS' headquarters in Riverdale, Maryland, and the two APHIS regional offices: Eastern Region in Raleigh, North Carolina, and Western Region in Fort Collins, Colorado. We performed fieldwork at the APHIS National Wildlife Research Center (NWRC) in Fort Collins, Colorado; a NWRC field station in Millville, Utah; the Aviation Safety, Training and Operations Center in Cedar City, Utah; 5 APHIS WS State offices (California, Minnesota, Texas, Utah, Wyoming); and 12 APHIS WS field offices (see exhibit A for a complete list of audit sites). In completing this audit, we looked at documentation covering the period from FY 2012 to FY 2014. We also examined some trust account documents related to FY 2015. We also reviewed 10 complaints sent to OIG and APHIS related to WS' animal damage management program to determine whether the complaints were related to our audit objectives.<sup>47</sup> We conducted fieldwork from January 2014 to March 2015.

In accomplishing our objectives for this audit, we performed the following steps and procedures:

- **Reviewed Criteria:** We reviewed Title 7 U.S.C. § 426; USDA Departmental Regulation 1074-001, Scientific Integrity (May 10, 2013); 9 C.F.R § 2.31 and § 2.37; USDA APHIS, 2010 Cooperative Agreements Manual; WS' policy directives; and the USDA APHIS, *2012 Wildlife Services Information and Data Management Handbook*.
- **Selected Sample States:** We non-statistically selected four APHIS Western Region States (California, Texas, Utah, and Wyoming) and one Eastern Region State (Minnesota) to conduct fieldwork. We selected more States in the Western Region because of its higher number of predator control activities. The majority of the highest funded States are also in that region. We selected our sample based on the following criteria:
  - a. States with large allocated budgets for FYs 2012 and 2013.
  - b. States with the most kills of our selected predators (bears, bobcats, coyotes, feral dogs, foxes, mountain lions, and wolves) during FYs 2012 and 2013.
  - c. States with the most diversity of kills of our selected predators.
  - d. The State with the least number of non-target kills.
- **Selected APHIS District Offices and Field Specialists:** We non-statistically selected 50 percent of the APHIS WS district offices in each of our sampled States. We based our selection on the district offices with the highest number of kills of our selected predators. If there were fewer than three districts, we reviewed 100 percent of the districts. In

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<sup>46</sup> To determine the nation-wide rate for Form 12s that were not renewed beyond the 5 year life cycle (see finding 2), we expanded our documentation review to February 2015.

<sup>47</sup> OIG reviewed 10 complaints for audit consideration. We received 11 complaints, but 1 complaint was outside of USDA's authority.

Texas, we selected at least four field specialists per sampled district, and in California and Utah<sup>48</sup>, we selected three specialists in each district, based on the (1) highest predator take, (2) most unintentional kills, or (3) most hours on the job with the fewest takes. We adjusted our sampling methodology in Minnesota and Wyoming by selecting two field specialists per district with the (1) highest predator take or (2) most unintentional kills during the period of our audit. We adjusted our methodology because each State was structured differently including the number of specialist and the types of activities varied in each State. We selected each of our States based on different criteria, see the above bullet on our State selection.

- **Interviewed APHIS and State Agency Personnel:** We interviewed 96 personnel at APHIS' National and regional offices, WS' State and district offices, the National Wildlife Research Center in Colorado, a NWRC field station in Utah, and WS' Aviation Safety, Training and Operations Center in Utah. We also interviewed 27 State wildlife personnel, such as directors, deputy directors, and game wardens in our sampled States. These State personnel were from the California Department of Fish and Game, the Minnesota Department of Natural Resources, the Wyoming Department of Agriculture, the Wyoming Game and Fish Department, the Utah Department of Agriculture and Food, the Utah Division of Wildlife Resources, Texas Parks and Wildlife Department, and the Texas Agrilife Extension.
- **Reviewed Activities at the NWRC:** At NWRC, we obtained information about NWRC policies, procedures, and activities conducted. We determined how research projects are ranked and prioritized for funding. We also reviewed a non-statistical sample of research projects to identify sources of funding, purposes of the projects, and expected goals and actual outcomes.
- **Accompanied WS and State Personnel:** We accompanied 40 WS field specialists in the field while they conducted their wildlife damage management activities to observe the different methods used to reduce damage caused by predators. We also flew with aerial program pilots to observe their operations for predator control.
- **Interviewed Property Owners:** We interviewed owners or managers of 15 properties who utilize WS to control predation problems on private property to obtain comments regarding the need for the program, the quality of service received, and if improvements could be made. We did not pre-announce our visits to the property. Therefore, we were only able to interview owners or managers of 15 of the 99 properties, who were physically present at the time of our field visit. We also interviewed 3 board members of Wildlife Associations in Texas and Wyoming.
- **Reviewed Cooperative Service Agreements:** We non-statistically selected and reviewed CSAs. We picked our sampled CSAs based on the CSAs with the highest

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<sup>48</sup> Although we initially selected three field specialists in Utah, we conducted site visits with two specialists. The third field specialist was injured in a helicopter crash prior to our arrival.

funding. We selected 50 percent of the CSAs between WS and State, county, municipal, and private cooperators at the five sampled WS State offices. If there were less than 20 CSAs at a WS State office, we reviewed 100 percent of the CSAs. We reviewed the CSAs to determine if relevant regulations, policies, and procedures were followed and to determine if funding between WS and cooperators was equitable.

We also non-statistically selected and reviewed a sample of agreements under the thresholds, which are not required to be approved by WS' regional office.<sup>49</sup> The agreements (CSA and Cooperative Service Field Agreements) are between WS and local governments and private entities. We picked our sampled Cooperative Service Field Agreements based on those with the highest funding. We selected 50 percent of the Cooperative Service Field Agreements between WS and county cooperators, and private cooperators at the five sampled WS State offices. If there were less than 20 Cooperative Service Field Agreements at a WS State office, we reviewed 100 percent of the Cooperative Service Field Agreements. We reviewed the Cooperative Service Field Agreements to determine if relevant regulations, policies, and procedures were followed.

- **Assessed MIS:** We used Audit Command Language to match the MIS users list to the selected States' employee roster to determine whether external parties had access to MIS. We also compared 29,958 MIS entries with our sampled field specialists' logbooks/trapping records to determine the accuracy of MIS data and the adequacy of existing controls over MIS. We obtained each of our specialist's logbooks and sampled a complete month for each quarter that spanned from January 2012 through March 2014.
- **Compared CMITS to the State, District, and Field Specialists Inventories:** We compared the CMITS printouts for the State, District, and field specialists and reconciled the physical inventories of hazardous materials, including M-44 devices and Livestock Protection Collars.
- **Analyzed Form 12s:** We took a 25 percent non-statistical sample of Form 12s from our sampled districts in our sampled States. We selected our sample based on the Form 12s with the highest associated number of takes of our selected predators. We compared our sampled Form 12s with data reported in MIS to determine if predators taken and methods used were accurately entered and reported, if WS renewed these documents every 5 years, and if there were any agreements with extensive gaps in activity.
- **Reviewed National Environmental Policy Act (NEPA) Documentation:** We reviewed Environmental Assessments dealing with predator control for all five of our sampled States to determine whether WS was following the applicable law.
- **Reviewed WS Financial Data:** We reviewed WS and APHIS financial records, including both the WS trust fund account and revolving reimbursable accounts, which are

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<sup>49</sup> State Directors in Western Region can sign CSAs under \$7,500, and State Directors in Eastern Region can sign CSAs up to \$20,000, so we used \$7,500 as a threshold for Western Region and \$20,000 as a threshold for Eastern Region when selecting CSAs.

funded by CSAs. We reviewed these documents and determined that WS is no longer entering cooperator funds into the trust fund account and WS is spending down the remaining funds in the trust fund account WS pays its field specialist salaries and expenses; and is later reimbursed by the cooperators for their services. We determined that the reimbursed funds from cooperators were being accounted for in the APHIS' Salaries and Benefits appropriation account.

During the course of our audit, we did limited verification of information in WS' electronic information systems, and make no representation regarding the adequacy of any agency computer system or the information generated from it.

We conducted this audit in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provide a reasonable basis for our findings and conclusions based on our audit objectives.

## Abbreviations

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APHIS	Animal and Plant Health Inspection Service
CFR	Code of Federal Regulations
CMITS	Controlled Materials Inventory Tracking System
CSA	Cooperative Service Agreement
DR	Departmental Regulation
FMMI	Financial Management Modernization Initiative
FY	Fiscal Year
GAO	Government Accountability Office
IDMH	Information Data Management Handbook
MIS	Management Information System
MOU	Memorandum of Understanding
NWRC	National Wildlife Research Center
NEPA	National Environmental Policy Act
OIG	Office of Inspector General
PL	Public Law
RO	Regional Office
T/E	Threatened and Endangered
USDA	United States Department of Agriculture
WID	Work Initiation Document
WS	Wildlife Services

## Exhibit A: Audit Sites Visited

Organization	Location
APHIS National Office	Riverdale, MD
<b>APHIS National Wildlife Research Center</b>  Logan Field Station	Fort Collins, CO  Millville, UT
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**USDA'S  
ANIMAL AND PLANT HEALTH INSPECTION  
SERVICE  
RESPONSE TO AUDIT REPORT**



Animal and Plant  
Health Inspection  
Service

Office of the  
Administrator

1400 Independence  
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Washington,  
DC 20250  
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## MEMORANDUM

**TO:** Gil Harden August 19, 2015  
Assistant Inspector General  
for Audit

**FROM:** Kevin Shea  
Administrator

**SUBJECT:** APHIS Response and Request for Management Decision on  
OIG Report “APHIS Wildlife Services – Wildlife Damage  
Management” (33601-0002-41)

Thank you for the opportunity for the Animal and Plant Health Inspection Service (APHIS) to comment on your August 12, 2015, Official Draft Report. We have restated each Recommendation below, along with our planned corrective actions and the timeframes for implementation of these actions.

### **Recommendation 1: Remove Management Information System (MIS) access privileges from non-Wildlife Services (WS) affiliated individuals.**

**APHIS Response:** APHIS agrees with this Recommendation. Effective April 1, 2015, Wildlife Services’ (WS) managers and supervisors notified non-WS affiliated individuals that they would no longer be able to use the MIS to report and document non-WS activities, nor have access to the MIS. In addition, the WS Deputy Administrator will issue a revision of WS Directive 4.205 by August 20, 2015, to all supervisors and managers communicating the new procedure, and stating that written approval is required from the WS Deputy Administrator or his designee for access to MIS data base by non-WS personnel.

### **Recommendation 2: Determine whether external party activities should be recorded in MIS.**

**APHIS Response:** APHIS agrees with this recommendation. WS has determined that external party activities, such as species taken, will not be entered into the MIS data base; however, such activities as cooperator employed methods, depredation permit information, or similar activities that provide documentation of the WS decision model will be entered. As stated in our response to Recommendation #1, the WS Deputy Administrator will issue a revision of WS Directive 4.205 to all supervisors and managers stating that written approval is required from the WS Deputy Administrator or his designee for access to the MIS data base by non-WS personnel.

**Recommendation 3: Develop and implement procedures that require a second party reviewer to sample and reconcile field specialists' logbook entries to the corresponding MIS entries.**

**APHIS Response:** APHIS agrees with this Recommendation and will implement the following:

- A reminder will be issued by September 30, 2015, that all field supervisors immediately review item 14 of WS Form 82, Field Inspection Report, that requires the supervisor to review the field log (i.e. diary, book, electronic device) for consistency with the specialist's MIS itinerary report.
- During the employee field inspection visit, the field supervisor will randomly pick 4 weeks of MIS electronic data from the previous 12 months and verify against the employee field diary or log book records. Checking item 14 on WS Form 82 will be acknowledgement that the verification has been accomplished at least once each year.
- In addition, WS will issue guidance by September 30, 2015, to all personnel and require all WS personnel who enter data into the MIS to review and electronically verify the accuracy of their data entries as reported in a standard MIS monthly employee itinerary report.
- Employee Data verification will occur every 30 days.
- In most cases, field personnel should enter data into the MIS on a daily basis, if not a weekly basis; but not less often than every 2 weeks.
- WS personnel who do not enter MIS data on a daily basis, will be required to record these activities in a journal, field diary, paper, or electronic form and transfer the data into MIS as required.
- Employees who are not able to abide by these requirements because of remote connectivity issues should work with their supervisor to resolve them and implement measures that allow for regular and consistent data entry until the connectivity issues have been resolved.

**Recommendation 4: Establish a policy requiring a second party review and sign-off on all Form 12 information in MIS.**

**APHIS Response:** APHIS agrees with this Recommendation. WS will issue new guidance by August 31, 2015, to all WS supervisors and managers reasserting that the appropriate data technicians will review all work initiation documents (field agreements) by comparing the electronic copy against the signed hard copy for

any discrepancies and only switch the work initiation document from a pending to an active status when all data fields have been verified for accuracy.

**Recommendation 5: Ensure WS personnel are aware of and follow the policy to renew Form 12s at least every 5 years.**

**APHIS Response:** APHIS agrees with this Recommendation. On August 5, 2015, the WS Deputy Administrator reissued WS Directive 4.130, “Information and Data Management and Security,” to all WS managers and supervisors reasserting the WS policy requirement to renew Form 12 every 5 years. Specifically, the Directive states that the life cycle of the Work Initiation Document (WID) is five years and that the “Wildlife Services Information and Data Management Handbook” provides additional information about the initiation, completion and renewal of the WID.

**Recommendation 6: Establish a process that will give employees a formal reminder of expiring Form 12s, and include more detailed procedures for the renewal of Form 12s.**

**APHIS Response:** APHIS agrees with this Recommendation. By August 31, 2015, WS will issue new guidance directing all supervisors and managers to issue a report, “Agreements, Years old Listing” or equivalent report, every 6 months to all field personnel that lists all Work Initiation Documents set to expire at the end of the current 5 year cycle. This new guidance will include detailed instructions addressing requirements for amending species and methods information; signature requirements for renewing including signatures by absentee landowners; no activity within a 5 year period; and distribution of hard or electronic copies to supervisors and data technicians. This new guidance will also reinforce the current requirement for a completed Work Initiation Document to be in place prior to any work being initiated. The MIS Field Handbook will be modified, by September 30, 2015, to reflect this new guidance.

**Recommendation 7: Ensure MIS can accurately track the 5-year life cycle of the Form 12 by including a “Form 12 signed date” field in MIS that cannot be changed.**

**APHIS Response:** APHIS agrees with this Recommendation. By August 31, 2015, WS will issue new guidance that reasserts the need to enter the current agreement date into the MIS data field entitled, “Form 12 signed date”. The current data field entitled, “Last Signed Date” will be converted to, “Form 12 signed date” and will be hard coded and only select personnel with the appropriate administrative rights can manipulate this data field, if needed.

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**NOAA FISHERIES**  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



**NOAA announces up to \$10 million available to support fisheries projects under Saltonstall-Kennedy Grants Program**

**Contact: Connie Barclay**  
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**FOR IMMEDIATE  
RELEASE:**  
September 3, 2015

**Kate Brogan**  
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**(202) 603-9651 (Cell)**

*Deadline for proposals is November 2, 2015*

As part of its efforts to build resilient coastal communities and sustainable marine resources, today, NOAA announced the availability of approximately \$10 million in competitive grants through the 2016 Saltonstall-Kennedy Grant Program. The program addresses the needs of fishing communities, and increases opportunities to keep working waterfronts viable by funding fisheries research and development projects.



Through this year's program, emphasis is being placed on rebuilding fish stocks, maintaining and restoring healthy ocean and coastal ecosystems, and promoting the economic vitality of fishery working waterfront communities. The program is also emphasizing community-based projects to help coastal communities retool fishing fleets, shore services and port facilities into sustainable and innovative businesses.

“The Saltonstall-Kennedy Program helps fishing communities across the country keep their economies thriving by building and maintaining sustainable fisheries and practices,” said Eileen Sobeck, assistant NOAA administrator for fisheries. “Funds from the program keep working waterfronts vibrant and help coastal communities with conservation and management measures. We hope to see proposals from across the nation and U.S. territories, each providing a unique approach to research and project development.”

To be considered for funding, projects should advance research in one of the following focus areas:

- Aquaculture
- Fishery data collection
- Techniques for reducing bycatch and other adverse impacts
- Adapting to climate change and other long term ecosystem change
- Promotion, development, and marketing
- Socio-economic research
- Science coming from within the U.S. territories

The 2016 deadline for proposals is November 2, 2015. Information on eligibility and application requirements can be found at [www.grants.gov](http://www.grants.gov). Additional application instructions are available on the NOAA Fisheries [website](#).



The Saltonstall-Kennedy Act established a fund used by the Secretary of Commerce to provide grants or cooperative agreements for fisheries research and development projects addressing aspects of U.S. fisheries, including, but not limited to harvesting, processing, marketing and associated business infrastructures. The objective of the Saltonstall-Kennedy Grant Program is to address the needs of the fisheries and fishing communities in optimizing economic benefits by building and maintaining sustainable fisheries and practices.

President Dwight Eisenhower signed the Saltonstall-Kennedy Act into law in July 1954, which established the fund and its annual grants. Massachusetts senators Leverett Saltonstall and John F. Kennedy, the future president, authored the Act to promote and market domestic seafood.

NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Join us on [Twitter](#), [Facebook](#), [Instagram](#) and our other [social media channels](#).



**NOAA FISHERIES**  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



## **NOAA's new *Climate Science Strategy* aims to reduce effects of climate change on fisheries and living marine resources**

**Contact: Jennie Lyons**  
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**FOR IMMEDIATE  
RELEASE:**  
August 25, 2015

### *Plan outlines efforts to build resilience*

As ocean conditions continue to change, putting ocean ecosystems and the communities that rely upon them at risk, today, NOAA took a first step in providing regional fisheries managers and stakeholders with information they need to reduce the effects of climate change and build resilience.

"NOAA just announced that for the globe the month of July -- and actually, the entire year so far -- was the warmest ever recorded, driven largely by record warm ocean temperatures," said Eileen Sobeck, assistant NOAA administrator for fisheries. "Those warmer waters -- along with rising seas, coastal droughts and ocean acidification -- are already putting people, businesses, and communities at risk. With this strategy, we're taking a proactive approach in providing information on current and future conditions to try and reduce impacts and increase our resilience."

The NOAA Fisheries Climate Science Strategy identifies [seven key steps](#) to increase production, delivery, and use of climate-related information to support the management of fish stocks, fisheries, and protected species. The steps focus on how a changing climate affects living marine resources, ecosystems, and the communities that depend on them, and how to respond to those changes.



“We are already seeing marine animals change where they live to deal with changing climate. We're even seeing population numbers of some species drop,” said Richard Merrick, Ph.D, NOAA Fisheries director of scientific programs and chief science advisor. “Providing more information on current and future conditions will fill a crucial need. Our nation’s marine resource managers, along with the businesses and communities that depend on those resources, need to know what changes are coming so they can take appropriate action to mitigate any negative effects on our economy and environment.”

The strategy identifies key risks in the U.S. from climate change, including millions of U.S. jobs, ocean fisheries worth billions, protected marine species, habitats that provide valuable services, and the health and enjoyment of our oceans and coasts from recreation and tourism.

Following release of the strategy, NOAA Fisheries science centers and regional offices will work with partners and stakeholders – including fishery management councils, other federal agencies, and tribes – to develop and finalize regional action plans by late 2016 that address objectives in the strategy. These regional action plans will identify strengths, weaknesses, priorities, and actions to implement the Strategy in each region over the next five years.

NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Join us on [Twitter](#), [Facebook](#), [Instagram](#), and our other [social media channels](#).

You can also follow NOAA Fisheries news announcements on Twitter: NOAAFishMedia

Check out our new [podcast](#) on climate change.

# US Fish & Wildlife Service

Thursday, August 13, 2015 12:20 PM

## **California to Receive Nearly \$16 Million in Grants to Boost Endangered Species Conservation Efforts**

*Service grants of \$37.2 million to 20 States will help collaborative efforts to conserve imperiled species*

The U.S. Fish and Wildlife Service is awarding \$37.2 million in grants to 20 states - including nearly \$16 million to California - to support conservation planning and acquisition of vital habitat for threatened and endangered species across the nation. The grants, awarded through the Cooperative Endangered Species Conservation Fund (CESCF), will benefit numerous species, ranging from the coastal California gnatcatcher to the Karner blue butterfly. For a complete list of the 2015 grant awards and project descriptions, see [www.fws.gov/endangered/grants/index.html](http://www.fws.gov/endangered/grants/index.html).

“Private landowners and natural resource managers play a vital role in conserving our nation’s most imperiled wildlife,” said Service Director Dan Ashe. “By cultivating partnerships between federal, state and local governments, private organizations and individuals, we can establish creative and effective solutions to some of the greatest conservation challenges of our time. These grants are one of many tools available under the Endangered Species Act, and we look forward to providing continued guidance and support for these programs.”

Authorized under Section 6 of the Endangered Species Act (ESA), these competitive grants enable states to work with private landowners, conservation groups and other government agencies to initiate conservation planning efforts and acquire or protect habitat for the conservation of threatened and endangered species.

The grants are funded in part by the Land and Water Conservation Fund, which was established by Congress in 1964. The fund promotes access to outdoor recreation resources for present and future generations, and provides money to federal, state and local governments to purchase land, water and wetlands for the benefit of all Americans. For the past 50 years, the fund has supported more than 40,000 conservation and outdoor recreation projects nationwide. Without action from Congress, authorization for the program will expire in September. President Obama has proposed to fully and permanently fund the program.

“These grants enable the U.S. Fish and Wildlife Service to tap into the considerable capacity of the state fish and wildlife agencies and their partners to advance the stewardship of our nation's fish and wildlife resources,” said Larry Voyles, President of the Association of Fish and Wildlife Agencies. “The states’ proactive, science-based conservation programs and partnerships to restore vital habitats are more effective and less costly to American taxpayers than an emergency room approach to save species in peril.”

CESCF grant funding is provided through three programs that advance creative partnerships for the recovery of imperiled species: the Habitat Conservation Planning Assistance Grants

Program, Habitat Conservation Plan Land Acquisition Grants Program, and Recovery Land Acquisition Grants Program.

This year, the Habitat Conservation Planning Assistance Grants Program will provide \$4.7 million in grants - \$1.7 million to California - to support the development of Habitat Conservation Plans (HCPs) through funding of baseline surveys and inventories, document preparation, outreach and similar planning activities. HCPs are agreements between the Service and private landowners, states or counties that allow certain activities to take place that may impact one or more ESA-listed species. In return, landowners agree to conservation measures designed to avoid, minimize and mitigate the impact of those actions. In California, the grants will help fund development of the Placer County Conservation Plan, Placer County Conservation Plan, Yuba Sutter Regional Conservation Plan, Upper Santa Ana River Watershed HCP, United Water Conservation District Multiple Species HCP and the City of Santee Multiple Species Conservation Program.

Nearly \$20.3 million will be awarded this year under the HCP Land Acquisition Grants Program, which provides grants to states or territories for land acquisitions that complement the conservation objectives of approved HCPs. California will receive \$12 million to fund acquisition of lands in support of locally-driven Habitat Conservation Plans in Contra Costa, Los Angeles, Riverside and San Diego counties. For example, the Western Riverside County Multiple Species Conservation Plan (MSHCP) will received \$2 million to support the acquisition of approximately 1,025 acres of land in Riverside County that will benefit numerous sensitive species including the California gnatcatcher, arroyo toad and Quino checkerspot butterfly. The acquisition will support the assembly of a 500,000-acre preserve that is part of the Western Riverside County MSHCP by protecting large blocks of coastal sage scrub, chaparral and grassland habitats.

California will also receive two grants totaling more than \$2.3 million under the Recovery Land Acquisition Grants Program which provides funds to states and territories to acquire habitat for endangered and threatened species with approved recovery plans. Habitat acquisition to secure long-term protection often is an essential element of a comprehensive recovery effort for a listed species.

The ESA provides a critical safety net for America's native fish, wildlife and plants. The Service is working to actively engage conservation partners and the public in the search for improved and innovative ways to conserve and recover imperiled species. For more information visit [www.fws.gov/angered](http://www.fws.gov/angered).

*The U.S. Fish and Wildlife Service works with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. For more information on our work in California, Nevada and Southern Oregon, visit <http://www.fws.gov/cno>. Connect with our [Facebook page](#), follow our [tweets](#), watch our [YouTube Channel](#), and download photos from our [Flickr page](#).*

# US Fish & Wildlife Service: Field Notes Entry

## PACIFIC SOUTHWEST REGION: Pritchard Lake Fish Screen and Intake Facility To Improve Fish Passage on the Sacramento River

California-Nevada Offices , May 29, 2015



The recently completed Pritchard Lake Fish Screen and Intake Facility, located on the Sacramento River, 12 miles north of downtown Sacramento. - Photo Credit: n/a

By **Dan Meier**

Natomas Mutual Water Company (Natomas Mutual) and its partners, including the U. S. Fish and Wildlife Service and the Bureau of Reclamation, held a dedication ceremony on the Sacramento River to celebrate the completion of the Pritchard Lake Fish Screen and Intake Facility, on May 29.

Located approximately 12 miles north of downtown Sacramento, the new fish screen will allow water flow to irrigation pumps while keeping fish out and allowing them to safely pass by the water diversion. At a total cost of just over \$9.2 million, the facility will improve passage conditions for migratory fish species in the lower portion of the Sacramento River.

"This project represents a successful collaborative effort to improve fish passage on Sacramento River," said **Brett Gray**, General Manager of Natomas Mutual Water Company. "And at the same time, it will increase water supply reliability for water users."

The Sacramento River serves as a critical migration route for Chinook salmon and Central Valley steelhead which migrate to the ocean as young fish and then return in subsequent years as adults.

According to Bureau of Reclamation officials, the fish screen and intake facility has a diversion capacity of 150 cubic feet per second. It consists of three retrievable cylindrical fish screen units made of stainless steel with openings of about a sixteenth of an inch.

Each screen unit is 22 feet long and 4.5 feet in diameter. The cylindrical screen shape allows for a compact intake facility and the retrievable design allows for easy access for screen maintenance. The screen design also provides for both internal and external brush cleaning of the screens.



A close up view of a fish screen drum. Two large screens are connected to tracks that allow them to be raised and lowered to adapt to varying water levels. - Photo Credit: n/a



One side of the fish screen raised for display. - Photo Credit: n/a

Funding for the fish screen and intake was provided by federal and state agencies and the Sacramento Area Flood Control Agency. Approximately 35 percent of the fish screen funding, roughly \$3.2 million, was provided through the Anadromous Fish Screen Program, a federal program jointly implemented by the U. S. Fish and Wildlife Service and Bureau of Reclamation.

Project partners included the California Department of Fish and Wildlife and the National Marine Fisheries Service. Natomas Mutual provides water for over 34,000 acres in the Natomas basin for agricultural, municipal and habitat preservation purposes.

- fws -

*Dan Meier is a program manager with the Anadromous Fish Screen Program at the Pacific Southwest Regional Office in Sacramento.*

**Contact Info:** Jon Myatt, 916-414-6474, [jon\\_myatt@fws.gov](mailto:jon_myatt@fws.gov)

# US Fish & Wildlife Service: Field Notes Entry

## BAY-DELTA: Restoration Efforts Paying Dividends for Two Key San Francisco Bay Area Endangered Species

California-Nevada Offices , August 21, 2015



This is one of the four endangered salt marsh harvest mice found on A21 during the recent survey. - Photo Credit: n/a



Supervising wildlife biologist Joy Albertson holds up a western harvest mouse that was trapped on July 23, 2015. - Photo Credit: n/a

**By Steve Martarano**

The week of July 20 proved to be a huge milestone for two endangered species and a restoration area known as Pond A21, located on the Don Edwards San Francisco Bay National Wildlife Refuge near San Jose, CA.

Pond A21, one of the Island Ponds, is a key component of an impressive effort that began in 2003, when the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife acquired approximately 15,000 acres of former commercial salt ponds from the Cargill Salt Company with the goal of restoring the area for a variety of native species – including endangered salt marsh harvest mouse and California clapper rail, recently renamed Ridgway’s rail. Another significant marker occurred in 2006, when A21 was breached as part of the Initial Stewardship Plan of the South Bay Salt Pond Restoration Project.

Since the 2006 breach, the Tidal Marsh Recovery Plan was published, and each year the Service instituted a survey plan while waiting for vegetation to develop to be able to support those species. Eventually, those newly restored marshes will be populated to connect current areas that have Ridgway’s rails and salt marsh harvest mice , thereby increasing marsh acreage and habitat connectivity.

Efforts started to pay off last year in a big way, when the first Ridgway’s rail was spotted in A21 in July 2014 by staff with the Invasive Spartina Project. Then, during the first surveys for salt marsh harvest mice on July 22 this year, biologists heard the call of the first breeding pair of Ridgway’s rails.

After setting more than 100 live-traps over three nights, biologists caught four salt marsh harvest mice during those first surveys. Biologists caught a total of 63 unique small mammals at A21, including salt marsh harvest mice, Western harvest mice, deer mice and house mice.

“Everyone was extremely excited; it was well above our expectations for how quickly this would happen, being less than 10 years since the area was breached,” said Service wildlife biologist Rachel Tertés, who heads up the survey efforts for the refuge. “This shows that we’re accomplishing what we’re trying to accomplish, that if we provide habitat the species will come.”

That both Ridgway’s rail and salt marsh harvest mice are already moving into the newly created habitat took everyone by surprise, said Tertés, who started with Service as an intern on the Refuge in 1999. She estimates there are at least the two Ridgway’s rails on A21, and possibly more. The Service has done breeding season surveys since 2012, but it wasn’t until last summer that detection occurred, even though proper habitat and vegetation were in place.

Tertés said there weren’t any mammals on A21 before the breach, only waterfowl and shorebirds.

“We were also pleasantly surprised to find deer mice during the recent surveys,” Tertés said. “Though deer mice aren’t rare, it was exciting for us to find a new species we generally don’t catch during our small mammal trapping efforts.” She said UC Davis researchers also found longfin smelt – listed as threatened by the State of California and as candidate for protection by the Service – as well as Mysid shrimp at the site.



Red flags indicate the locations traps are located on A21. More than 100 traps were set and checked during the recent salt marsh harvest mouse surveys. - Photo Credit: n/a



The July 23, Service survey crew. L-R: Wildlife biologist Cheryl Strong; wildlife biologist Colin Grant; supervising wildlife biologist Joy Albertson; volunteer Rob Witthaus, and survey leader, wildlife biologist Rachel Tertés. - Photo Credit: n/a

“It’s been pretty impressive to see all of the parties who have come together on this restoration effort, from Fortune 500 companies to environmental groups,” said Colin Grant, the endangered species listing and recovery biologist in San Francisco Bay-Delta Fish and Wildlife Office. Grant was part of the survey crew on July 22 when the Ridgway’s rail breeding pair was detected.

The recent successful surveys came at the end of Phase 1 of the South Bay Salt Pond Restoration Project, the largest tidal restoration effort on the West Coast. Phase 2 planning for Alviso and Ravenswood ponds has already begun – a public meeting and walking tours were held August 4. Phase 2 restoration and public access alternatives will include options such as enhancing the ponds for pond birds or shore birds, adding bird islands and habitat transition areas, building public trails, improving levees, designing the ponds to store stormwater, potential incorporating the City of Redwood City’s Bayfront Canal and Atherton Channel Projects.

“In 10 years, the area will be a fully tidal marsh that has well-structured channels and the appropriate vegetation to sustain endangered species and other plants and animals,” Tertés said.

*Steve Martarano is the public affairs officer for the Bay-Delta Fish and Wildlife Office located in Sacramento, Calif. Contact Info: Steve Martarano, 916-930-5643, [steve\\_martarano@fws.gov](mailto:steve_martarano@fws.gov)*

# US Fish & Wildlife Service: Field Notes Entry

## PACIFIC SOUTHWEST REGION: Refuge Benefits From Forward-Looking Process to Conserve California's Central Valley

Region 8, August 26, 2015



The giant garter snake, a threatened species, can be found on refuges, agricultural wetlands and other waterways in California's central valley. - Photo Credit: n/a

**By Scott Flaherty**

For migrating birds, waterfowl and other wildlife, national wildlife refuges in California's Central Valley likely appear as welcomed islands of calm in a shifting sea of agriculture. For managers of the Service's 10 refuges and six wildlife management areas in the Central Valley, the outlook is less welcoming. Consecutive years of severe drought and its associated water problems have brought managers and biologists face-to-face with climate change and new challenges to managing wildlife habitats across a landscape nearly the size of West Virginia.

For partner agencies and organizations in the California Landscape Conservation Cooperative (LCC), the Central Valley is a global biodiversity hot-spot and a priority for conservation. The Central Valley is more than 42,000 square miles in size, running 450 miles from Shasta County in the north, to Kern County in the south. The landscape is highly vulnerable to continuing land use changes, increasing temperatures, drought, and loss of important habitats for wildlife, including numerous imperiled species. Central Valley refuges, like those in the Sacramento, San Luis and Kern/Pixley complexes, provide significant resting and nesting spots for migrating birds on the Pacific Flyway and habitat for other wildlife, including imperiled species.

"It wasn't that long ago when I would hear about climate change and mentally acknowledge it as something we would deal with at refuges in the future," said **Dan Frisk**, Project Leader at the 68,000-acre Sacramento National Wildlife Refuge Complex. "Now climate change is right in my face and I am managing a refuge through consecutive years of severe drought. It's a challenge."

For Frisk and his colleagues in the Central Valley, managing through severe drought means being strategic about how, when and where to use available surface water - both permanent and temporary. Water feeds seasonal wetlands for millions of migrating waterfowl and other birds, as well as other habitats for threatened and endangered species such as giant garter snake, valley elderberry longhorn beetle and vernal pool species. For tools to prepare the refuge for the future, Frisk says he is looking beyond the traditional practices and expanding the refuge's traditional alliance of partners to include the LCC and its Central Valley Landscape Conservation Design (LCD) Project.



The San Joaquin kit fox, an endangered species, is one of several priority natural resources that will be assessed for their vulnerability to a changing landscape over the next 50 years. - Photo Credit: n/a

“We benefit from our work with our traditional refuge partnerships, but the LCD workshops really amps things up by providing new models that are really making a difference to how we are managing on the ground,” Frisk said. “It’s beneficial to hear from new voices at the table. I am always learning something new or acquiring more depth of knowledge on things I’ve learned from others.”

The LCD project engages resource managers and scientists who have been working for decades on conservation in the Central Valley, including the state, federal and local agencies, non-profits and existing partnerships,” said LCC Science Coordinator **Rebecca Fris**.

The LCC brings together agencies and organization representing resource managers and scientists from California’s conservation community to develop climate-smart adaptation strategies and actions for the Central Valley LCD. In addition to refuge managers and biologists, there is strong participation from the Service’s Ecological Services and Fisheries and Aquatic Conservation programs and the Central Valley Joint Venture.

“We are strengthening existing conservation efforts by developing a shared vision for the future of the Central Valley’s biodiversity, incorporating climate change, and identifying adaptation strategies that will help resources managers identify on-the-ground actions that reflect future conditions,” Fris said.

Over the past year, three workshops have convened partners around the steps of the forward-looking Climate-Smart Conservation process, an adaptive-planning cycle in use across the country to think through the impacts of climate change and other stressors as well as the full range of possible responses for resource management.

The LCD process began with a scenario exercise that produced a set of four plausible but very different futures for the region. To do this, the group identified the most important factors driving changes that effect biodiversity in the Central Valley, which they determined to be water availability combined with a broad mix of human activities that influence conservation across the landscape. The group then envisioned what the Valley would be like under different combinations of the extremes of these drivers. The resulting “Central Valley Future Scenarios” is a basis for choosing management actions that will provide benefits despite uncertainty about how these changes will unfold over the 50-year planning horizon.



Sunrise at Sacramento National Wildlife Refuge near Willows, in California's central valley. - Photo Credit: n/a

“The best case scenario we labelled California Dreamin’. At the other end, it was California Dust Bowl,” Frisk said, adding that all scenarios indicate increased demands for resources, especially water. “At the end of the day I ask myself, ‘what can I do?’ and focus on the things we can control.”

To achieve the goal of a suite of effective adaptation strategies and actions, the partnership next identified a list of priority natural resources—a shared list of habitats, groups of species and individual species whose health would scale up to a functioning network of ecosystems for the Central Valley. In October, experts will come together to assess the vulnerability of the priority habitats and species to the changes described in the future scenarios.

Once the vulnerability of the priority natural resources is evaluated this fall, the partnership will develop adaptation strategies and a set of maps to guide climate-smart actions in the future.

Frisk clearly believes the formal conservation design process will benefit the Sacramento refuge complex into the future. “I know that our management needs and challenges are going to be addressed because the refuge is at the table and part of the design process,” he said. “It provides us with tools we can use now and into the future.”

For Frisk, the future is now. The immediate challenge is managing his water allocation to ensure seasonal wetlands are irrigated and “filled with groceries” for the millions of migrating waterfowl and other wetland dependent birds that descend on the refuge’s wetlands between August and April. He fears that this year, refuges may be one of the few places in the Valley with a welcome mat out for migrating waterfowl.

“Prior to two years ago, we would typically see about 300,000 acres of post-harvest rice fields and other agricultural land in the Valley flooded up and ready for migrating birds to feed on,” Frisk said. Last year about 130,000 acres were flooded. This year we’re expecting somewhere between 75,000 and 100,000 acres. Our refuges may be the only show in town for birds this year.”

For more information about the Central Valley Landscape Conservation Design Project, visit <http://CaliforniaLCC.org>

*Scott Flaherty is the Deputy Assistant Regional Director for External Affairs in the Pacific Southwest Region located in Sacramento, Calif.*

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# US Fish & Wildlife Service: Field Notes Entry

## SACRAMENTO: Service Working to Combat Killer Chytrid in California Frog Populations

California-Nevada Offices , August 28, 2015



According to Dr. Lee Skerratt, a senior fellow at James Cook University, Australia, “the impact of Chytridiomycosis on frogs is the most spectacular loss of vertebrate biodiversity due to disease in recorded history.” - Photo Credit: USFWS



The Sacramento Fish and Wildlife Office has funded two grants, totaling \$175,000, which will help pay for (*B. dendrobatidis*) monitoring and treatment efforts for five years. - Photo Credit: Rick Kuyper/USFWS

### By John Garn

In some cases it's good to have a thin skin, especially if you're a frog. Yet millions of amphibians globally are facing extinction because their skin is too thick; victims of Chytridiomycosis, a virulent, highly transmissible, often fatal infectious disease that has caused the extinction or critical decline of over 200 species of frogs and salamanders.

The U.S. Fish and Wildlife Service's Sacramento Fish and Wildlife Office and our partners are working hard to understand and combat this terrible disease.

As tadpoles, frogs breathe much like fish; they have gills and stay completely submerged in water. But, during metamorphosis into froglets, they lose their gills, develop rudimentary lungs, and start breathing through their nose and mouth (which has membranes that transfers oxygen much like the skin). In all stages, frogs absorb oxygen (cutaneous gas exchange) and exchange water (osmoregulation) through their skin; which means they need moist, thin skin in order to live.

Chytridiomycosis is caused by the aquatic fungal pathogen *Batrachochytrium dendrobatidis* (*B. dendrobatidis*). *B. dendrobatidis* feeds on a substance called keratin, which is a protein found in hair, skin, scales, feathers, fur, among other places, like your fingernails or a rhino's horn. This isn't a significant problem for tadpoles, because keratin is only found around their mouths and *Bd* usually doesn't interfere with breathing or the ability to forage for food. However, when a tadpole becomes a frog, keratin begins to be produced in other parts of their body.

*B. dendrobatidis* creates cysts in the keratinized areas on an adult frog's skin, resulting in thickening and sloughing of the skin, which prevents the cutaneous gas exchange and osmoregulation. In essence, it stops the frog from breathing and absorbing water, which means the infected frog becomes lethargic and

slow to react. This makes it an easy meal for predators or, if the disease progresses long enough, the frog dies from a heart attack, brought on by electrolyte imbalance, oxygen starvation, and nervous system collapse.

On April 29, 2014, the Service finalized listing the three Sierra amphibians (the Sierra Nevada yellow-legged frog, the northern Distinct Population Segment (DPS) of the mountain yellow-legged frog, and the Yosemite Toad) under the Endangered Species Act (Act), bringing the total listed amphibian species under the Act in the U.S. to 35. As a part of the listing and recovery efforts for these various species, the Service has been actively involved in researching and fighting this disease; funding myriad studies and treatment efforts in the U.S. and globally; and collaborating with various partners in an effort to prevent the decline or extirpation of all at risk amphibian species.

In 2010, the Service started the Amphibians in Decline Program through Wildlife without Borders and has since awarded over \$3,500,000 to fund 40 projects in 23 countries.

Closer to home, there are approximately 22 Sierra Nevada yellow-legged frog and Northern DPS mountain yellow-legged frog communities in the Sierra Nevada that remain Bd free. Thirteen of these occur within Sequoia and Kings Canyon National Parks (SEKI) and the remainder occur in the adjacent Sierra, Sequoia, and Inyo National Forests.

These populations comprise the largest remaining groupings of both species, with sizes commonly exceeding 1000 adults. As such, these communities are critically important for their role as donor populations for current and future frog conservation efforts. Unfortunately, based on the current rates, all are expected to become *B. dendrobatidis*-positive and suffer serious declines or extinctions within the next 10 years.

It's possible that the severity of these declines can be mitigated by using anti-*B. dendrobatidis* treatments applied at the beginning of an outbreak. This can increase community survival by allowing time for treated frogs to develop an effective immune response which subsequently renders them much less susceptible to Bd. To allow effective treatments to be conducted, intensive monitoring is necessary to detect *B. dendrobatidis* infections at an early stage and quickly implement a treatment effort. The Sacramento FWO has allocated funding for two grants, totaling \$175,000, which will pay for these monitoring and treatment efforts for five years.

The Service is partnering with the University of California-Santa Barbara, Sierra Nevada Aquatic Research Laboratory (SNARL) and the Sequoia and Kings Canyon National Parks (SEKI) to implement the monitoring program and manage treatment operations in the event of an outbreak.

All sites will be visited at least twice each summer for the first 3 years, with SNARL personnel visiting two-thirds of the sites and SEKI personnel visiting the remaining third, in order to assess the disease state of the incumbent population. Ten to twenty swabs will be taken at each site and analyzed within 2 weeks .

If an outbreak is identified at a site, 500 frogs will be collected, penned, and separated into 2 groups: treatment and control. All the frogs will be tagged, swabbed, and held on-site. The control group will only be monitored, while the treatment group will receive daily Itraconazole exposure for seven days; after which all frogs will be released. To accurately determine the efficacy of treatment, funding will be sought to continue monitoring the affected sites for an additional 2-3 years.

Finally, if conditions warrant significant intervention, early life cycle (eggs or tadpoles) may be collected and brought to a captive rearing location (i.e. zoo or aquarium) and the frogs will be raised to adulthood, infected with Bd, treated until disease free, and then reintroduced into the site from which they were taken.

Chytridiomycosis is a significant hurdle to recovery efforts and threatens amphibians globally. With ongoing research, varied treatment plans and captive rearing efforts currently underway, it is hoped that through the efforts of the Service and our partners, will be able to meet the challenge it presents.

-- FWS --

*John Garn admin officer for the Carlsbad FWO, wrote this article while serving on detail as a public affairs specialist in the Sacramento FWO.*

# US Fish & Wildlife Service: Field Notes Entry

## YREKA: Fall Waterfowl Migration Underway at Lower Klamath NWR

California-Nevada Offices , September 10, 2015

**By Matt Baun**

Water is flowing to the Lower Klamath National Wildlife Refuge this week and that is great news for the white fronted geese, mallards and pintails that have already begun arriving into the Klamath Basin.

Tens of thousands of waterfowl will arrive in the coming weeks, with peak migration expected in late October and early November. It has been said that of all the wetlands in the American West, no area provides more feeding, resting and nesting habitat for migratory waterfowl than the marshes and lakes of the Klamath Basin that spans more than 25-square miles along the California-Oregon border.

The water is coming into the refuge from the Klamath River via the Ady Canal, which is one of two arteries into the Lower Klamath NWR. Water is also pumped into Lower Klamath NWR from Tule Lake by the Tulelake Irrigation District. The last time water came to the refuge from Ady canal was November 2013.

The Bureau of Reclamation said it is making the deliveries as a result of additional water that is available due to summer precipitation and water conservation activities of the Klamath Irrigation Project.

“It is always a challenge to balance water in the Klamath Basin and the delivery of 9,000 acre feet of water is a good start considering the Refuge has been completely dry most of the summer,” said refuge manager **Greg Austin**.

“Every drop of water counts and we anticipate that the delivery will provide some immediate benefits to the migrating waterfowl. Our goal now will be to provide as much habitat as we can with this water.”

Austin said it is still possible to have some hunting but the first priority will be to ensure there is enough water to provide sanctuary for incoming birds. The amount of water expected this week should flood about 3,000 acres of wetlands.

With higher-than-normal air temperatures expected this week that Service staff will be monitoring for avian botulism outbreaks which can kill waterfowl, he said.

The Service and Bureau of Reclamation will be discussing additional water deliveries and a delivery schedule in the coming weeks.

-- FWS --

*Matt Baun is the Service's public affairs officer for the Yreka FWO and the Klamath Basin.*

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