

**GAO**

Report to the Subcommittee on  
Interior, Environment, and Related  
Agencies, Committee on  
Appropriations, House of  
Representatives

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September 2007

**U.S. FISH AND  
WILDLIFE SERVICE**

**Additional Flexibility  
Needed to Deal with  
Farmlands Received  
from the Department  
of Agriculture**



  
**GAO**  
 Accountability Integrity Reliability  
**Highlights**

Highlights of [GAO-07-1092](#), a report to the Subcommittee on Interior, Environment, and Related Agencies, Committee on Appropriations, House of Representatives

## Why GAO Did This Study

Over the past two decades, provisions of the Food Security Act of 1985, among others, have allowed the Department of Agriculture's Farm Service Agency in partnership with the Department of the Interior's U.S. Fish and Wildlife Service (Service) to add farmlands found to have important resources to the National Wildlife Refuge System. The Farm Service Agency transferred such farmlands to the Service through outright ownership ("fee simple") or through conservation easements. Individual farmlands are managed by the nearest refuge office.

GAO was asked to examine (1) the extent of farmland received by the Service, (2) the extent to which the Service is currently managing its farmlands, and (3) alternatives for managing these lands. To answer these objectives, GAO visited five refuges and surveyed managers responsible for a random sample of 98 farmlands.

## What GAO Recommends

GAO recommends that the Service ensure that its records for all its farmlands are accurate and complete and that it develop a proposal to Congress seeking authority for additional flexibility in dealing with farmlands the Service determines may not be in the best interest of the National Wildlife Refuge System. In commenting on a draft of this report, the Department of the Interior concurred with GAO's recommendations.

[www.gao.gov/cgi-bin/getrpt?GAO-07-1092](http://www.gao.gov/cgi-bin/getrpt?GAO-07-1092).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Robin M. Nazzaro at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov).

## U.S. FISH AND WILDLIFE SERVICE

# Additional Flexibility Needed to Deal with Farmlands Received from the Department of Agriculture

## What GAO Found

Since 1986, the Service reports that it has received at least 1,400 conservation easement and fee-simple farmlands covering 132,000 acres, but the actual number is unknown because the Service's records are incomplete. Scattered across 38 states, these farmlands range in size from less than 1 acre to more than 2,200 acres; most are smaller than 50 acres. In addition, GAO identified farmlands that were not reported by the Service headquarters or regional offices. Therefore, the numbers reported here represent a conservative estimate of the total acreage received from the Farm Service Agency.

The Service is generally not managing a majority of its farmlands. In the past 5 years, only 13 percent have been inspected annually, on average. The Service is thus not adequately ensuring landowners' compliance with easement restrictions. GAO observed ongoing easement violations, including farming encroachment (see photo below). Few refuge offices track changes in land ownership, and basic maintenance has seldom been completed. Several factors have hindered the Service's farmland management. First, refuge officials do not emphasize managing most of the lands because they do not believe they contribute to the refuges' mission. Second, uncertainty about the extent or scope of some easements makes management activity difficult. Third, constrained resources and declining staff hinder completion of management activities. Nevertheless, GAO found that farmlands most closely aligned with refuge goals receive considerably more attention.

The Service possesses limited alternatives for managing its farmlands. Alternatives include (1) resetting refuge priorities to ensure that farmlands are given management attention, (2) requesting additional resources, and (3) paying little or no management attention to the farmlands. The Service has in most cases chosen the third alternative, and refuge officials indicated that this approach is unlikely to change. Because these lands are part of the National Wildlife Refuge System, under current law the Service cannot dispose of unwanted farmlands, regardless of their value to the refuge system's mission. Consequently, the Service may need additional flexibility on a limited and short-term basis to resolve the issue of unwanted farmlands.

### Farming Encroachment in Violation of a Wetland Easement, April 2007



Source: U.S. Fish and Wildlife Service.

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United States Government Accountability Office  
Washington, DC 20548

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September 18, 2007

The Honorable Norman D. Dicks  
Chairman  
The Honorable Todd Tiahrt  
Ranking Member  
Subcommittee on Interior, Environment,  
and Related Agencies  
Committee on Appropriations  
House of Representatives

Since the early 1900s, public lands have been set aside to protect natural ecosystems, provide habitat for wildlife, and offer Americans recreational opportunities. In the mid-1960s, Congress consolidated many of these lands into the National Wildlife Refuge System, a vast, ecologically diverse and valuable network of lands administered by the Department of the Interior's U.S. Fish and Wildlife Service (Service). Today, this system comprises 548 wildlife refuges covering 96 million acres, of which more than 17 million acres are located in the continental United States.<sup>1</sup> The mission of the refuge system is to "administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."<sup>2</sup> The system includes land that has always been federally owned, as well as land that has been acquired from other parties, including state governments and private entities.

Through the Food Security Act of 1985 (Farm Bill) and subsequent legislation, some land was added to the refuge system through a

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<sup>1</sup>Refuge lands in Alaska account for almost 77 million acres, and more than 2 million acres are spread across American Samoa, Guam, Hawaii, Puerto Rico, the U.S. Virgin Islands, and minor outlying islands of the United States.

<sup>2</sup>The National Wildlife Refuge System Improvement Act of 1997, Pub. L. No. 105-57, 111 Stat. 1254 (1997), codified at 16 U.S.C. § 668dd(a)(2).

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partnership with the Department of Agriculture's Farm Service Agency.<sup>3</sup> This agency was established in part to provide loans to farmers who were otherwise unable to secure enough funding to operate their farms. If a farmer was unable to repay such a loan, however, the Farm Service Agency sometimes foreclosed on the loan and acquired the farm property. Properties thus acquired went into the Farm Service Agency's inventory, with the goal that they would eventually be sold back into private ownership. Because of a distressed farm economy at the time, the Farm Service Agency had over a million acres of inventory properties when the 1985 Farm Bill became law. Provisions of the Farm Bill and subsequent legislation authorized the Farm Service Agency to acquire land or interests in land for conservation purposes. Under these authorities, the Farm Service Agency placed conservation protections on its inventory properties that contained important resources, which it defined as wetlands, riparian zones,<sup>4</sup> floodplains, coastal barriers, and other areas of high ecological quality or important fish and wildlife habitat. In carrying out these authorities, the Farm Service Agency generally consulted with the Service to determine, among other things, which properties should be protected. A memorandum of understanding signed in 1987 implements this and other environmental management responsibilities of the two agencies. Given the significant number of inventory properties in the mid-1980s, the Service reviewed thousands of these properties over the following decade and if important resources were identified on any portion of a property, the Service recommended that the Farm Service Agency protect that portion.

The Service recommended placement of conservation protections on certain lands, but the Farm Service Agency made the final decision, often negotiating with the Service on the specific number and location of acres on a property that would be protected. Such protections usually consisted of placing a perpetual easement on the property before selling it back into private ownership or, in certain cases, transferring outright ownership in

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<sup>3</sup>Food Security Act of 1985, Pub. L. No. 99-198, title XIII, § 1318(a), 99 Stat. 1354, 1530-1 (1985); Agricultural Credit Act of 1987, Pub. L. No. 100-233, title VI, §§ 612 and 616, 101 Stat. 1568, 1674 and 1682 (1988); Food, Agriculture, Conservation, and Trade Act of 1990, Pub. L. No. 101-624, title XVIII, subtitle A, §§ 1813(h) and 1815; and title XXIII, § 2388(j), 104 Stat. 3359, 3823-4, 3825-6, 4053 (1990); and Federal Agriculture Improvement and Reform Act of 1996, Pub. L. No. 104-127, title VI, subtitle D, §§ 639, 642, and 646, 110 Stat. 888, 1097, 1102-4 (1996).

<sup>4</sup>A riparian zone is the bank or corridor adjacent to rivers, streams, or other water bodies. A vegetated riparian zone can act as a protective buffer between land and water.

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fee simple to another federal or state agency, although preference was given to the Service. An easement is a nonpossessory interest in land. With an easement, the original landowner retains possession of the land, but, depending on which resources are being protected, the easement places restrictions on the land's use. All of the easements prohibit landowners from further developing the land subject to the easement, and many do not allow any agricultural activities or alteration of the habitat. Not all of the properties that the Service recommended for protection were of equivalent ecological value, however. In some cases, for example, the Service recommended protecting a site whose soil or other characteristics indicated that it once was or could again become a wetland, even if the site was no longer a wetland at the time because of alteration of the habitat from farming practices, such as draining or leveling the land. In addition, the 1990 and 1996 Farm Bills restricted the agency's authority to establish easements under the program.<sup>5</sup>

In addition to helping the Farm Service Agency assess inventory properties for important resources, in most instances the Service agreed to serve as the manager of the easement properties. Other federal or state agencies and private nonprofit organizations could also assume this duty,<sup>6</sup> but the Farm Service Agency gave priority to the Service. Moreover, Service policy held that it would become the easement manager of farmlands<sup>7</sup> it had recommended for protection, unless another federal or state easement manager had been identified. It was not uncommon for a federal or state agency, including the U.S. Forest Service, Bureau of Land Management, or a state land management agency, to receive fee-simple lands or easement management responsibilities, although the majority of the farmlands were accepted by the Service. All farmlands received by the Service from the Farm Service Agency—whether through an easement or fee-simple ownership—were to be administered as part of the National Wildlife Refuge System, with management responsibility for each farmland generally falling to the nearest refuge office. Service guidance stipulates

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<sup>5</sup>Food, Agriculture, Conservation, and Trade Act of 1990, Pub. L. No. 101-624, title XVIII, subtitle A, § 1813(h)(2)–(3), 104 Stat. 3359, 3823 (1990); Federal Agriculture Improvement and Reform Act of 1996, Pub. L. No. 104-127, title VI, subtitle D, § 639, 110 Stat. 888, 1097 (1996).

<sup>6</sup>See the Food Security Act of 1985, Pub. L. No. 99-198, title XIII, § 1314(a)(2)(B), 99 Stat. 1354, 1526–7 (1985), for the authority regarding private nonprofit organizations.

<sup>7</sup>For the purposes of this report, we use the term “farmland” to mean the property interests and ownership in properties the Service received from the Farm Service Agency. We recognize that some of these properties are no longer used for farming.

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that refuge offices are responsible for management activities, including regularly inspecting farmlands to check for violations, determining whether landowners are complying with all the easement restrictions, and taking enforcement actions on violations. Because the lands, or the interests in the lands, are government property, the Service may take civil or criminal action against violators for the “destruction” of government property.<sup>8</sup> Refuge offices are also responsible for maintaining contact with landowners, particularly new landowners; conducting maintenance, including marking easement boundaries and sometimes installing or maintaining fencing; and in some cases doing ecological restoration, such as restoring wetlands.

After enactment of the 1985 Farm Bill, the Service accepted management responsibilities for farmlands that were sometimes situated miles from the nearest refuge and others that, after years of being farmed, were ecologically degraded. From the outset, some refuge offices had concerns about receiving certain farmlands. Refuge officials were often not involved in the initial assessment of the inventory properties or in the decision to accept management responsibility as part of the refuge system. Particularly in cases where the farmlands were widely scattered or a long way from the nearest refuge office, refuge officials were concerned because of the potential costs of managing such far-flung parcels. Service policy, however, held that the relative size of a farmland or its proximity to an existing refuge should not be an overriding consideration in recommending a property for an easement or fee-simple acquisition; rather, according to a memorandum from the Director of the Service in 1988, the Service should make every effort to protect all lands identified as having important resources, regardless of acreage. In addition, some procedural and coordination problems between the two agencies were never fully resolved. For example, the Service was not always notified of the Farm Service Agency’s final decision on its recommendations for protection, and in some cases it was several years after a recommendation was made that the property was removed from inventory and an easement

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<sup>8</sup>16 U.S.C. § 668dd(c) states that “no person shall disturb, injure, cut, burn, remove, destroy, or possess any real or personal property of the United States, including natural growth, in any area of the System . . . unless such activities are performed by persons authorized to manage such area, or unless such activities are permitted . . . by express provision of the law, proclamation, Executive order, or public land order establishing the area, or amendment thereof.” 18 U.S.C. § 41 states that “whoever . . . willfully injures, molests, or destroys any property of the United States on any [refuge] lands or waters shall be fined under this title or imprisoned not more than six months, or both.”



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placed on the land. Also, in many cases the Farm Service Agency did not legally survey the land to outline precise boundaries.

In contrast, in the Prairie Pothole Region of the United States, which comprises portions of the states of Iowa, Minnesota, Montana, North Dakota, and South Dakota, farmlands received from the Farm Service Agency have been managed much like other easements the Service has acquired there. The Service has had a long-standing easement program in this region to protect wetlands and grasslands for the benefit of migratory waterfowl. It has run a regular program to manage all of its easement acquisitions in the region, including farmlands received from the Farm Service Agency, largely through routine aerial surveillance and on-the-ground inspections of suspected violations. Today the Service has more than 28,000 perpetual easements in the Prairie Pothole Region, covering more than 2.3 million acres, including more than 68,000 acres of easements from the Farm Service Agency. Because of the unique nature of this program, we excluded the farmlands found in the Prairie Pothole Region from our review. Concurrent with this report, we are reporting separately on the Service's land acquisitions in this region.

For this report, outside of the Prairie Pothole Region, we examined (1) the extent of farmland received by the Service from the Farm Service Agency, (2) the extent to which the Service is currently managing its farmlands, and (3) alternatives for managing these lands.

To address the objectives of this report, we visited and collected documentation from five refuges located in five different regions. We also interviewed officials at and collected documentation from the Service's headquarters and eight regional offices, as well as the Farm Service Agency's headquarters and four of its state offices. Additionally, we drew a random sample of 98 farmlands, obtained from a list provided by the Service, and conducted a telephone survey with the 51 refuge office managers responsible for these lands about the management activities they have undertaken on the lands during the years 2002 through 2006. We received responses from 100 percent of our sample, and the results can be projected to the population of documented farmlands, with an overall margin of error of  $\pm 10$  percentage points at the 95 percent confidence level unless otherwise noted. Specifically, to determine the extent of the Service's acquisition of farmlands, we obtained and reviewed property records from the Service's headquarters and regional offices and the refuge offices that we visited. We assessed the reliability of the data and found it to be sufficiently reliable for the purposes of this report. We were informed by some regional realty officials, however, that the database was

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probably incomplete. Consequently, we contacted each regional office to determine if the offices maintained additional farmland records outside of the centralized database. Three Service regions provided us with additional farmland records that were not contained in the database. To determine the extent to which the Service is currently managing its farmlands, we reviewed relevant agency guidance for managing easement and fee-simple lands. Through our site visits and survey, we collected information on the Service's management activities, including information on inspections, enforcement, contacts with landowners, maintenance, and restoration, and on factors affecting their management of farmlands. Finally, to determine alternatives for managing these lands, we examined the Service's management challenges and discussed them with Department of the Interior officials, including officials from the Service's Realty and Refuge Offices, and the Department of the Interior's Office of the Solicitor. We performed our work from September 2006 through July 2007 in accordance with generally accepted government auditing standards. Appendixes I and II present a more detailed discussion of our scope and methodology.

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## Results in Brief

The Service's records indicate that it has received at least 1,400 easement and fee-simple farmlands from the Farm Service Agency since 1986, but the actual number is unknown because the Service's farmland records are incomplete. According to the Service's records, the farmlands are scattered across 38 states and range in size from less than 1 acre to more than 2,200 acres, although most are smaller than 50 acres. The majority of the lands were acquired between 1986 and the mid-1990s; acquisitions over the past 10 years have been minimal. The Service is responsible for managing more than 132,000 farmland acres, of which about half are included in the Service's centralized land records database. We learned of the remaining half from three regional offices, because the lands had not been entered into this centralized database. Roughly 90 percent of the lands have easements on them, and about 10 percent are owned in fee simple. Most of the lands were received to protect wetlands, but some were meant to protect other resources, including floodplains or specific wildlife habitats. In addition, we identified farmlands that were not in the Service's database or reported to us by the regional offices, and we therefore conclude that the figures we report represent a conservative estimate of the total farmland acreage received from the Farm Service Agency. Specifically, at several refuges we visited, we found that the refuge office kept files on additional easement farmlands. At one of the refuges we visited, for example, we identified 5 additional easements and another 31 potential, or unconfirmed, easements. Moreover, in some

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instances, because of incomplete records, the Service may be unaware of certain farmlands that it is in fact responsible for managing. For example, in one region, a realty official told us that a landowner recently called the Service with concerns about an easement on his land, but the Service was unaware of the easement because no record of it existed with the Service. After reviewing records at the county courthouse in which the land was located, the official was able to confirm that an easement had indeed been placed on the land.

The Service is generally not managing the majority of the farmlands it received from the Farm Service Agency. Specifically, it has inspected only an estimated 13 percent of its farmlands annually, on average, over the last 5 years and, as a result, may be unaware of violations and unable to ensure compliance with the restrictions on its easement lands. At four of the five refuges we visited, we observed violations on at least one of the refuge's easement lands, such as farming encroachment, grazing, or removal of vegetation. Few refuge offices have tracked changes in land ownership to ensure that new landowners are aware of easements, and very little maintenance or restoration work has been completed on the farmlands. Often, not even basic maintenance, such as maintaining fencing, has been completed; yet when easement restrictions prohibit activities such as grazing, fencing may be critical to ensure cattle do not enter and graze the area. We found that the Service's management activities on its farmlands are hindered by the following several factors:

- First, devoting significant management attention to many of the farmlands has not been emphasized by the refuge offices. Refuge officials do not believe that these lands contribute significantly to the refuges' goals or mission, largely because the farmlands are too small, isolated, or located great distances from the managing refuge office. For example, over 75 percent of the farmlands are smaller than 100 acres. Several refuge managers commented that they would consider 100 acres the minimum size needed to support ecological viability, especially given the lands' often isolated nature. Additionally, 83 percent of the farmlands are located an hour or more away from their respective refuges, making it difficult for managers to visit them. Because managing the farmlands has not been a high priority, the lands may not be achieving the conservation purpose for which they were acquired.
- Second, management of easement lands may be difficult because of uncertainty surrounding the scope and extent of the easements. For example, boundaries are not clear to many refuge managers because

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detailed surveys were not done when the easements were established on these lands. When easement boundaries are not well defined, refuge managers may not be able to determine if a violation is occurring on the land.

- Third, the Service is operating with constrained resources and declining refuge staff, and therefore the staff are not able to complete all the activities they believe are necessary to manage the farmlands. Over the past several years, refuge staff have been reduced significantly, and the Service plans to further reduce the refuges' workforce in the next 3 years under current workforce-planning efforts aimed at cutting expenses. For an estimated 88 percent of farmlands, the responsible refuge managers believe that they have not had enough resources over the past 5 years to manage their farmlands.

While the Service is generally not managing the majority of its farmlands, in some instances we identified farmlands to which the refuges are devoting resources and paying a significant amount of management attention, largely because the lands more closely align with the refuges' goals. For example, we visited one easement land that provided an important connection between the refuge boundary and a critical river running through the area, and the refuge had completed extensive restoration work.

The Service possesses limited alternatives for managing the farmlands it has received from the Farm Service Agency because the lands became part of the National Wildlife Refuge System. The alternatives the Service has had at its disposal generally include (1) resetting refuge priorities to ensure that farmlands are given management attention, (2) requesting additional resources, and (3) paying little or no management attention to the farmlands. Over the past 20 years, in the rare instances where farmlands significantly contributed to the refuges' goals and mission, individual refuges made them a priority and obtained the necessary resources to manage them. These well-managed farmlands have been the exception rather than the rule, however. The majority of the farmlands are neglected because they do not contribute significantly to the goals of the refuges or because they are costly to manage relative to their real or perceived ecological value. On these lands, the Service is not meeting its management responsibilities and, in some cases, may be permitting the destruction of government property. Although some of these farmlands may have little or no value to the Service, they are now subject to the National Wildlife Refuge System's restrictions on land disposal, so the Service generally cannot dispose of unwanted farmlands. Other federal

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land management agencies have authorities that give them more flexibility in managing their lands, which could serve as models for legislation providing similar authority to the Service on a limited or short-term basis to resolve the issue of unwanted farmlands. For example, the Department of Agriculture's Forest Service has the authority to sell certain small, isolated, low-market-value parcels of its landholdings under specific conditions.

To ensure that the Service is able to provide an accurate accounting of its farmlands and has an accurate assessment of its overall farmland management responsibilities, we are recommending that the Secretary of the Interior direct the Director of the U.S. Fish and Wildlife Service to take the necessary steps to ensure that the Service's records of its farmlands are accurate and complete. In addition, we are recommending that the Service develop a proposal to Congress seeking authority for additional flexibility to deal with farmlands that it deems not in the best interest to continue to include as part of the National Wildlife Refuge System. Factors affecting how significantly individual farmlands contribute to the mission of the refuge system, along with current and long-term management costs, will be important considerations for determining which farmlands may not be in the best long-term interest of the system. Once such considerations are weighed, the Service can determine an appropriate proposal for congressional consideration. Since it could take years for the Service to develop a proposal and have the proposal acted on by Congress, as well as for the Service to exercise any new authority that may be provided, we are not making a recommendation at this time concerning the current level of management occurring on its farmlands. Nevertheless, we believe that the Service should be mindful of ensuring a minimum level of management attention to the farmlands it ultimately retains. In commenting on a draft of this report, the Department of the Interior concurred with our recommendations and provided several technical clarifications, which we have made as appropriate. Appendix III presents the Department of the Interior's comment letter. The Department of Agriculture did not provide comments.

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## Background

The National Wildlife Refuge System provides habitat for more than 5,000 species of birds, mammals, and fish, and these refuges protect unique wildlife habitats and species. Under the National Wildlife Refuge System Administration Act of 1966, as amended, the Service is responsible for

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managing each refuge to fulfill the mission of the system as a whole, as well as to fulfill the specific purposes for which the individual refuge was established.<sup>9</sup> Therefore, refuges often have additional conservation goals tailored to a specific purpose, such as protecting the habitat of particular endangered or threatened species. Individual refuges may consist of contiguous tracts of land—ranging from less than 1 acre to more than 19 million acres—or separate tracts of land scattered over one or more states. Each refuge may encompass land that is (1) completely federally owned; (2) primarily federally owned, with isolated tracts of nonfederal land; or (3) in a few refuges, primarily nonfederally owned, with isolated tracts of federal land. Each refuge is managed by a refuge manager and other refuge staff, including biologists, law enforcement officers, and other specialized staff.<sup>10</sup> One of the Service’s eight regional offices oversees the activities of each refuge;<sup>11</sup> each region reports to Service headquarters in Washington, D.C. (see fig. 1).

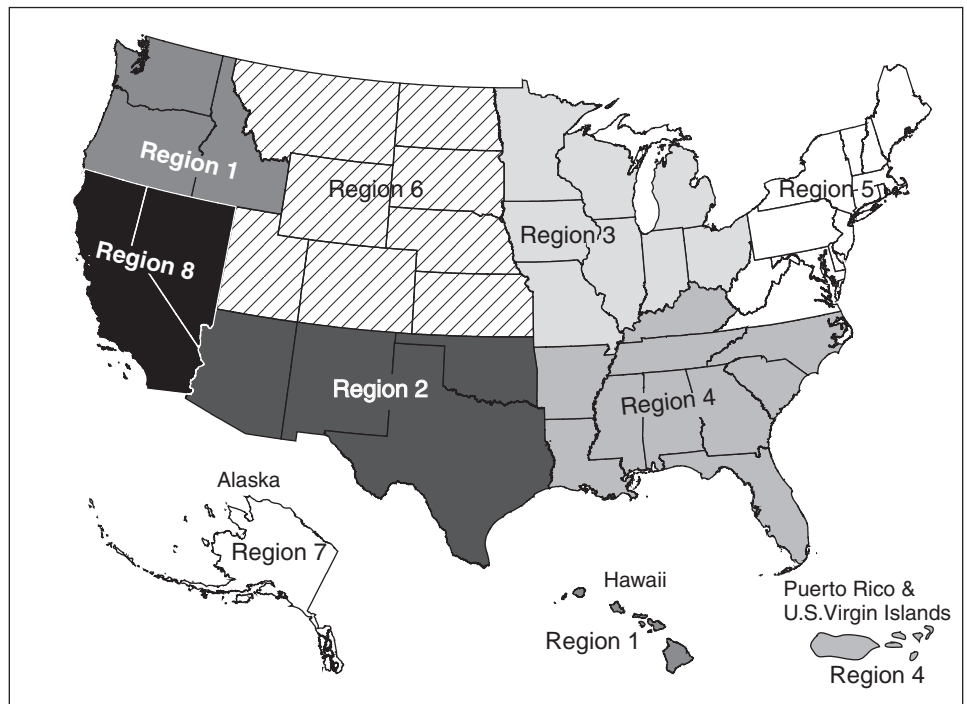
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<sup>9</sup>16 U.S.C. § 668dd(a).

<sup>10</sup>Some refuges are managed as refuge complexes, where a group of refuges in geographic proximity and with similar purposes are managed by one set of refuge staff.

<sup>11</sup>In this report, we refer to the California-Nevada Office as a regional office (region 8).

**Figure 1: U.S. Fish and Wildlife Service Regions**



Source: U.S. Fish and Wildlife Service.

The Service has a process for adding lands to the refuge system: it may acquire land by purchasing the land itself or purchasing interests in the land, by accepting donations of land from nonfederal entities, by accepting land transfers from other federal agencies, or by requesting a transfer of land from the public domain into the refuge system.<sup>12</sup> The Service can also exchange tracts of land with nonfederal entities, such as state agencies or private landowners, although the tracts of land must be comparably valued. With few exceptions, all lands that become part of the refuge system continue to be included in the system until otherwise specified by an act of Congress.<sup>13</sup> Typically, when evaluating lands for inclusion in the refuge system, the Service conducts an assessment of the land, which includes an in-depth biological evaluation and opportunities for public

<sup>12</sup>Public domain means that the title to the land has always remained with the federal government. Almost 90 percent of the lands in the refuge system came from the public domain.

<sup>13</sup>16 U.S.C. §§ 668dd(a).

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participation and also requires approval by the Service Director or one of the regional directors. The Service keeps an inventory of acquired lands, or interests in lands, in a centralized database maintained by realty offices in Service headquarters and regions.

The Service has also added lands to the refuge system through the partnership it developed with the U.S. Department of Agriculture's Farm Service Agency to help it implement provisions of the 1985 Farm Bill and subsequent legislation. Even before the 1985 Farm Bill was passed, the Farm Service Agency had an affirmative responsibility to protect any of its inventory properties that had wetland or floodplain values. Two executive orders issued in 1977 called on all federal agencies to minimize the destruction, loss, or degradation of wetlands and to restore and preserve the natural and beneficial values supported by floodplains.<sup>14</sup> In carrying out their responsibilities, including acquiring, managing, and disposing of federal lands, federal agencies were to preserve and enhance the natural and beneficial values of wetlands.<sup>15</sup> The 1985 Farm Bill and subsequent legislation provided the Farm Service Agency the authority to protect any of its land that contained wetlands and floodplains, in addition to other important resources. Specifically, the Farm Service Agency had the authority to place perpetual conservation easements on inventory properties that contained important resources or to transfer lands in fee simple to other entities, such as federal, state, or local government agencies.<sup>16</sup> Since the 1985 Farm Bill was enacted, subsequent legislation substantially changed the amount and type of lands available for protection. Notably, the 1990 and 1996 Farm Bills restricted the agency's authority to establish easements under the program. For example, the 1990 Farm Bill limited authorized easements on certain parcels of lands to no more than 20 percent of the parcel available for agricultural production. The 1996 Farm Bill removed these restrictions but imposed strict procedural requirements for establishing an easement. Table 1 summarizes

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<sup>14</sup>Executive Order 11990, Protection of Wetlands, and Executive Order 11988, Floodplain Management, both issued on May 24, 1977.

<sup>15</sup>Executive Order 11990 also directs the executive branch agencies "to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative."

<sup>16</sup>The 1985 Farm Bill also authorized the Farm Service Agency to develop the Debt for Nature Program. This program allows the Farm Service Agency to cancel a portion of delinquent borrowers' debt in exchange for the borrowers' voluntarily establishing conservation easements on their lands.



the major executive orders and legislation affecting the protection of farmlands.

**Table 1: Executive Orders and Legislation Relevant to the Farm Service Agency’s Inventory Program**

Executive orders and legislation	Date	Major provisions
Executive Order 11988 on Floodplain Management <sup>a</sup>	May 24, 1977	Ordered federal agencies, in carrying out their responsibilities, to “take action to reduce the risk of flood loss; to minimize the impact of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains.”
Executive Order 11990 on Protection of Wetlands <sup>b</sup>	May 24, 1977	Ordered federal agencies, in carrying out their responsibilities, to “take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.”
Food Security Act of 1985 (1985 Farm Bill) <sup>c</sup>	Dec. 23, 1985	Authorized the Secretary of Agriculture to acquire easements in real property for conservation, recreational, and wildlife purposes as part of farm loan debt restructuring. A portion of a farmer’s outstanding farm loan(s) was canceled when an easement was acquired by the United States. The Secretary, or any person or federal, state, or local governmental entity, could be designated as the party responsible for enforcing the easement. The act also authorized the Secretary to grant or sell an easement, restriction, development rights, or equivalent thereof to a unit of local or state government or to a private nonprofit organization for conservation purposes.
Agricultural Credit Act of 1987 <sup>d</sup>	Jan. 6, 1988	Authorized the Secretary of Agriculture, under certain circumstances, to transfer without reimbursement to any federal or state agency for conservation purposes any real property or interest in real property (i.e., an easement).
Food, Agriculture, Conservation, and Trade Act of 1990 (1990 Farm Bill) <sup>e</sup>	Nov. 28, 1990	Imposed a number of restrictions on the Secretary of Agriculture when establishing perpetual wetland conservation easements. In establishing easements, the Secretary was directed to “avoid, to the extent practicable, an adverse impact on the productivity of the croplands.” For example, in certain cases, easement acreage was limited to 10 or 20 percent of the existing cropland, and the buffer area adjacent to a wetland was generally not to exceed 100 feet in average width.
Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Bill) <sup>f</sup>	Apr. 4, 1996	Modified the restrictions added by the 1990 Farm Bill and imposed new procedural requirements for the transfer authority authorized by the Agricultural Credit Act of 1987. The limitations on percentage of acreage in the 1990 Farm Bill were replaced with the limitation that the Secretary of Agriculture should not establish a wetland conservation easement on an inventoried property that was cropland on the date the property entered inventory or was used for farming at any time within 5 years of entering inventory. The new procedural requirements on the transfer authority included public notices; consultations with the applicable governor and at least one elected county official; and the possibility of at least one public meeting, if requested.

Source: GAO analysis of executive orders and legislation.

Note: The provisions for the Farm Service Agency’s farmlands easement programs are codified at 7 U.S.C. §§ 1985(g), 1997, and 2002.

<sup>a</sup>42 Fed. Reg. 26951, May 25, 1977.

<sup>b</sup>42 Fed. Reg. 26961, May 25, 1977.

<sup>c</sup>Pub. L. No. 99-198, title XIII, §§ 1314(a)(2)(B) and 1318(a), 99 Stat. 1354, 1530–1 (1985).

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<sup>4</sup>Pub. L. No. 100-233, title VI, §§ 612 and 616, 101 Stat. 1568, 1674 and 1682 (1988).

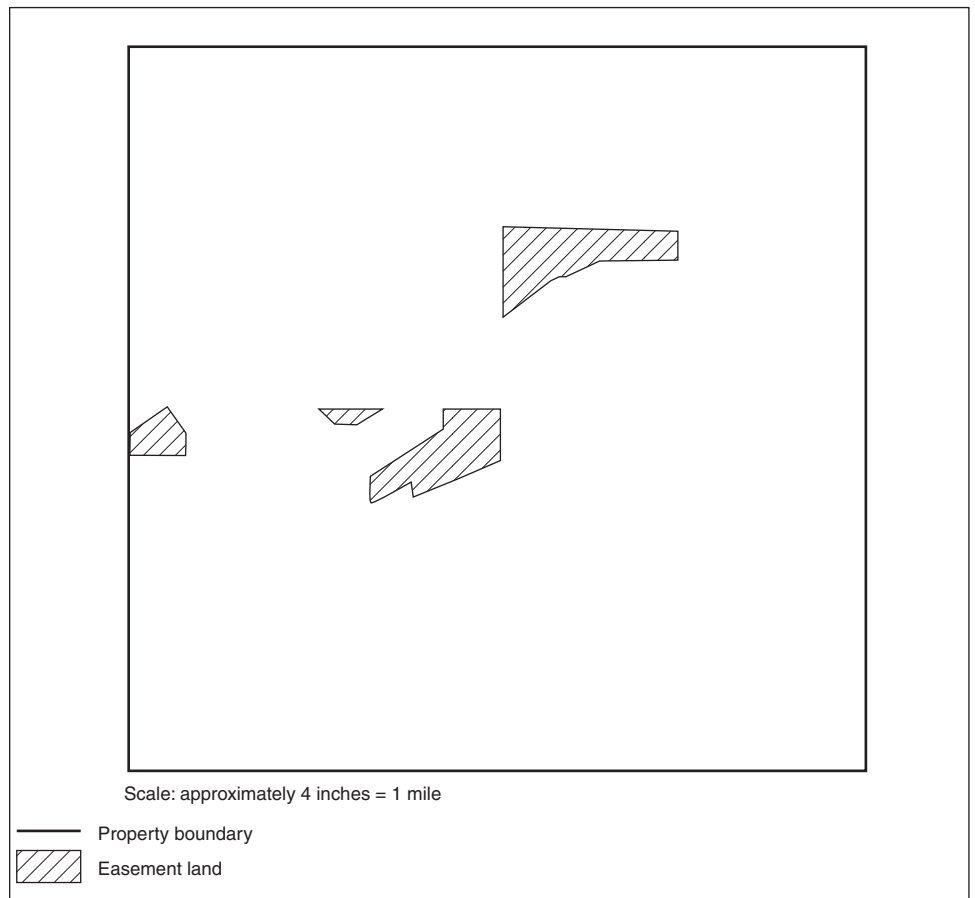
<sup>5</sup>Pub. L. No. 101-624, title XVIII, subtitle A, §§ 1813(h) and 1815, and title XXIII, § 2388(j), 104 Stat. 3359, 3823-4, 3825-6, and 4053 (1990).

<sup>6</sup>Pub. L. No. 104-127, title VI, subtitle D, §§ 639, 642, and 646, 110 Stat. 888, 1097, 1102, and 1103-4, (1996).

In establishing easements, the Farm Service Agency generally used boilerplate language that it developed in coordination with the Service. Largely, it placed very restrictive easements on those portions of the property that contained important resources. Easement restrictions prevented the landowner from developing the land, conducting agricultural practices, altering the vegetation or hydrology of the land in any way, or otherwise disturbing the land. In some cases, if the purpose of the easement was to protect a floodplain, then less-restrictive easement language was used. On these easements, most agricultural practices were allowed, and the landowner was restricted primarily from developing the land.

In delineating easement boundaries on a property, the Farm Service Agency generally established easement areas embedded within noneasement farmland because the agency was protecting only those portions of the property encompassing important resources. For example, on a 150-acre farm, an easement might have protected only the 23 acres that constituted a buffer to a stream running through the property. Or if several wetlands were identified on a 320-acre field, only those wetlands, possibly along with a buffer, might have received protection, while the remainder of the field could still have been farmed (see fig. 2). As a result, easement areas might consist of multiple, noncontiguous parcels on the larger farm property.

**Figure 2: Example of an Easement Placed on Farm Property**



Source: U.S. Fish and Wildlife Service.

## The Service Has Received at Least 1,400 Farmlands Covering 132,000 Acres, but the Actual Number Is Unknown

The Service's records indicate that it has received at least 1,400 easement and fee-simple farmlands from the Farm Service Agency since 1986, but the actual number is unknown. According to its records, the Service is responsible for managing over 132,000 acres of mostly small farmlands scattered across 38 states. In addition, we identified farmlands besides those in the Service's centralized database or reported to us by the regional offices. Consequently, we conclude that the figures we report represent a conservative estimate for the total amount of the Service's farmlands.

Since 1986, the Service Has Received Mostly Small Farmlands Scattered across 38 States

According to its records, the Service has received at least 1,400 farmlands from the Farm Service Agency.<sup>17</sup> About 90 percent of the lands are privately owned, with easements on them; the Service owns the remaining 10 percent in fee simple. The farmlands cover more than 132,000 acres and range in size from less than 1 acre to more than 2,200 acres. Most of the farmlands, however, are small. Specifically, more than half the farmlands are smaller than 50 acres, and only about 1 percent are larger than 1,000 acres (see table 2).

**Table 2: Size of Farmlands Received by the Service**

Size in acres	Number	Percentage
<10	197	14%
10–49	606	43
50–99	301	21
100–999	292	21
1,000+	16	1
<b>Total</b>	<b>1,412</b>	<b>100%</b>

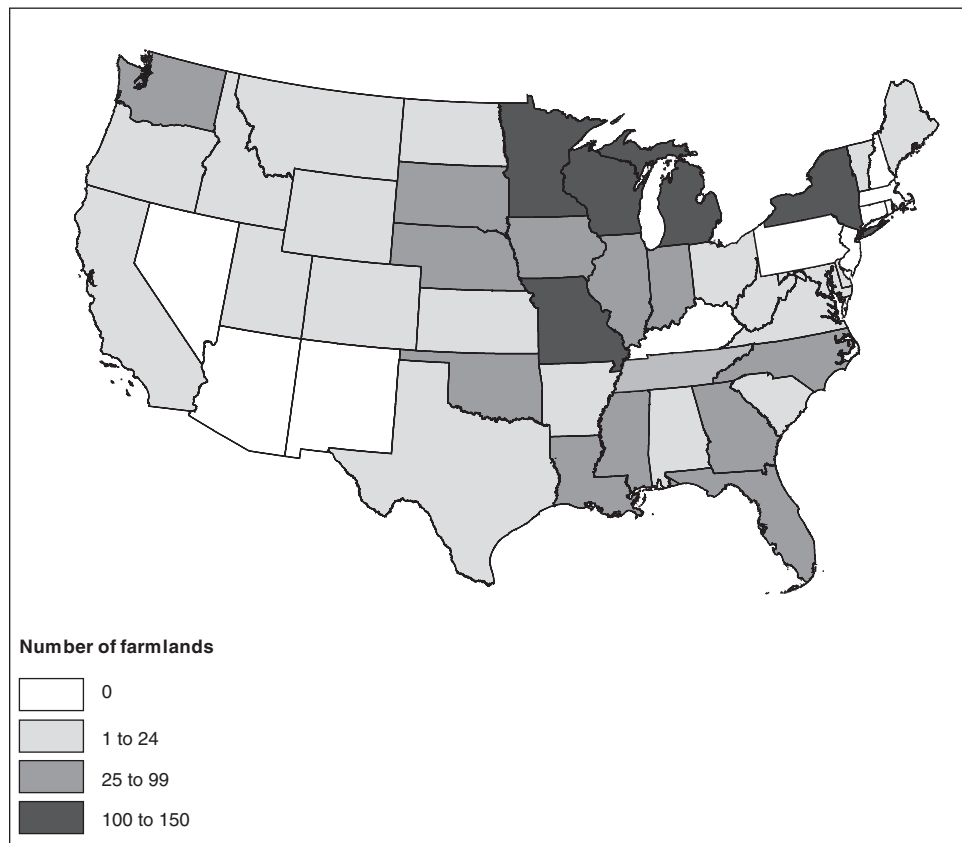
Source: GAO analysis of U.S. Fish and Wildlife Service data.

Farmlands owned by the Service in fee simple are generally larger than farmlands with easements. While more than 60 percent of its fee-simple lands are larger than 100 acres, less than 20 percent of the easement lands exceed 100 acres. Accordingly, in terms of acreage, the Service owns about 37,000 acres (28 percent) of its farmlands in fee simple, and nearly 95,000 acres (72 percent) are in the form of easements. The Service’s farmlands are scattered across more than 500 counties in 38 states within

<sup>17</sup>In most cases, the number of farmlands represents the original number of properties the Service received from the Farm Service Agency, either through fee simple or an easement. That is, each farmland corresponds to a legal deed placed on all or a portion of a property that was under single ownership at the time the realty transaction was legally finalized. In some instances, however, easement restrictions that were placed on separate portions of a single property may have been tracked separately, and thus the lands would be counted separately here even though they were under single ownership at the time of the realty transaction. In addition, if an owner subsequently sold a portion of a property covered by the easement, both ownerships would still be covered by the easement restrictions. In other words, through land sales, one easement land with one landowner could turn into two or more easement lands, with two or more landowners. These types of changes would not be reflected in the numbers reported here, however.

the continental United States, with the highest concentration of farmlands located in the Midwest (see fig. 3).<sup>18</sup>

**Figure 3: Concentration of Service Farmlands by State**



Source: U.S. Fish and Wildlife Service.

The most common purpose for establishing easements or accepting fee-simple ownership was to protect wetlands. Specifically, the results of our survey show that about 80 percent of the farmlands were received to protect wetlands. Farmlands were also received for other conservation purposes, such as protection of riparian zones; floodplains; or the habitats

<sup>18</sup>The Service manages more than 650 additional farmlands—more than 68,000 acres in easements and 7,000 acres in fee simple—within the Prairie Pothole Region of the United States. These farmlands are not included within the scope of this review.

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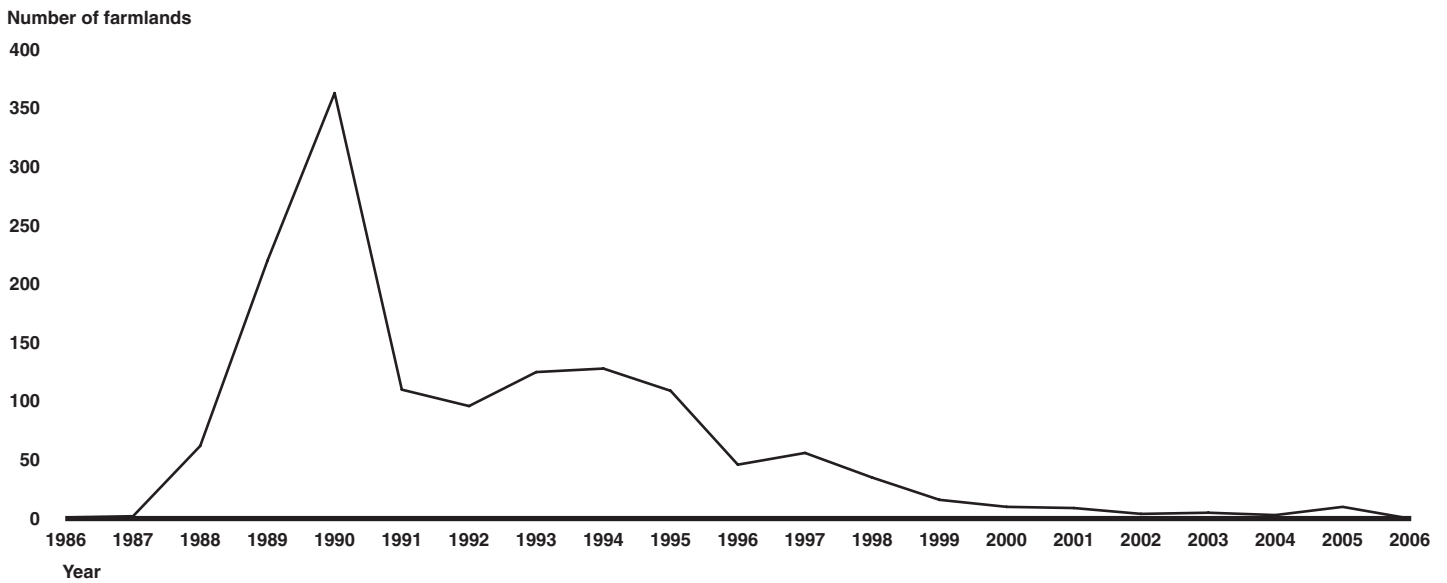
of endangered or threatened species, including the bald eagle and San Joaquin kit fox.<sup>19</sup>

The majority of the farmlands were acquired between 1986 and the mid-1990s; acquisitions over the past 10 years have been minimal (see fig. 4). According to Farm Service Agency officials, acquisitions have declined because significantly fewer farm properties have entered the Farm Service Agency's inventory since the mid-1990s. This is largely a result of the improving farm economy and additional financing options farmers now have besides loan foreclosure, according to the officials. Also, the restrictions included in the 1990 and 1996 Farm Bills significantly reduced the type of inventory farmlands available for protection.

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<sup>19</sup>Effective August 8, 2007, the bald eagle was removed from the federal list of endangered and threatened wildlife.

**Figure 4: Number of Farmlands Received by the Service, by Calendar Year**



Source: GAO analysis of U.S. Fish and Wildlife Service data.

Note: We were unable to obtain an acquisition date for four farmland records and therefore did not include those farmlands in this analysis. Also, the years graphed here represent the year that an easement was placed on a farmland or the land was transferred to the Service in fee simple, which in many instances occurred several years after the Service reviewed the property and made a recommendation for protection. For example, one of the properties received in 2004 was initially placed in the Farm Service Agency's inventory in 1994, but it took 10 years to remove the land from inventory and formally place an easement on it.

About half the farmlands reported here are included in the Service's centralized database. We learned about the remaining half of the farmlands from three regional realty offices. These regions, for various administrative reasons, have not entered their records into the database, according to Service officials. For example, in one region most easements were not entered into the database because final legal reviews had not been completed.

## The Service's Farmland Records Are Incomplete

We identified farmlands that were not in the Service's centralized database or reported to us by the regional realty offices and therefore conclude that the Service has an incomplete account of its farmlands. Specifically, through our site visits and contacts with refuge managers, we found multiple instances in which individual refuge offices had files for farmland easements that were not otherwise reported in the centralized database or by the regional realty office. For example, one refuge manager we spoke with said he was responsible for 29 additional farmlands not included in

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the centralized database or reported to us by the regional realty office. These farmlands equate to over 80 percent (more than 900 acres) of the farmlands that this refuge is responsible for managing. In other instances, the Service had made a recommendation to the Farm Service Agency to establish an easement, but the refuge office lacked a final deed confirming the easement's establishment. As a result, some questions exist as to whether the Service had received management responsibility for an easement that was established on the land. At one of the refuge offices we visited, for example, we identified 31 potential, or unconfirmed, easements in addition to 5 confirmed easements, comprising over 1,500 acres, that had not been reported to us. The refuge office's files for the 31 unconfirmed easements contained documentation, such as maps and records of site visits, but did not contain a final deed to confirm that the easement was official. Farm Service Agency and Service officials we spoke with in this state explained that the Farm Service Agency did not generally send a copy of the final deed to the Service when an easement was established. Thus, for these 31 unconfirmed farmlands, it is probable that an easement was established and the Service received management responsibility, but a copy of the final deed was simply not included in the file.

Because of the Service's incomplete records, even the refuge offices may be unaware of all of the farmlands that they are in fact responsible for managing. For example, in one region, a realty official told us that a landowner had recently called the Service with a concern about an easement on his land. The Service, however, was unaware that it was responsible for managing the easement because it had no record of the farmland. After the call from the landowner, the Service confirmed that an easement had been established on the property by reviewing records at the courthouse in the county in which the farmland is located. In contrast, we identified a couple of instances where the refuge office maintained a file for a farmland, or assumed it was responsible for managing a farmland, when in fact the Service never received management responsibility, or an easement had not been established.

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## The Service Is Generally Not Managing the Majority of Its Farmlands

The Service is generally not managing the majority of its farmlands. Management activities the refuge offices are responsible for include regularly inspecting their farmlands to check for violations; taking enforcement actions on violations; maintaining contact with the landowners of easement lands; conducting limited maintenance activities including marking easement boundaries; and, in some cases, doing ecological restoration. Overall, however, we found that most refuge offices



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are carrying out these management activities on a very limited basis. Several factors affect the extent to which refuge offices devote management attention to their farmlands. First, devoting significant management attention to many of the farmlands has not been a priority because refuge officials do not believe that the lands contribute significantly to the refuges' goals or mission. Second, management of easement lands may be difficult because of uncertainty surrounding the scope and extent of the easements. Third, the Service is operating with constrained resources and declining refuge staff and therefore the staff are not able to complete all the activities they believe are necessary to manage the farmlands. In some instances, however, we identified farmlands that the refuges are actively managing, largely because the lands more closely align with the refuges' goals.

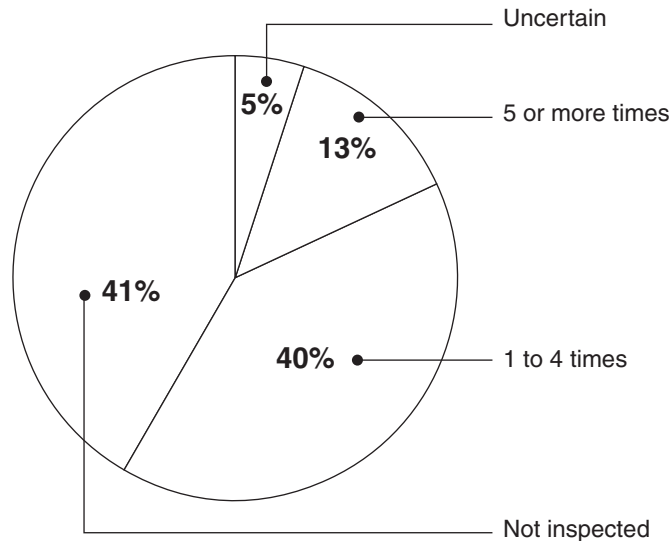
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### The Service Performs Limited to No Management Activities on Most of Its Farmlands

The Service's refuge offices have carried out very limited management activities on the majority of their farmlands. Through site visits to five refuge offices and our survey of the refuge offices' management of their farmlands (which covered 2002 through 2006), we found that most management activities, including inspections, contacts with landowners, and maintenance and restoration activities, are carried out on only a very limited basis. For an estimated 91 percent of farmlands, the refuge managers believe that over the past 5 years they were able to accomplish only half or less than half of the activities they believed were necessary to manage these lands. In general, we also found that the Service's fee-simple farmlands tend to receive more management attention, particularly inspections and completed restoration work, than its easement lands.

While Service guidance calls for each farmland to be inspected at least once every year, very few farmlands are inspected annually. On-the-ground inspections are important to determine whether the landowners are complying with easement restrictions and to check for violations. From our survey, however, we estimate that only 13 percent of the farmlands, on average, have been annually inspected (see fig. 5). Additionally, on almost one-third of the farmlands, refuge managers did not believe (and were unable to provide documentation to show) that the farmlands had been visited by refuge staff at any point over the 10-year period from 1997 through 2006.

**Figure 5: Estimated Frequency of Inspections from Calendar Year 2002 through 2006**



Source: GAO survey of the U.S. Fish and Wildlife Service's farmland management.

Note: Percentages do not add to 100 percent because of rounding.

Because the majority of farmlands are rarely inspected, refuge officials may not know the extent to which violations may be taking place on their farmlands. The farmlands, or the interests in them, are government property, so the Service may take civil or criminal action against violators for the destruction of government property. Through our survey, we found that of the properties that were inspected at least once in the last 5 years, the most recent inspection found violations on 26 percent of the farmlands.<sup>20</sup> Common violations included some agricultural practices such as grazing or haying, trespassing, dumping trash, hunting illegally, or removing signs (see fig. 6). At four of the five refuges we visited, we identified a violation on at least one easement land. For example, we visited one easement where the landowner had recently cleared much of the natural vegetation with a bulldozer and burned the land; at a different site, we saw where the landowner had built a driveway and shed through the middle of the easement area. At still another refuge, the refuge manager stated that of the 34 easement lands he has personally visited in the last 3 years, 90 to 95 percent exhibit some kind of violation, most of

<sup>20</sup>The 95 percent confidence interval for this percentage is from 15 percent to 40 percent.

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which degrade the ecological value of the land. At the fifth refuge, violations appeared to be present on a few farmlands, but we could not confirm them because of a lack of clear easement boundaries.

**Figure 6: Farming Activities in Violation of a Wetland Easement, April 2007**



Source: U.S. Fish and Wildlife Service.

Note: Violations on this 10-acre easement include tilling the land and clearing some of the wooded area for farming.

One way the Service can help prevent violations is by maintaining regular contact with landowners and ensuring that landowners, particularly new landowners, clearly understand the easement terms; yet despite Service guidance to this effect, refuge managers rarely keep up with such contacts. For instance, only 13 of the 51 refuge managers we surveyed reported that they tracked land ownership changes on their easement lands—for example, by checking land sales records at county courthouses—and only 11 reported that they notified new landowners about the easement on their property. Several refuge managers said that farmlands changed ownership frequently, making it difficult for them to keep up with the current landowners for all their easement lands. For example, one refuge manager stated that at least 70 percent of his 80 easement lands had changed ownership in the past several years. Compounding these difficulties, if a landowner divides and sells a portion of the farmland covered by an easement, the Service must then track all landowners to ensure that all

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portions of the easement area are in compliance. Through our survey, we found that multiple ownerships under one easement are fairly common; in one case, eight current landowners had a portion of a single easement on their property.

Additionally, refuge offices have conducted very little maintenance on their farmlands. On the basis of our survey, we estimate that approximately 22 percent of the Service's farmlands have received maintenance over the past 5 years. While limited maintenance activities are required, particularly on easement lands, certain basic activities are called for. Specifically, Service guidance calls for all farmland boundaries to be marked, or posted, in a manner that is clear to landowners and the refuge officials responsible for managing them. During our site visits, however, we found that the farmlands were often not posted. At two of the refuges we visited, none of the easements were posted. At the other three refuges, while some farmlands had a few postings, others did not. In some cases, we also found that important fencing had not been installed or maintained. For example, we visited one easement that was being improperly grazed because the fencing that had been put up years ago was no longer able to keep cattle from entering and grazing the easement land.

Similarly, refuge offices have completed only limited restoration activities on their farmlands. When the farmlands were initially received from the Farm Service Agency, the Service expected that restoring wetlands, planting uplands, and other rehabilitation would be an important component of the program, and in some cases a significant early investment was made to restore some lands. From our survey, however, we estimate that over the last 5 years, about 9 percent of the farmlands have had restoration work done, such as planting trees or altering water flow. Overall, since the farmlands were initially received by the Service, refuge officials whom we surveyed were aware of restoration work on only 24 percent of their farmlands.<sup>21</sup> Service officials in one region told us that although considerable funding was initially made available for restoration projects, subsequent funding has not kept pace with restoration or maintenance needs. For example, one of the refuge managers in that region said that his office was given, on average, more than \$225,000 per year for restoration over the first 5 years of receiving farmlands from the Farm Service Agency. This funding enabled completion of all necessary restoration projects initially, he said, but later

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<sup>21</sup>The 95 percent confidence interval for this percentage is from 15 to 36 percent.

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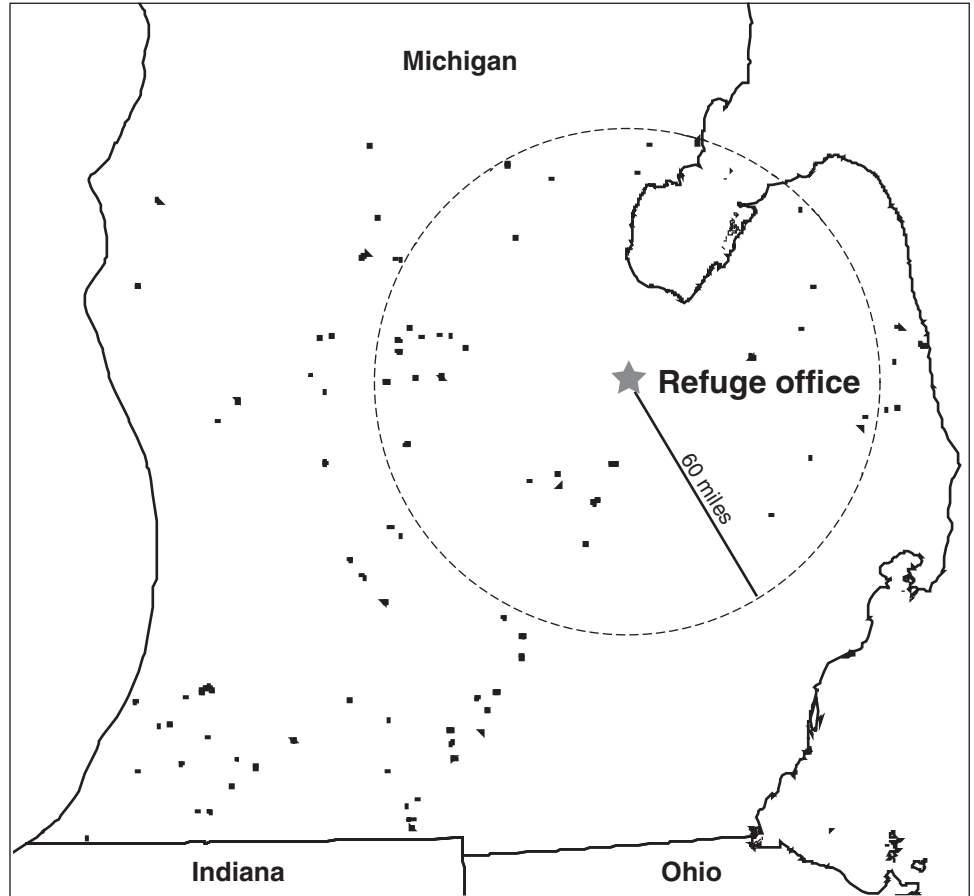
funding to maintain the projects was not provided. In contrast, a number of refuge managers said that restoration work is unnecessary on some farmlands because the lands adequately achieve the conservation purpose for which they were acquired if they are simply left in their natural state.

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### Several Factors Affect the Extent of the Service's Management Activities

We found that several factors affect the extent to which the Service's refuge offices conduct management activities on their farmlands. First, managing the farmlands has not been a high priority because refuge officials do not believe that the lands contribute significantly to the refuges' goals or mission, because they are too small, isolated, and distant. While the size of the farmlands varies considerably—of the more than 1,400 farmlands nationwide, size ranges from less than 1 acre to more than 2,200 acres—over 75 percent of the farmlands are less than 100 acres. Several refuge managers commented that they consider 100 acres a minimum size to support ecological viability, especially given the lands' fragmented nature. Often the farmlands are fragmented among active agricultural lands, have little or no connectivity to other wildlife habitat, or are widely scattered over a vast area. The farmlands are also often located many miles from the managing refuge office. At one refuge we visited, for example, the office is responsible for managing more than 100 scattered farmlands, many of which are located more than 60 miles away (see fig. 7).

**Figure 7: Location of the Farmlands That Michigan's Shiawassee National Wildlife Refuge Is Responsible for Managing**



Source: GAO analysis of U.S. Fish and Wildlife Service data.

Through our survey, we estimate that about 83 percent of the Service's farmlands are located an hour or more away from their respective refuges, making it difficult for managers to visit them (see table 3). From a statistical analysis of our survey results, we found that both larger farmlands and those that are closer to the managing refuge were significantly more likely to have been inspected in the past 2 years than smaller or more distant farmlands.<sup>22</sup>

<sup>22</sup>See appendix II for a more detailed discussion of our analysis.

**Table 3: Estimated Travel Times between the Managing Refuge Offices and Their Farmlands**

<b>Time (in hours)</b>	<b>Percentage of farmlands</b>
Less than 1	18%
One hour or more, but less than 2	40
Two hours or more, but less than 3	27
Three or more hours	16

Source: GAO survey of the U.S. Fish and Wildlife Service's farmland management.

Note: The data in this table represent the responses from refuge managers to the following question, "How much time, in minutes, does it typically take to drive from the refuge office to this property?" Percentages do not add to 100 percent because of rounding.

Further, because managing the farmlands has not been a high priority, the lands may not be achieving the conservation purpose for which they were acquired. For example, we visited one farmland where an easement had been acquired for wetland purposes, but over time, the area had been filled in and become overgrown with dense vegetation and trees. The refuge manager said that in that state, the land exhibited no wetland characteristics and thus provided no value to any waterfowl species. He said it would take a significant amount of restoration work and subsequent continued maintenance to restore and sustain any wetland values on the land. We found that refuge managers believe that about 23 percent of the farmlands are currently meeting their conservation purpose to a great or very great extent. We also noted instances where the Service's assessment determined that the land did not contain important resources worthy of protecting, and the Service therefore did not request an easement on the land; the Farm Service Agency nevertheless established an easement on the land and named the Service the easement manager. In still other cases, the specific acres protected did not match the areas the Service had identified as containing important resources. For example, we reviewed one case where the Service received a farmland in fee simple and also received an additional parcel of land containing a potentially contaminated concrete building left over from former farming operations.

Second, managing easement lands may be difficult because of uncertainty surrounding the easements' scope and extent. For instance, because legal surveys often were not completed on the farmlands when the easements were first established, precise boundaries may not be available. Few of the property files we reviewed on our site visits contained evidence that the land had been legally surveyed to establish precise boundaries. Through our survey, we found that about 49 percent of the farmlands' boundaries were clear to refuge managers. The lack of clear boundaries has made it

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difficult for some refuge officials to identify the location of all their easement lands and has also made it difficult to identify violations, such as farming encroachment or removal of vegetation, and to enforce restrictions. For example, we visited an easement where the refuge manager said the landowner moved the easement posting a few feet every year so as to expand his farming operations onto the easement land. Because the easement had not been legally surveyed, however, the refuge manager said it would be very difficult to insist that the farmer move the posting back to its original boundaries. The refuge manager said he was not even sure where the posting should officially be, given the lack of clear boundaries. In addition to unclear boundaries, some easement restrictions have been difficult for refuge managers to fully interpret and, in some cases, enforce. At one of the refuge offices we visited, for example, the refuge manager explained that while the easement allows “normal farming practices,” it also prohibits altering the land’s hydrology. He said that one of the easement landowners used farming equipment to level his land. According to the refuge manager, this leveling did alter the hydrology but could also be considered part of “normal farming practices.” Thus, what constitutes a violation may sometimes be unclear because of ambiguity in the language of some easement restrictions.

Third, the Service is operating with constrained resources and declining refuge staff, and therefore the refuge offices are not able to complete all the activities they believe are necessary to manage the farmlands. Over the past several years, refuge staff have been reduced significantly, and the Service plans to further reduce the refuges’ workforce in the next 3 years under current workforce-planning efforts aimed at cutting expenses. Currently, nearly 200 refuges are unstaffed, with this number likely to increase in the future. Senior headquarters and regional officials explained that the refuges have done what they can to manage their farmlands, given the limited resources they have at their disposal. For an estimated 88 percent of farmlands, the refuge managers believe that they have not had enough resources to manage their farmlands over the past 5 years. A number of refuge officials also specifically cited the lack of law enforcement capabilities as a resource constraint. At two of the refuges we visited, the offices did not have any kind of permanent law enforcement staff; at two others, the law enforcement officer split his time between refuge offices. Several managers pointed out that they simply would not have the law enforcement capability to spend significant time taking enforcement actions for violations on farmlands. Our survey results suggest that the number of farmlands any one refuge office is responsible for varies greatly (from 1 to over 100) and that the more farmlands a



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refuge office is responsible for, the less likely the office is to have inspected a property in the past 2 years.<sup>23</sup>

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### Farmlands That Align Closely with Refuges' Goals Receive More Management Attention

While the Service is generally not managing the majority of its farmlands, in some instances we identified farmlands that refuge offices are devoting significant management attention to, largely because these farmlands more closely align with the refuges' goals. Service officials explained that farmlands that are or have the potential to be more ecologically valuable generally receive more attention than those with less potential. For example, the Service's largest documented farmland is a fee-simple acquisition 2,263 acres in size. When this land was acquired by the Service, it was severely degraded by agricultural practices. At present, however, because of significant restoration work done by refuge staff, the land encompasses over 1,000 acres of native hardwood trees and abundant, varied wildlife, including significant populations of marsh and water birds, shorebirds, and other waterfowl. Although the land is located more than an hour away from the refuge office responsible for managing it, the refuge manager said that refuge staff visit the property multiple times per year for restoration and maintenance activities. Funding was allocated for restoration of this farmland before fiscal year 2002, but since then, the refuge office has used routine refuge operations-and-maintenance funding to manage it.

In other instances, farmlands are located in areas the refuge offices are already focusing on, and these lands therefore receive more management attention. For example, we visited one refuge office responsible for managing a 606-acre easement adjacent to the refuge boundary that provided a critical connection between the refuge and a river running through the area. On this easement, the Service developed a management plan to maintain and enhance wetland ecosystems, riparian zones, and wildlife habitats while also allowing limited grazing on certain portions of the land. In the last few years, the refuge office received grant funding to conduct restoration work to increase the wetlands and address channelization and erosion problems. Currently, two landowners each own a parcel of the easement, and according to the refuge manager, they have both supported the refuge's efforts to restore the land. Overall, he suggested, the situation is a good example of how Farm Service Agency

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<sup>23</sup>See appendix II for a more detailed discussion of our analysis.

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easement lands can successfully contribute to the mission of the National Wildlife Refuge System.

In another instance, we visited a farmland of 361 acres owned in fee simple by the Service that, because of its location, was turned into the headquarters of a wetland management district. In this district, the Service is working to acquire more wetland and upland habitat for waterfowl, migratory birds, and other wildlife. The Service conducted wetlands restoration work on the property and turned the old, dilapidated farmhouse into the refuge office (see fig. 8). Fishing access, a nature trail, and other environmental education activities now complement the farmland's restored wetlands.

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**Figure 8: Old Farmhouse in New York, Renovated to Serve as a Refuge Office, April 2007**



Source: GAO.

Left : Farmhouse as received by the Service in fee simple from the Farm Service Agency (c.1991).

Right: The farmhouse reconstructed in the 1990s to serve as a wetland management district office (April 2007).

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## The Service Has Limited Alternatives for Managing Its Farmlands

Since the Service first started receiving farmlands from the Farm Service Agency more than two decades ago, it has had limited alternatives for managing them because the lands became part of the National Wildlife Refuge System. The alternatives include (1) resetting refuge priorities to ensure that farmlands are given management attention, (2) requesting additional resources, and (3) paying little or no management attention to the farmlands. Generally, when a farmland has significantly contributed to the goals and mission of the responsible refuge, the Service has either adjusted its refuge priorities to ensure farmland management or found the

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resources necessary to actively manage the property. These instances have been rare, however. For most farmlands, the Service has chosen the third alternative—paying little or no management attention to its farmlands—and it is unlikely to increase its management attention. Refuge officials we spoke with said that they were unlikely to raise the priority of farmland management activities in the future unless additional refuge funding was provided or regional or national officials directed them to do so. They explained that because of the nature of the farmlands, it simply does not make sense to reset refuge priorities to increase management attention to them. Refuge managers said that they would also be highly unlikely to ask for additional resources to manage farmlands, except in rare instances, because of the continuing shortfall in resources to complete even their core refuge activities, such as protecting critical habitat. Service headquarters and regional officials agreed that as staff and budgets continue to be downsized, further management attention to the farmlands is unlikely. By paying little or no management attention to its farmlands, however, the Service risks allowing habitats to be degraded; violations to go unchecked; and, in some cases, government property to be damaged.

Because these farmlands are now part of the National Wildlife Refuge System, the Service has limited options—restricted by federal law and executive orders—for relinquishing management responsibilities for unwanted farmlands or farmlands it deems not in the best interest to retain in the refuge system. Under provisions of the National Wildlife Refuge Administration Act of 1966, as amended, lands that are part of the National Wildlife Refuge System cannot be transferred or otherwise disposed of (except by exchange) unless the Secretary of the Interior determines, with the concurrence of the Migratory Bird Conservation Commission,<sup>24</sup> that the land or interest in lands is no longer needed for the purposes for which the refuge system was established. Refuge lands have never been transferred or disposed of in this manner, however. In addition, the Service is required to abide by the provisions of Executive Order 11990, covering wetland protection, and Executive Order 11988, covering floodplain management, which require protection and preservation of these resources. It has also been the policy of the federal

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<sup>24</sup>The Migratory Bird Conservation Commission considers and acts on recommendations of the Secretary of the Interior for the purchase or rental of land, water, or both for the conservation of migratory bird habitat. The commission consists of the Secretary of the Interior, the Administrator of the Environmental Protection Agency, the Secretary of Agriculture, and two members from each house of Congress.

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government since 1989 to achieve “no net loss” of wetlands in carrying out the government’s land management activities.<sup>25</sup>

In a few isolated instances, the Service has successfully exchanged farmlands for private lands under existing authorities. According to Service officials, fee-simple farmlands were generally exchanged for private lands to acquire lands nearer existing refuges, and easement exchanges were done mainly to acquire land that was more ecologically valuable or to enable landowners to accomplish their land use objectives. Service officials told us, however, that the possibilities for further land exchanges are limited, especially for easement lands. On fee-simple lands, the main difficulty is finding private entities that are interested in obtaining the Service’s isolated parcels and also own lands the Service is interested in acquiring. For easement lands, the only parties interested in acquiring easement rights are usually the underlying landowners, and rarely do they own other lands that would make sense to exchange. In addition, for both fee-simple and easement properties, the administrative and procedural aspects of accomplishing land exchanges are often extremely costly and burdensome. For instance, we reviewed one exchange, involving an easement, that took more than 3 years to complete and required costly survey and appraisal work in addition to significant time and effort on the part of Service realty and refuge staff.

In addition to exchanges, the Service can look to third parties, such as state agencies or nonprofit organizations, to establish cooperative agreements to manage its farmlands. For example, one refuge has an agreement with a state agency to manage one of its farmlands because the land is located near a state-owned natural area. Service officials indicated that such situations are rare, however, and it is unlikely that many additional cooperative agreements will be established, given the location, size, and ecological value of the lands and the management costs to these groups—the very reasons the Service does not itself accord the lands significant management attention.

In contrast, other federal land management agencies have authorities that provide them flexibility to dispose of lands found not in their best interest to retain. These authorities may provide models for addressing farmlands

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<sup>25</sup>Given the value of wetlands, the administration set a national goal in 1989 of balancing losses and gains to achieve no net loss of wetlands. Each subsequent President has reaffirmed and expanded this goal of achieving net gains of wetlands over the long term.

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that the Service determines no longer serve the purposes of the refuge system. For example, under the Southern Nevada Public Land Management Act of 1998, the Department of the Interior's Bureau of Land Management has the authority to sell or exchange public land within a specific area around Las Vegas, Nevada.<sup>26</sup> A portion of the proceeds from the sale of such lands is put into a fund that is then used for a variety of purposes, including conservation initiatives and certain land acquisitions. The account is also available for the reimbursement of costs incurred by the local offices of the Bureau of Land Management in arranging sales or exchanges under this act.

Similarly, the Small Tracts Act gives the Department of Agriculture's Forest Service the authority to sell certain small, isolated parcels of its landholdings under specific conditions.<sup>27</sup> Specifically, eligible parcels may be sold if they have a market value of less than \$150,000, are smaller than 40 acres, are not efficiently administered because of their location and size, and cannot be sold under any other authority. The Small Tracts Act authorizes the Forest Service to exchange lands or interests in lands of approximately equal value without need of formal appraisals. This authority can greatly facilitate land transactions where the cost of the appraisals is significant enough to diminish the likelihood of the transaction. Pending legislation would, among other provisions, increase the acreage from 40 to 100 acres.<sup>28</sup>

Additionally, the Federal Property and Administrative Services Act of 1949, as amended, governs the disposal of most federal property that a federal agency no longer needs to carry out its mission, programs, and activities.<sup>29</sup> Such property is reported as excess to the General Services Administration and offered first to other federal agencies for their use and then to state or local governments or to certain tax-exempt nonprofit organizations through such mechanisms as negotiated or public sales. If these entities do not wish to acquire the property, the General Services

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<sup>26</sup>Pub. L. No. 105-263, 112 Stat. 2343 (1998).

<sup>27</sup>Pub. L. No. 97-465, 96 Stat. 2535 (1983), codified at 16 U.S.C. § 521c-i.

<sup>28</sup>H.R. 485, 110th Congress (2007). A similar bill, H.R. 1905, was not enacted in 109th Congress.

<sup>29</sup>40 U.S.C. §§ 521-9, 541-59. See also GAO, *Federal Real Property: Most Public Benefit Conveyances Used as Intended, but Opportunities Exist to Enhance Federal Oversight*, [GAO-06-511](#) (Washington, D.C.: June 21, 2006).

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Administration can then dispose of it through a competitive sale to the public, generally via sealed bid or auction.

If the Service had authority for its farmlands similar to the above examples, it could consolidate some of its unwanted farmlands through an arrangement where it sold fee-simple farmlands or the easement rights and then directed the proceeds to the purchase of lands that were more closely aligned with the goals and mission of the refuge system. Considerations such as the time frame for allowing such sales and purchases, and whether such activities could occur on a nationwide scale or whether purchases would be limited to the states or region in which the sale took place, would be important. An advantage to such an arrangement would be that the Service could, at a minimum, offset the loss of any wetlands and floodplains. According to Service officials, however, a significant obstacle to this option would be that although farmlands owned in fee simple can have considerable market value, many of the easements have little or no tangible market value, and easement sales may therefore be difficult or impossible. Therefore, granting the Service authority specific to its farmlands similar to that granted under the Southern Nevada Public Land Management Act, the Small Tracts Act, or the Federal Property and Administrative Services Act, while useful, would not likely be sufficient to address most of the Service's unwanted farmlands.

Further, the Service recently developed a proposal to divest some of its limited-interest refuges in North Dakota.<sup>30</sup> The divestiture proposal was developed to help ensure that future resources are expended on lands that support the mission and goals of the refuge system. Under the proposal, refuge lands were selected for divestiture on the basis of specific criteria, including how well the lands achieved one or more of the goals of the National Wildlife Refuge System, whether the lands met their intended purpose, whether the lands had biological integrity, and whether it was possible to restore them. This divestiture proposal would require congressional authorization for the properties recommended for divestment. The Service could expand this model and adapt the criteria to address management limitations specific to the farmlands, such as property size, distance from the refuge office, number of refuge staff available, as well as ecological considerations. Using such criteria, the

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<sup>30</sup>Limited-interest refuges are lands with a defined refuge boundary but where the Service does not own the land in fee simple and instead retains limited easement rights, largely the right to flood or maintain an artificial lake for promotion of water conservation or wildlife habitat. The underlying property remains in private ownership.

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Service could propose to Congress a list of specific farmlands to be divested, along with written justification outlining the Service's judgments.

We encountered a wide array of perspectives with regard to the value the farmlands bring to the refuge system, the costs of their management, and what should be done with those lands that are not significantly contributing to the refuge systems' goals and mission. For instance, some refuge managers and regional officials we spoke with believed that the ecological value of the farmlands is not calculable—especially from a long-term viewpoint, such as 50 years hence—and therefore all the farmlands should be retained. Some refuge managers spoke of the low-risk nature of many of the farmlands—lands where threats of violations are low, where maintenance needs are minimal, and where the undisturbed natural state maintains ecological value. These types of farmlands do not require active restoration, and management, namely regular inspections and contacts with landowners, would take only minimal effort. Other headquarters, regional, and refuge officials, however, spoke of operational efficiencies in the face of continually constrained budgets. These officials were apt to suggest balancing resource constraints against the ecological value of the farmlands in comparison with the value of refuge lands; they argued that in this context, it does not make sense to expend any resources on some of the farmlands. When asked, most refuge officials were generally able to identify farmlands that they believed would not have ecological value sufficient for continued inclusion in the refuge system, even with significantly increased resources or refuge staff. Some officials were reluctant to suggest that the Service should attempt to relinquish its management responsibilities on those lands, however, for fear of opening the door to potential divestiture of other, more critical refuge lands, which could bring about a significant ecological loss to the refuge system.

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## Conclusions

The 1985 Farm Bill and subsequent legislation provided the Service, in partnership with the Farm Service Agency, a mechanism to protect, as part of the National Wildlife Refuge System, farmlands that encompassed wetlands or other important natural resources. The Service is now responsible for managing a significant number of both conservation easement and fee-simple farmlands across most of the continental United States. The Service does not have a complete accounting of all of its farmlands, however, so the actual scope of its responsibilities is not certain. As a result, it may be unable to accurately assess its management needs. Given the farmlands' wide variation in size, location, and other characteristics, a complete accounting is needed to best determine how these lands should be managed in the future.

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Since its first farmland acquisition more than 20 years ago, the Service has generally used the tools at its disposal to deal with these lands as best it could. We agree with the Service that its main priority, and its limited resources, should be directed at managing and sustaining its core refuge lands. However, by not conducting at least a minimum level of management activities on the farmlands it has acquired, including inspecting the lands on a regular basis, posting the lands, and ensuring that landowners are aware of restrictions, the Service could ultimately see the loss or degradation of the resources it was given the responsibility to protect. Under current law, the Service has very few alternatives for reducing or removing management responsibilities for lands received from the Farm Service Agency that are not significantly contributing to the mission and goals of the National Wildlife Refuge System. Therefore, we believe the Service needs additional flexibility to better align the farmlands it is responsible for with the goals and mission of the refuge system.

Other federal land management agencies have authorities to dispose of lands found not in their best interest to retain, and these authorities could serve as a starting point for the possible development of a legislative solution for farmlands the Service received from the Farm Service Agency. Existing authorities have largely been applied to fee-simple lands, and their applicability to easements may be limited, largely because of the relatively low market value of many of the easements. Partly for this reason, a variety of approaches may be warranted and tailored to the specific farmlands that the Service determines should no longer be included in the refuge system. In any approach the Service takes to alter its current farmland management responsibilities, to the extent possible, it should strive to maintain a conservation focus. For example, the Service could seek authority to invest the proceeds from the sale of any farmlands into conserving other lands or to offer farmlands to state agencies or nonprofits for conservation purposes. Additionally, because any federal land divestment proposal raises significant concerns, crucial variables to consider include a time limit to identify potential farmlands for divestment and narrowly limiting the scope of any divestment proposal to only those farmlands the Service identifies as unwanted.

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## Recommendations for Executive Action

To improve the effectiveness and efficiency of the Service's management of its farmlands, we recommend that the Secretary of the Interior direct the Director of the Service to take the following two actions:



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- ensure that the Service's records for all of its farmlands are accurate and complete by reconciling regional and refuge office records and property records to determine which farmlands were transferred from the Farm Service Agency, and
  - develop a proposal to Congress seeking the authority for additional flexibility with regard to the farmlands the Service determines may not be in the best interest to continue to include as part of the National Wildlife Refuge System.

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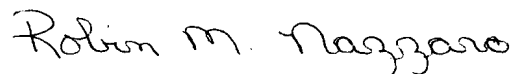
## Agency Comments

We provided copies of our draft report to the Department of the Interior and the Department of Agriculture. The Department of the Interior concurred with our recommendations and agreed to take action on both recommendations by the end of calendar year 2009. In addition, the department provided several technical clarifications, which we incorporated as appropriate. Appendix III contains the Department of the Interior's comment letter. The Department of Agriculture provided no comments.

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We are sending copies of this report to interested congressional committees, the Secretary of the Interior, the Secretary of Agriculture, the Director of the Service, the Administrator of the Farm Service Agency, and other interested parties. We also will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff has any questions about this report, please contact me at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.



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Director, Natural Resources and Environment

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# Appendix I: Scope and Methodology

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To examine the extent of farmland received by the Department of the Interior's U.S. Fish and Wildlife Service (Service) from the Department of Agriculture's Farm Service Agency, we interviewed officials at and reviewed documentation from the Service's headquarters and regional offices. Specifically, we requested all farmland acquisition data from the Service's centralized land records system—its database for tracking lands, including interests in lands, under its control. To assess the reliability of the data we received from this database, we interviewed officials most knowledgeable about the collection and management of these data, and we reviewed relevant data controls. On the basis of our review, we concluded that the database records were sufficiently reliable for us to report on what information the database contained. We were informed by some regional realty officials, however, that the database was likely incomplete. Consequently, we contacted each regional office to determine if the offices maintained additional farmland records outside the centralized database. Three Service regions provided us with additional farmland records that were not contained in the database. We also visited and collected additional farmland records from five refuge offices in five different regions.<sup>1</sup> At each site, we completed a detailed review of the available files on farmlands and compared this information with the information we received from the Service's centralized database, regional offices, or both, as applicable. We selected the sites to visit using the data we were given from the Service's headquarters and three regional offices to identify the refuge office responsible for managing the largest number of farmlands in each Service region. The five refuge offices we visited were Tishomingo National Wildlife Refuge near Tishomingo, Oklahoma (region 2); Shiawassee National Wildlife Refuge near Saginaw, Michigan (region 3); North Mississippi Refuge Complex near Grenada, Mississippi (region 4); Montezuma National Wildlife Refuge near Seneca Falls, New York (region 5); and Modoc National Wildlife Refuge near Alturas, California (region 8). In addition, we also interviewed the Farm Service Agency officials at its headquarters and four of its state offices to determine the availability of records it may have maintained on farmlands it transferred, either in fee simple or through an easement, to the Service. We found that the Farm Service Agency generally did not maintain organized historical records of all its transfers to the Service.

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<sup>1</sup>Early in our review, we also visited a Service field office located in the Prairie Pothole Region of the Service's region 6. Partly on the basis of this visit, we decided to omit Prairie Pothole Region farmlands from this review because these farmlands are managed very differently from those outside this unique region.

To examine the extent to which the Service is currently managing its farmlands, we identified and analyzed applicable laws, policies, and procedures governing the Service's farmland management, and we interviewed officials at the Service's headquarters, regional offices, and the five refuge offices we visited. During our site visits, we reviewed the files for each farmland in detail, including inspection records; records of landowner contacts; records of completed restoration and maintenance work; and general information about the farmland, including the easement restrictions, boundary demarcations, and other legal documentation. During these site visits, we also saw a sample of farmlands that the refuge office was responsible for managing and learned what inspection activities entailed. We also observed the condition of each farmland, whether easement signs were clearly visible, and whether there were any signs of easement violations or other problems. We also designed and conducted a survey, through structured telephone interviews, of refuge managers from across the United States about the extent to which they are managing their farmlands. We received a 100 percent response rate from the simple random sample of 98 farmlands we selected from the population of 1,423 farmland records that were provided to us by the Service's headquarters and regional offices. Appendix II discusses our survey methodology in greater detail.

To examine the Service's alternatives for managing its farmlands, we interviewed headquarters and regional officials from the Service's Realty and Refuge Offices in addition to the refuge office managers contacted through our site visits and telephone survey. We also interviewed the Department of the Interior's Office of the Solicitor. Further, we analyzed relevant federal laws and Service policies governing options for managing lands within the National Wildlife Refuge System, and we reviewed federal laws governing land management in other federal agencies, including the Department of the Interior's Bureau of Land Management and the Department of Agriculture's Forest Service.

We performed our work between September 2006 and July 2007 in accordance with generally accepted government auditing standards.

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# Appendix II: Survey of the U.S. Fish and Wildlife Service's Farmland Management

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To further examine the extent to which the Department of the Interior's U.S. Fish and Wildlife Service (Service) is currently managing the farmlands it received from the Farm Service Agency, we designed and conducted a survey, through structured telephone interviews, of refuge managers from across the United States about the extent to which they are managing their farmlands. The questions were designed to obtain information on the number of farmlands each refuge is responsible for and on the nature and quantity of inspections, violations, landowner contact, maintenance, and restoration activity that occur on each farmland. In addition, the structured interviews solicited information on factors that may hinder the refuge offices' ability to manage their farmlands. The interview questions focused primarily on management activities that took place over the 5-year period from 2002 through 2006. We selected a simple random sample of 106 farmlands from the population of 1,423 farmland records that were provided to us by the Service's headquarters and regional offices as of February 22, 2007. After we selected our sample, we determined that 8 of the farmlands were not under the management jurisdiction of the Service, so our final sample consisted of 98 farmlands. We conducted structured telephone interviews with the 51 refuge offices<sup>1</sup> responsible for managing these 98 farmlands, which included both fee-simple and easement lands located in 24 states across the nation.

We developed a structured interview guide with the assistance of a GAO survey specialist and pretested it over the telephone with refuge managers and staff from 17 refuge offices; we then revised the structured interview guide, as appropriate, on the basis of the pretest results. A second GAO survey specialist independently reviewed our interview guide to ensure that the questions followed general principles of survey research. To conduct our survey, we e-mailed each refuge manager responsible for one or more of the 98 farmlands in our sample and requested a telephone interview. We held our structured telephone interviews from March 22, 2007, through May 1, 2007, with the person whom the refuge identified as most knowledgeable about managing the farmlands in question—usually the refuge manager—along with other refuge staff familiar with sample farmlands. At the end of each telephone interview, we requested that the refuge manager send us all documentation available to support the information provided in the interview, such as records indicating when

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<sup>1</sup>In a number of cases, one refuge office managed two or more of the farmlands in our random sample. When a refuge office was responsible for more than one farmland in our sample, we asked the same set of questions for each farmland.

inspections or restoration activities occurred. On receiving the documentation, we compared it with the information given in the interview. Reviewing this documentation gave us additional confidence in the data we collected during our structured telephone interviews. We did not encounter any significant discrepancies between the information collected during the interviews and the documentation supplied by refuge officials.

Our interview response rate was 100 percent,<sup>2</sup> and the results can be projected to the population of documented farmlands.<sup>3</sup> The results cannot be projected, however, to the additional undocumented farmlands we became aware of during our audit work because data for these lands were not available at the time our random sample was chosen and were therefore not represented in our sample. Percentage estimates based on our sample have margins of error of  $\pm 10$  percentage points at the 95 percent confidence level unless otherwise noted. We also asked a few questions that were not specific to a sampled farmland but, rather, applied to the refuge office's management of all its farmlands. Responses to these officewide questions cannot be projected to a population of wildlife refuges and are not presented as such. We also analyzed responses to open-ended interview questions to identify common themes and to provide context for the responses to our specific questions.

During the telephone survey, we took steps to ensure data quality. Because of the practicalities of conducting structured telephone interviews, interviewees' responses may reflect errors; interviewees may misinterpret a question, for example. We took steps in developing and conducting the survey to reduce such errors. First, we conducted the interviews in a standardized manner to ensure that each respondent was asked the same questions, each with precise wording, and in the same order. Second, during the interviews, we annotated responses with notes about respondent's hesitations, inconclusiveness, inconsistencies, or inability to answer the question directly or succinctly. We reviewed these notes before data analyses to ensure response accuracy. Third, for some

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<sup>2</sup>Interviews were completed for all 98 of the randomly sampled farmlands.

<sup>3</sup>This population consists of all farmlands documented in the Service's centralized database, as well as additional farmland records provided by three regions (regions 1, 2, and 3). Later in our audit work, we identified additional (undocumented) farmlands that were not included in the Service's centralized database or in records maintained by the regions and provided to us.

questions, we asked respondents directly about their level of certainty regarding a response, for example, whether their response was “precise” or “approximate.” Finally, we validated responses obtained from the structured interviews with documentation from the refuges. For example, we verified such items as inspection dates, acreage amounts, and violations against the interview responses. All survey data were entered into a statistical analysis program and verified for accuracy. The results were then summarized and tabulated.

Table 4 summarizes the key questions we are reporting on that we asked during the structured interviews about the management of each sampled farmland. We also asked other questions that we do not specifically report on to supply further context for interviewees’ responses. For example, after asking whether a certain management activity had occurred, such as an inspection, we asked the respondent during which season and year the activity took place and to describe the activity.

**Table 4: Selected Survey Questions**

<b>Refuge-level questions</b>
How many fee-simple properties is your refuge office responsible for managing?
How many properties with easements is your refuge office responsible for managing?
Does your refuge office identify and track land ownership changes on any of your Farm Service Agency properties with easements? If so, what process does your office use?
<b>Property-specific questions</b>
<b>General</b>
How many sub-tracts does this property consist of?
Do you know when the last time you or someone from your refuge staff visited the property?
At the time of its acquisition, was the property acquired in order to protect wetlands; a riparian zone; a floodplain; a coastal barrier; threatened or endangered species habitat; fish and wildlife habitat of local, regional, state, or national importance; an aquifer recharge area; an area of high water quality; an area of high scenic value; or any other conservation purpose?
In its current condition, to what extent is this property meeting its conservation purpose? Would you say it is meeting this purpose to a very great extent, to a great extent, to a moderate extent, to some extent, or to little or no extent?
<b>Maintenance and restoration</b>
At any time during calendar years 2002 through 2006, have you or has someone else from your refuge conducted any maintenance or restoration work on this property? If yes, what type of maintenance or restoration work was conducted on the property?
To the best of your knowledge, has any other restoration work ever been completed on this property since it was acquired by the Service? If yes, what type of restoration work was conducted on the property?

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**Inspecting for violations**

At any time during calendar years 2002 through 2006, have you or has someone from your refuge inspected this property for violations?

Approximately how many times have you or has someone from your refuge inspected this property for violations during calendar years 2002 through 2006?

On your most recent inspection, did you identify any violations? If yes, what types of violations did you identify?

**Factors that hinder management**

Would you say that all of the terms (restrictions) of the easement are clear, or are there terms that are unclear? If terms are unclear, have unclear terms hindered your ability to manage this property?

Would you say that all of the boundary segments of this property are clear, or are there some boundary segments that are not clear? If some boundary segments are not clear, have unclear boundaries hindered your ability to manage this property?

How many miles is it from the refuge office to this property?

How much time, in minutes, does it typically take to drive from the refuge office to this property?

Has the time required to travel to this property hindered your ability to manage this property?

Has the level of resources that your refuge office received over the past 5 years been more than enough, about enough, or less than enough to manage this property? If less than enough, has this lack of resources hindered your ability to manage this property?

On balance, would you say that over the past 5 years, your office has been able to accomplish more than half of the activities necessary to manage the property, about half of these activities, or less than half of these activities?

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Source: GAO.

In addition, to further analyze our survey responses, we applied certain statistical transformations to the data, which we then analyzed for statistically significant patterns. Specifically, using responses about when the farmlands were inspected with specific farmland characteristics as discussed below, we created new variables to assess correlations. During our site visits, interviews, and telephone survey, refuge managers mentioned several reasons that some farmlands are inspected while other farmlands are not. These reasons included farmland size; distance between a farmland and the refuge office; and refuge workload, including the number of other properties managed by the refuge office. To corroborate these explanations, we performed a statistical procedure known as logistic regression analysis. Logistic regression can be used to determine whether farmlands that are inspected have different characteristics, on average, from farmlands that are not inspected. We used logistic regression to assess the size and the significance of the effects of the following three factors: property size, distance to refuge office, and the number of properties managed by a refuge.

We estimated the effects of these three different factors on the likelihood of properties' being inspected, using straightforward contingency-table methods (i.e., bivariate cross-tabulations) and using bivariate and multivariate logistic regression models. The three sections of table 5 show the bivariate relationships between inspection status (i.e., whether the

property had been inspected in the previous 2 years) and each of the three factors: (1) property size (top section), (2) distance from the property to the managing refuge (middle section), and (3) the number of properties managed by the refuge (bottom section). When we considered each of these relationships independently (i.e., one at a time), we found that whether a property had been inspected in the preceding 2 years was significantly associated with each of the three factors:

- Larger properties were more likely to have been inspected in the preceding 2 years than smaller ones. Although 67 percent of the properties larger than 100 acres were inspected, only 45 percent of the properties between 11 and 100 acres in size were inspected, and only 7 percent of those properties 10 acres or smaller were inspected.
- Properties that were closer to the managing refuge were more apt to have been inspected than those farther away. Eighty-four percent of the properties closer than 50 miles from the managing refuge were inspected, but only 37 percent of the properties between 50 and 100 miles from the refuge, and 27 percent of the properties farther than 100 miles from the refuge, were inspected.
- Properties managed by refuges with more properties to manage were less likely to have been inspected than properties managed by refuges with fewer properties to manage. Sixty-two percent of the properties managed by refuges that managed fewer than 20 properties were inspected, while only 41 percent and 13 percent of the properties managed by refuges that managed 20 to 49 and 50 properties or more, respectively, were inspected.

**Table 5: Numbers and Percentages of Properties Inspected and Not Inspected in the Past 2 Years, by Size, Distance, and Number of Properties, and Odds and Odds Ratios Derived from Them**

	Inspected in preceding 2 years?			Odds on inspected	Observed odds ratios <sup>a</sup>	Odds ratios (linear model) <sup>a</sup>
	No	Yes	Total			
<b>Size</b>						
10 acres or smaller	14 (93%)	1 (7%)	15 (100%)	0.07		
11–100 acres	32 (55)	26 (45)	58 (100)	0.81	11.38	4.00
Larger than 100 acres	6 (33)	12 (67)	18 (100)	2.00	2.47	4.00
<b>Total</b>	<b>52 (57%)</b>	<b>39 (43%)</b>	<b>91 (100%)</b>			



**Appendix II: Survey of the U.S. Fish and  
Wildlife Service's Farmland Management**

	Inspected in preceding 2 years?			Odds on inspected	Observed odds ratios <sup>a</sup>	Odds ratios (linear model) <sup>a</sup>
	No	Yes	Total			
<b>Distance</b>						
Closer than 50 miles	3 (16%)	16 (84%)	19 (100%)	5.33		
50–100 miles	24 (63)	14 (37)	38 (100)	0.58	0.11	0.31
Farther than 100 miles	24 (73)	9 (27)	33 (100)	0.38	0.64	0.31
<b>Total</b>	<b>51 (57%)</b>	<b>39 (43%)</b>	<b>90 (100%)</b>			
<b>Number of properties</b>						
Fewer than 20	14 (38%)	23 (62%)	37 (100%)	1.64		
20–49	17 (59)	12 (41)	29 (100)	0.71	0.43	0.32
50 or more	21 (88)	3 (12)	24 (100)	0.14	0.20	0.32
<b>Total</b>	<b>52 (58%)</b>	<b>38 (42%)</b>	<b>90 (100%)</b>			

Source: GAO.

Note: The likelihood-ratio chi-square values testing the hypothesis of independence in the three subtables for size, distance, and number of properties are 14.24, 17.90, and 16.08, respectively, with two degrees of freedom in each case. These values are large enough for us to reject the hypothesis of independence with greater than 99 percent confidence. The odds ratio for the linear model implies that there are linear differences between the categories for acreage, miles, and properties, not that the effects of actual acreage, miles, or properties are linear.

<sup>a</sup>The observed odds ratios, and the odds ratios for the linear model, were calculated by dividing the odds on being inspected for the second category by the corresponding odds for the first, and then dividing the odds for the third category by the odds for the second.

While sizable confidence intervals are associated with each of these estimates of the percentage of inspected properties (see table 6), all of these bivariate associations were statistically significant (at the  $p = 0.05$  level or better). Moreover, when we used bivariate logistic regression models to estimate these associations, we found that each association was well described by simple models that constrained the associations to be linear. To understand these models, it is helpful to consider the three right-hand columns of table 5, which show for each category of property size, distance from the refuge, and number of properties managed by the refuge the observed odds on being inspected, observed odds ratios, and odds ratios under a linear model.

**Table 6: Confidence Intervals Associated with the Estimated Percentage of Properties Inspected, by Size, Distance, and Number of Properties**

	Percentage inspected	95% confidence interval	
		Lower limit	Upper limit
<b>Size</b>			
10 acres or smaller	7%	0%	32%
11–100 acres	45	32	57
Larger than 100 acres	67	41	87
<b>Total</b>	<b>43%</b>	<b>33%</b>	<b>53%</b>
<b>Distance</b>			
Closer than 50 miles	84%	60%	97%
50–100 miles	37	22	54
Farther than 100 miles	27	13	46
<b>Total</b>	<b>43%</b>	<b>33%</b>	<b>53%</b>
<b>Number of properties</b>			
Fewer than 20	62%	45%	78%
20–49	41	24	61
50 or more	13	3	32
<b>Total</b>	<b>42%</b>	<b>32%</b>	<b>52%</b>

Source: GAO.

The observed odds are obtained by dividing, for each group of properties, the number (or percentage) of properties inspected by the number (or percentage) of properties not inspected. For properties 10 acres or smaller, the odds on being inspected were  $1/14 = 0.07$ , whereas for properties 11–100 acres in size and larger than 100 acres, the odds on being inspected were  $26/32 = 0.81$  and  $12/6 = 2.00$ , respectively. The observed odds ratios are obtained by dividing the odds for any given category by the odds for the next lower category. In these data, we find that properties in the middle acreage category were more likely to have been inspected than those in the lowest acreage category (by a factor of  $0.81/0.07 = 11.38$ ) and that properties in the highest acreage category were more likely to have been inspected than those in the middle category (by a factor of  $2.00/0.81 = 2.47$ ). Like the percentages already mentioned, these observed odds and odds ratios, derived directly from the sample data, involve considerable error and sizable confidence intervals, and a simple linear model estimating differences among size categories fits acceptably. Under this model, the odds on being inspected were greater for properties 11 to 100 acres in size than for properties 10 acres or smaller, and greater

for properties larger than 100 acres than for properties 11 to 100 acres in size, in both cases by a factor of 4.0. These ratios are shown in the right-hand column of table 5. This column also shows that the effect of distance yields a linear odds ratio of 0.31 (properties farther away than 50 to 100 miles were less likely to have been inspected than properties closer than 50 miles, by a factor of 0.31, and properties farther away than 100 miles were less likely to have been inspected than properties 50 to 100 miles away by that same factor). A similar odds ratio of 0.32 estimates the linear effect of the number of properties managed by the refuge responsible for each.

We also used multivariate logistic regression models to simultaneously estimate the effects of these three factors on the likelihood of properties' being inspected. These models allowed us to isolate the independent effect of each factor by adjusting for the effects of the other two factors. We also used robust procedures to account for the lack of independence across the observations (i.e., properties), that is, the clustering of properties within refuges. We obtained the following results:

- The effect of size remained pronounced and significant even after adjusting for the effects of distance and number of other properties managed by the responsible refuge. The adjusted odds on properties' being inspected were 3.5 times higher for properties 11 to 100 acres in size than for properties 10 acres or smaller, and they were 3.5 times higher for properties larger than 100 acres than for properties 11 to 100 acres in size. In other words, properties between 11 and 100 acres were 3.5 times more likely to be inspected than properties 10 acres or smaller. Similarly, properties larger than 100 acres were 3.5 times more likely to be inspected than properties between 11 and 100 acres.
- The effect of distance remained pronounced and significant even after adjusting for the effects of size and number of properties managed. The adjusted odds on properties being inspected were lower for properties 50 to 100 miles from the responsible refuge than for properties closer than 50 miles, and lower for properties farther than 100 miles away than for properties 50 to 100 miles away, in both cases by a factor of 0.34. (Because odds ratios are symmetric, this result implies that the odds on being inspected were about 2.9 times higher for properties closer than 50 miles than for properties 50 to 100 miles away, and about 3.4 times higher for properties 50 to 100 miles away than for properties farther than 100 miles away.)
- The effect of the number of properties managed was not statistically significant when size and distance were taken into account. Our sample

of properties is small for detecting any but fairly sizable effects, however, especially in a multivariate context, and the net effect of number of properties, while statistically insignificant, is sizable enough to warrant further attention (the adjusted linear odds ratio is 0.54).

# Appendix III: Comments from the Department of the Interior



United States Department of the Interior

OFFICE OF THE SECRETARY  
Washington, DC 20240



SEP 4 2007

Ms. Robin Nazzaro  
Director, Natural Resources and Environment  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Ms. Nazzaro:

Thank you for providing the Department of the Interior the opportunity to review and comment on U.S. Government Accountability Office Draft Report "U.S. FISH AND WILDLIFE SERVICE: Additional Flexibility Needed to Deal with Farmlands Received from the Department of Agriculture," (GAO 07-1092) dated July 2007.

The Department concurs with the two recommendations for Executive Action in the report. Specifically:

**Recommendations for Executive Action**

To improve the effectiveness and efficiency of the Service's management of its farmlands, we recommend that the Secretary of the Interior direct the Director of the Service to take the following two actions:

- 1) Ensure that the Service's records for all of its farmlands are accurate and complete by reconciling regional and refuge office records and property records to determine which farmlands were transferred from the Farm Service Agency.

The Service concurs with this recommendation and supports efforts to improve the quality of its land records, including records of properties acquired from the Farm Service Agency.

- 2) Develop a proposal to Congress seeking the authority for additional flexibility with regard to the farmlands that the Service determines may not be in the best interest to continue to include as part of the National Wildlife Refuge System.

The Service concurs with this recommendation and will develop a proposal to Congress seeking authority for additional flexibility with regard to the farmlands that the Service determines may not be in the best interest to continue to include as part of the National Wildlife Refuge System.

In addition to these comments on the GAO recommendations and conclusion, enclosed are several technical clarifications we offer to the report.

Note: Interior's technical comments are not included.

Ms. Robin Nazzaro

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We hope these comments will assist you in preparing the final report.

Sincerely,



**Acting** Assistant Secretary for Fish  
and Wildlife and Parks

Enclosure

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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

Robin M. Nazzaro, (202) 512-3841, [nazzaror@gao.gov](mailto:nazzaror@gao.gov)

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## Staff Acknowledgments

In addition to the individual named above, Jeffery D. Malcolm, Assistant Director; Mark A. Braza; Ellen W. Chu; Richard P. Johnson; Alyssa M. Hundrup; Michael Krafve; Gretchen Snoey; and Arvin Wu make key contributions to this report. Also contributing to the report were Antoinette Capaccio, George H. Quinn Jr., Mark Ramage, Jena Y. Sinkfield, and Douglas M. Sloane.

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