

**Refuge Wildlife and Habitat Management**

Program Elements	FY 2005 Actual <sup>1</sup>	FY 2006 Enacted	FY 2007			Change From 2006 (+/-)
			Fixed Costs & Related Changes (+/-)	Program Changes (+/-)	Budget Request	
Refuge Wildlife and Habitat Management Base	[131,914]	137,113	+2,294	- 3,400	136,007	- 1,106
<i>FTE</i>	[1,410]	1,414	-	-	1,414	-
Healthy Habitats and Populations	[4,984]	4,910	-	-	4,910	-
<i>FTE</i>	-	-	-	-	-	-
Challenge Cost Share Partnerships	[1,940]	1,911	-	+2,402	4,313	+2,402
<i>FTE</i>	-	-	-	-	-	-
Alaska Subsistence	[2,928]	2,885	-	-	2,885	-
<i>FTE</i>	-	-	-	-	-	-
<b>Total Refuge Wildlife and Habitat Management</b>	<b>[141,766]</b>	<b>146,819</b>	<b>+2,294</b>	<b>- 998</b>	<b>148,115</b>	<b>+1,296</b>
<i>FTE</i>	[1,410]	1,414	-	-	1,414	-

<sup>1</sup>Congress approved a new budget structure for the National Wildlife Refuge System beginning in FY 2006. FY 2005 funding and FTE are shown here in the new budget structure for comparison purposes only, and do not reflect actual expenditures in the new budget structure.

**Summary of FY 2007 Programmatic Changes for Refuge Wildlife and Habitat Management**

Request Component	Amount	FTE
Programmatic Changes		
• Refuge Wildlife and Habitat Management	+1,488	
• Challenge Cost Share Partnerships	+2,402	
• Spartina at Willapa NWR	-1,379	
• Invasives with Friends	-985	
• Minimum Staffing	-1,971	
• Program Management Savings	-553	
<b>TOTAL, Program Changes</b>	<b>-998</b>	

**Justification of FY 2007 Program Changes**

The FY 2007 budget request for the Refuge Wildlife and Habitat subactivity is \$148,115,000 and 1,414 FTE, a net program decrease of \$998,000 and 0 FTE from the 2006 enacted level.

**Refuge Wildlife and Habitat Management (+\$1,488,000)**

**Restoration of Tidal Habitat, Don Edwards San Francisco Bay National Wildlife Refuge (+\$540,000)**

In March 2003, the Service and the California Department of Fish and Game acquired 58 commercial salt ponds in South San Francisco Bay from Cargill, Inc. The Service manages its 9,600-acre portion as part of the Don Edwards San Francisco Bay NWR and has been working closely with Cargill and community partners to restore this habitat. The proposed funding will be used for a short-term support contract and to hire a biologist, engineering equipment operator, and maintenance worker/irrigator to assist with tidal

habitat restoration. These funds will also allow the Service to meet its obligations for monitoring water quality, sediments, and wildlife under various permits.

**Georegional Focus Areas for Invasive Species: South/Central Florida (+\$105,000) and the Rio Grande Basin of Texas and New Mexico (+\$132,000).** This requested increase will expand field-level invasive species projects in two Departmental focus areas. In South and Central Florida, \$105,000 would support the removal of 100 acres of the invasive Old World climbing fern (*Lygodium*) on Loxahatchee NWR. *Lygodium* currently infests nearly 25,000 acres on the refuge and is expanding. Because it often grows in dense mats up to four feet thick, it smothers trees and acts as a "flame ladder" allowing fire to reach a much greater area. Restoration of the imperiled Everglades will not be successful without eradicating this species. Along the Texas/New Mexico border, \$132,000 would help remove 200 acres of invasive vegetation and reconnect 280 acres of refuge habitat to the flood plain of the Rio Grande, recreating a wider, braided river channel. Over the past 100 years, the channelization of the Rio Grande encouraged invasive plants to replace native riparian vegetation. A more natural river channel will encourage the return of native plant species and improve habitats for native, rare animals including the endangered Rio Grande silvery minnows and Southwestern willow flycatcher. A monitoring program would track plant recruitment and survival as well as wildlife use in the restored area.

**Wildlife and Habitat Project Funding (+\$711,000)** The remaining increase in the base wildlife and habitat management funding will fund four operational projects: expanding native prairie restoration at Anahuac NWR (\$204,000), controlling invasive pest species using integrated pest management at Montezuma NWR, in partnership with Cornell University and Ducks Unlimited (\$113,000), improving nesting cover for migratory birds at the Chase Lake NWR complex (\$200,000), and eliminating exotic rodent species at the Pacific Remote Islands NWR complex to improve habitat for pelagic seabirds (\$194,000). These projects are important to achieving resource protection goals defined in the DOI Strategic Plan. Improvements resulting from these projects will benefit trust species including migratory birds and will enhance the experience of refuge visitors.

**Challenge Cost Share Program (+\$2,402,000)**

The Service proposes to expand the Secretary's Cooperative Conservation Initiative (CCI) program with an increase of \$2.402 million for the CCI/Challenge Cost Share (CCS) program. The CCI/CCS program supports Executive Order 13352, "Facilitation of Cooperative Conservation," and the Secretary's "4Cs" philosophy – conservation through communication, consultation and cooperation. Through CCI/CCS, local communities, Friends groups, state agencies, conservation organizations, and universities are actively engaged in developing and implementing wildlife and habitat projects and programs throughout the refuge system. These partners contribute technical expertise, funding, equipment and resources, which are matched with refuge resources. The funding increase would be used to support projects with partners at a minimum Federal to non-Federal 1:1 match. The NWRS CCI/CCS program is funded in two program elements: Wildlife and Habitat Management and Visitor Services. The following table summarizes the 2007 request for the NWRS CCI/CCS program:

CCI/CCS Component	FY2007 Incremental Request	FY2007 Total Request
CCI/CCS Salaries (Included in Wildlife and Habitat Management General Operations)	0	944
Wildlife and Habitat Management CCI/CCS	+ 2,402	4,313
Visitor Services CCI/CCS	+ 1,876	3,302
Total, NWRS CCI/CCS	+4,278	8,559

In FY2005, Refuges completed 295 CCS projects in 45 states and in Puerto Rico. These CCI/CCS projects involved 752 partners. Together, Refuges and partners invested over \$11 million, with partners matching every refuge dollar with more than two partner dollars. Once CCI/CCS is funded for a given fiscal year, projects are selected through a competitive process for that year, thus, FY2007 projects have not been selected yet. However, examples of typical CCI/CCS projects include:



Volunteers help construct Foss Trail at Great Meadows NWR, MA.

*Great Meadows NWR, MA* recently celebrated two days of successful footbridge construction on the Foss Trail, in partnership with volunteers from the Carlisle Trails Committee. The volunteers donated more than 650 hours to planning and construction. They also matched the project’s \$3,000 Federal investment with non-Federal funds, increasing total project funds to \$8,000.

*Ash Meadow NWR, NV* ; At Ash Meadow NWR, volunteers helped restore habitat for 25 endemic species, 12 of which are threatened or endangered.

*Assabet NWR, MA*: Assabet Refuge was a former U.S. Army training annex before becoming part of the refuge system, and much of the refuge is still closed to the public. Volunteers removed parts of a former military obstacle course from the interior of the refuge for its official dedication in October.



Volunteers help remove an old Army obstacle course, Assabet NWR, MA.

**Decreases in Refuge Wildlife and Habitat Management**

**Spartina at Willapa Bay National Wildlife Refuge (-\$1,379,000)**

In FY 2006, Congress provided \$1,379,000 for Willapa NWR to control non-native cordgrass (*Spartina alterniflora*). *Spartina* eliminates the value of intertidal areas for wildlife, the aquaculture industry, and recreational pursuits because it chokes the bay with dense, rapidly growing stands of vegetation. In FY 2007, the President’s budget invests additional resources toward other early detection and rapid response projects that have been shown to be more cost-effective.

**Invasives with Friends (-\$985,000)**

In FY2006, Congress provided \$985,000 for invasive species projects with partners. While the Invasives with Friends program is valuable and important for the achievement of long-term objectives and goals, supporting geographic inter-bureau invasive species activities is currently a higher priority for use of limited resources. Furthermore, the significant increase for CCI/CCS projects provides a mechanism to fund invasive species projects in cooperation with Friends groups.

**Minimum Staffing for the National Wildlife Refuge System (-\$1,971,000)**

The 2007 request does not continue the Congressional add for minimum staffing. In support of the President’s Management Agenda, the refuge system is developing a workforce plan for the strategic management of human capital. The workforce planning process uses staffing models and workload analyses to determine the appropriate quantity and distribution of human capital. While the Service recognizes the importance of providing staff to support refuge programs, efficient and effective

deployment of staff is critical when funding is limited. Consequently, the Service proposes elimination of this funding to allow for completion of the workforce plan that will improve performance in future years.

**Program Management Savings (-\$553,000)** To enable the Service to address its highest priorities during constrained fiscal times, the Service proposes reducing program administrative funding by \$1,980,000. Using Activity Based Cost information and other budgetary analyses the Service anticipates achieving a savings of \$553,000 in Wildlife and Habitat Management. These savings will be realized by streamlining program administrative support activities.

**Program Performance Change Table**

<b><u>Total Performance Change</u></b>		<b><u>+94,270 acres infested by invasive plants</u></b>			
		<b><u>+3 refuges completing cost-shared projects</u></b>			
	<b><u>A</u></b>	<b><u>B</u></b>	<b><u>C</u></b>	<b><u>D=B+C</u></b>	<b><u>E</u></b>
<b><u>Overall Performance Changes from 2006 to 2007</u></b>					
<b><u>Measure</u></b>	<b><u>2006 Enacted Performance</u></b>	<b><u>2007 Base Performance</u></b>	<b><u>2007 Impact of Program Change on Performance</u></b>	<b><u>2007 Budget Request Performance</u></b>	<b><u>Out-year Impact of 2007 Program Change on Performance</u></b>
14.1.1. % change from baseline in the number of acres infested with invasive plant species (PART) (Refuges) (SP)	9% 220,768/ 2,356,740	9% 220,768/ 2,356,740	+0% -2,551/ +94,270	9% 218,217/ 2,451,010	0
15.8 Invasive animals: % change in baseline in the number of invasive animal populations (SP) (Refuges)	5% 248/ 4,978	5% 248/ 4,978	+0% -3/ 199	5% 245/ 5,177	0
29.1.5.1 # of refuges with at least one cost-shared project completed in partnership with non-federal entities (Refuges) (BUR)	353	353	+3	356	0
<b>Column B: The performance level expected to be achieved absent the program change (i.e., at the 2006 request level plus/minus funded fixed cost/related changes); this would reflect, for example, the impact of prior year funding changes, management efficiencies, absorption of fixed costs, and trend impacts.</b>					
<b>Column E: The out-year impact is the change in performance level expected in 2008 and Beyond of ONLY the requested program budget change; it does <u>not</u> include the impact of receiving these funds again in a subsequent outyear.</b>					

**Program Overview**

The Wildlife and Habitat Management subactivity addresses the ecological condition of the refuge system, employing actions such as the inventory and monitoring of plant and animal populations; manipulating plant community successional stages through burning, haying and grazing; identifying and controlling the spread of invasive species; monitoring air quality; conducting contaminant investigations and cleanup; responding to wildlife disease outbreaks; and, assessing water quality and quantity. These activities are integral to conserving, managing and restoring fish and wildlife resources and their habitats. This program provides for the overall conservation on over 96 million acres that make up the refuge system. Much of this important conservation work is accomplished in partnership with adjacent landowners, local communities, non-government organizations, states, and other federal agencies. In

addition, more than 250 organized groups of volunteers (known as “Friends” groups) help refuges meet public use and resource management goals. These groups, along with other volunteers, accomplish 20% of the work performed on refuges.

The subactivity supports achievement of five prominent goals defined in the DOI Strategic Plan which are also captured in the refuge system’s draft strategic plan. Through efforts to combat invasive species and wildlife diseases (such as Chronic Wasting Disease and Highly Pathogenic Avian Influenza), and to protect endangered species, the refuge system supports the DOI’s performance pertaining to the conservation, management, and restoration of fish, wildlife, and plant resources and their habitats. Wildlife and Habitat Management funding helps ensure that refuge lands have adequate water quantity and quality, meet air quality standards, and are free from contaminants. The refuge system also uses this funding to manage lands that hold special designations to preserve their unique values, including 75 wilderness areas, ten wild and scenic rivers, and millions of acres of marine habitat, some of which are proposed for designation as marine protected areas.

Effective management of operations under this subactivity supports the primary mission of the refuge system as defined by the National Wildlife Refuge System Improvement Act of 1997. In so doing, it also contributes to Presidential priorities including: Invasive Species, the National Forest Plan, the Healthy Forest Initiative, the U.S. Ocean Action Plan, Conserving America’s Wetlands, and the Cooperative Conservation Initiative.

The Wildlife and Habitat Management program elements include:

- **Refuge Wildlife and Habitat Management.** This program element includes salaries and base funding for the broad array of recurring wildlife and habitat management actions on about 3.5 million acres of refuge habitat every year, including: restoring wetlands, riparian zones, and uplands; managing extensive wetland impoundments and other bodies of water; and managing vegetative habitats through farming, prescribed burning, mowing, haying, grazing, forest harvest or selective thinning; and the control of invasive pest plants. This element also funds small-scale (less than \$500,000) wildlife management facilities such as dikes, levees, pumps, spillways, access points, and water level control structures; water rights protection and adjudication; and inventory and monitoring of habitat. Management actions for wildlife populations include reintroducing imperiled species, erecting nest structures, controlling predators, banding and radio-tracking wildlife, and monitoring species groups. Invasive species management is also critical, preventing the introduction and spread of invasive species, and controlling or removing them where they are already established. Use of integrated pest management techniques is applied wherever feasible but mechanical removal or herbicides are often necessary where extensive infestations occur. Early treatment of newly emerging problems is sought wherever possible to limit species expansion and prevent the need for more costly treatment regimes.
- **Healthy Habitats & Populations.** This program element includes funds directed to environmental contaminant investigations and cleanup on refuges, and for addressing wildlife diseases found on refuges, such as chronic wasting disease.
- **Cost Sharing and Partnerships.** The Cooperative Conservation Initiative /Challenge Cost Share works with partners in a cost-sharing approach to accomplish wildlife and habitat objectives. Habitat restoration, wildlife inventories and monitoring, and geographic information system development (supporting Geospatial One Stop) are included under this program. Projects must have at least one non-Federal partner and require a minimum 1:1 Federal:non-Federal match of funding or in-kind services. The sponsored projects must occur on a refuge or directly benefit a refuge.

- **Alaska Subsistence.** The Alaska Subsistence program manages subsistence uses by rural Alaskans on 237 million acres of federal lands by coordinating the regulation and management of subsistence harvests among five federal agencies (FWS, NPS, BLM, BIA and Forest Service), coordinating with the Alaska Department of Fish and Game, and providing technical and administrative support for ten rural Regional Advisory Councils.

## 2007 Program Performance Estimates

---

The 2007 budget request for the Refuge Wildlife and Habitat Management subactivity is \$148,115,000, which includes the operational costs for 1,414 FTEs. This level of funding will allow the refuge system to focus efforts on the core resource activities of conserving and managing terrestrial and aquatic habitats for migratory and resident wildlife. Refuge field stations will initiate nearly 4,300 monitoring actions of plant and animal populations to determine status and management response. Threatened and endangered species will be protected and recovery actions implemented. Invasive species will be addressed through early detection and rapid response to new infestations and through treatment of more than 215,000 infested acres. The refuge system will also conduct efforts to control 245 invasive animal populations. Ground and surface waters will be managed, protected and restored, where appropriate, to ensure the ecological function of wetland, riparian and other important aquatic habitats. Wildlife diseases, such as Chronic Wasting Disease and Highly Pathogenic Avian Influenza, will be monitored and investigated to ensure management actions are planned and employed to maintain healthy wildlife populations. The refuge system will continue to conduct traditional habitat management activities through methods such as prescribed burning, haying, farming, grazing, timber harvest and selective thinning. Projects will support the goals defined in the DOI strategic Plan to sustain biological communities and provide quality environments with adequate water supplies.

While the refuge system continues to improve resource conservation efforts, external factors such as oil spills, contaminant events, and natural disasters, will influence priorities. The refuge system will utilize a portion of funding under this subactivity to conduct approximately 30 contaminant investigations and cleanup projects. The effect of natural disasters, such as Hurricanes Katrina and Rita, on Gulf Coast refuges caused significant detrimental impacts to coastal habitats and facility infrastructure which are still being documented. The refuge system will continue to assess the impact of these storms and will adjust priorities and planned performance as required.

The refuge system will increase efficiency and effectiveness by strengthening the wildlife and habitat management planning and evaluation efforts within this subactivity. Using the new RAPP system described in the program overview, the refuge system will review efforts and adapt management actions in future years to improve the timing and consequent effectiveness of management actions.

## 2006 Planned Program Performance

---

**Wildlife and Habitat Management:** In FY 2006, the refuge system's projects will fulfill the DOI strategic goal of sustaining biological communities. This will occur through the completion of refuge-specific habitat and wildlife projects, as well as development of tools to improve the science behind the refuge-level activities across the refuge system. Examples of wildlife and habitat management accomplishments include:

- Tag and track Wood Storks with satellite transmitters on Harris Neck (GA) and Noxubee (MS) refuges in partnership with University of Florida's Savannah River Ecology Laboratory, Disney

and the Miami Zoo. The project will help determine survivorship and movements of the endangered storks.

- Conduct field research activities at remote field camps within the 4.5 million acre Alaska Maritime Refuge, using the 125-foot research vessel *M/V Tiglax*. The *Tiglax* supports partnerships and cooperative ventures between the refuge and universities, research groups, and various U.S and international scientists.
- Complete 14 Habitat Management Plans for Northeastern refuges, following the recent *Policy on Habitat Management Plans* (620 FW1). These new plans are strictly objective-based, with strong scientific underpinnings.

**Endangered Species:** In FY 2006, 813 management actions on refuges are planned to support endangered species, including:

- Riparian habitat restoration (continued from 2005) is planned at San Joaquin River National Wildlife Refuge for the riparian brush rabbit, San Joaquin Valley woodrat, and least Bell's vireo.
- Improve timber stands at Great Dismal Swamp National Wildlife Refuge for the red-cockaded woodpecker.
- Prescribed burning (ongoing) and invasive species eradication are planned for the Florida panther at Florida panther NWR.

**Invasive Species:** In 2006, the refuge system will treat almost 221,000 acres infested with invasive plants, and control infestations on 100,000 acres. In addition, the refuge system will control 248 invasive animal populations. Invasive species management and control activities include:

- Establish two additional Invasive Species Strike Teams and begin identification and treatment efforts in North Dakota and the Hawaiian and Pacific Islands. The North Dakota strike team will focus on leafy spurge, yellow star thistle and toadflax. The Pacific strike team will address the brown tree snake *Miconia*, Kahili ginger, and strawberry guava.
- The refuge system will start mapping invasive species, with assistance from volunteers, on eight more refuges. Mapping will continue at 13 refuges and volunteers will be integrated into control and restoration programs.

Wildlife disease activities in FY 2006 include:

- Complete and implement Chronic Wasting Disease (CWD) surveillance and response plans for deer and elk herds on Service administered lands.
- Work with federal, state, and tribal partners in disease surveillance and contingency planning for Highly Pathogenic Avian Influenza.

**Water and Air Quality:** FY 2006 refuge system air and water activities include:

- Evaluating software that predicts impacts on air quality (generated by smoke from prescribed or wild fires) for possible use by the Department.
- Identifying and protecting water rights to ensure adequate quantities of water for refuge needs, and establishing baseline data for water use and water quality on refuges.
- Identifying quality-impaired waters within the refuge system and identify refuges where water quality regulatory actions may be detrimental to refuge management programs.

As in FY 2006, the refuge system will initiate approximately 30 new contaminant investigations and 30 contaminant cleanup projects including:

- Characterizing organochlorine contamination at the Eastern Shore of Virginia NWR (VA).
- Completing the draft Oil and Gas Management Handbook for field personnel and conducting the "Management of Oil and Gas Activities on National Wildlife Refuges" training course at two locations.

**Special Designation Areas:** The refuge system protects wilderness, other special designation areas and cultural resources. FY 2006 activities include:

- Work with the Interagency Wild and Scenic Rivers Coordinating Council on landowner's guide to Section 7 of the Wild and Scenic Rivers Act.
- Work with federal and international partners to develop an international wilderness information network.
- Conduct a minimum of three Wilderness Unit training courses, and a regional workshop to provide guidance on wilderness reviews and the CCP process.
- Help develop a landmark cooperative management agreement for collaborative management of the Northwest Hawaiian Islands State Marine Refuge, the NW Hawaiian Islands Ecosystem Reserve, and the Hawaiian Islands NWR.
- Work with local communities, NGOs, and federal partners to reduce pollution affecting coral reefs near Vieques and Culebra NWRs.

**Challenge Cost Share:** FY 2005 Challenge Cost Share projects, the benefits of which will accrue in FY 2006, include:

- Complete 26 acres of prairie restoration at Detroit Edison Energy's Fermi 2 Power Plant, where Detroit River International Wildlife Refuge currently manages 656 acres through a cooperative agreement. The grassland will provide nesting cover for waterfowl and other migratory birds. This will be a cooperative effort between Detroit Edison Energy, The International Transmission Company, Pheasants Forever, Waterfowl USA, Ducks Unlimited, Michigan Natural Features Inventory, Michigan Private Lands Office, and the Service.
- With the North Dakota Game and Fish Department and Prairie Pothole partners, restore 70 acres to tallgrass prairie habitat on priority areas on both the Tewaukon National Wildlife Refuge and Wetland Management District (ND) to improve habitat for migratory grassland birds. Woody vegetation and invasive weeds will be removed from 580 acres.
- Use "Next Generation Radar" weather surveillance images and land use/cover geographic information systems data to detail migration patterns, physiological condition, and habitat associations of migratory birds on the Upper Mississippi River System. The Service will partner with United States Geological Survey, the Army Corps of Engineers, Winona State University and refuge volunteers to obtain data that will guide migratory bird habitat restoration. The data will also be used to help determine the locations of future energy projects, cellular telephone towers, and habitat projects across the entire Upper Mississippi River system.

**International Conservation:** International partner projects will continue through collaboration with Canadian and Mexican wildlife agencies through the Trilateral Committee for Wildlife and Ecosystem Conservation and Management. Activities planned for FY 2006 are:

- Coordinate and participate in a workshop at the Mariposa Monarca Biosphere Reserve in Mexico to develop and implement a network of Monarch Butterfly Sister Protected Areas linking important habitats in Canada, the United States, and Mexico.
- Imperial NWR will continue to develop cooperative conservation projects with Mexico's Alto Golfo de California y Delta del Rio Colorado Biosphere Reserve that may include Yuma clapper rail surveys, waterfowl surveys, shorebird monitoring, and installation of raptor perches at the Cienega de Santa Clara.

**Fire Management:** Funding for fire management is received from appropriations through the Bureau of Land Management, however it is included in this program overview due to its overall importance to the success of wildlife and habitat management. In FY 2006, the refuge system fire management program proposed activities include:

- Wildland Urban Interface (WUI) treatment target is 140,000 acres, and the Non-WUI target is 70,400 acres.
- Contract 50% of fuels treatment project funding.
- Narrowband radio training development in collaboration with the Bureau of Indian Affairs, the Bureau of Land Management, and the National Park Service. Training targeted for all fire field positions by June 2006.

### **2005 Program Performance Accomplishments**

---

Achievements during FY 2005 include:

**Wildlife and Habitat Management:**

- Performed 4,997 surveys to inventory or monitor wildlife and habitat resources on refuge lands. These included prairie chicken surveys at Attwater Prairie Chicken Refuge (TX), waterfowl counts on San Luis Refuge (CA), and counts of moose on Kenai NWR (AK). Inventories catalogue plant and animal resources, often for planning. Monitoring detects population changes to support harvest, measure success of management such as burning, or document long-term declines, as in amphibians.
- Managed 131,452 acres of moist soil for the benefit of migratory waterfowl and shorebirds at field stations across the country such as Kern NWR (CA), Bosque del Apache NWR (NM), and Hatchie NWR (TN).
- Conducted biological program reviews at refuges such as E.B. Forsythe (NJ), Cape May (NJ), Supawna Meadows (NJ), John Heinz (PA), and Great Swamp NWR (NJ)'s. These reviews evaluate and focus biological program activities to establish long-term needs and priorities.

In FY 2005, the refuge system completed 895 management actions for endangered species, including:

- Maintenance of old-growth bottomland hardwood forest resulted in one of the most remarkable events in the history of American wildlife management when the ivory-billed woodpecker, believed to be extinct in the US for over 60 years, was observed at Cache River NWR.
- Riparian habitat restoration at San Joaquin River NWR provided benefits to riparian brush rabbit, San Joaquin Valley woodrat, and most notably least Bell's vireo (which had been classified as extirpated in the area).

**Invasive Species:** In 2005, the refuge system treated almost 240,000 acres infested with invasive plants, and controlled infestations on 111,000 acres. In addition, 155 invasive animal populations were controlled. Invasive species management and control activities included:

- The Region 2 Invasive Species Strike Team treated over 3,000 acres of invasive plants, while the Region 6 Invasive Species Strike Team treated over 1,200 acres of invasive plants and conducted 32 releases of biological control agents. The Region 4 Invasive Species Strike Team treated over 4,400 acres of invasive plants and mapped 365,000 acres.

- Regions 4 and 5 cooperated to treat 5,000 acres of invasive plants (targeting Phragmites) on 21 refuges in 11 coastal states via aerial spraying by helicopter.
- Confirmed the elimination of the invasive sand bur from the 1,000 acre Laysan Island NWR (HI). The sand bur had impacted nesting habitat for numerous seabirds and two endangered passerine birds for more than 12 years.
- In partnership with the National Wildlife Refuge Association, The Nature Conservancy, and the USGS National Institute of Invasive Species Science, the refuge system continued a pilot program on thirteen refuges to engage volunteers in mapping invasive plants using hand-held computers and GPS units (<http://www.refugenet.org/new-invasives/vimp.html>). To date, volunteers and refuge system personnel have mapped an estimated 3,000 acres of refuge lands through this initiative, providing valuable baseline data on the extent of invasive species infestations.

**Water and Air Quality:** In FY 2005, refuge system efforts to ensure adequate water and air quality and quantity included:

- Provided technical review regarding a proposed coal-fired power plant to be located in southern Illinois and affecting the Mingo Wilderness Area resulting in a DOI finding that the projected air pollution emissions would adversely affect visibility at Mingo NWR.
- Monitored air-quality parameters in Class I Areas (CIAs): fine and coarse particle concentrations were monitored in 18 CIAs; scenic conditions in 2 CIAs, which included two live webcams (Moosehorn and Seney Wilderness Areas); mercury deposition in 6 CIAs (some with joint or outside funding); atmospheric deposition in 5 CIAs (plus 5 additional sites in other refuge system units).
- Monitoring data continued to support the observation that visibility impairment occurs in Service Class I wilderness areas nationwide. Monitoring the groundwater to document contribution to isolated spring systems and endemic species at Ash Meadows (NV) and Moapa Valley (NV) NWRs continued as development of aquifers for municipal water supplies increases.
- Bill Williams River NWR (AZ) is working with federal and state partners to improve water management to preserve the last intact cottonwood/willow riparian habitat in the lower Colorado River.

**Special Designation Areas:** FY 2005 activities contributing to strategic goals to restore and enhance habitat in these areas include:

- The refuge system completed the Niobrara River Recreation Management Plan for that part of the Niobrara National Wild and Scenic River flowing through the Fort Niobrara NWR near Valentine, Nebraska.
- Cabeza Prieta NWR significantly limited impacts to wilderness caused by illegal immigration, drug smuggling, and corresponding Department of Homeland Security (DHS) Office of Border Protection work to stop such activities. The refuge works closely with DHS and refuge stakeholders on natural resource protection needs, holding round-table discussions with wilderness nongovernmental organizations and others to reach a consensus on permissible law enforcement activities in wilderness areas. Refuge employees maintain close communications with DHS Border Patrol Sector Chiefs, brief new agents on practices that minimize impacts to desert ecosystems, and cooperate with Border Patrol officers to identify priority law enforcement

needs while achieving wilderness protection. The Refuge has also assisted Border Patrol and DHS in preparing NEPA documents, including the Environmental Assessment necessary for the construction of a vehicle barrier along the refuge's border with Mexico.

- The refuge system led the Coral Reef Task Force partners by hosting a series of workshops which presented Federal grants and funding opportunities to U.S. Caribbean territorial partners to enhance capacity for coral reef conservation efforts.

**Challenge Cost Share:** National wildlife refuges are integral elements of their surrounding communities. FY 2004 Challenge Cost Share projects, the benefits of which accrued in FY 2005, include:

- Necedah NWR (WI) restored the historic hydrology to 300 acres of partially drained sedge meadow. Ducks Unlimited, Wisconsin Waterfowl Association, the Friends of Necedah NWR, and refuge staff completed pre-restoration vegetation and songbird surveys and will document the post-restoration plant community and songbird use in the coming years.
- Hakalau Forest NWR (HI) restored native forest habitat. The refuge provides for many endangered and threatened plants and animals; for example, 8 of 14 native Hawaiian birds on the refuge are endangered. Partners include the Audubon Expedition Institute, Bishop Museum, University of Hawaii, six Boy Scout troops, Sierra Club, Wilderness Volunteers, the T.R.E.E.S. Summer Enrichment Program, and 20 other organizations.

**Fire Management:** The refuge system is a leader in the use of fire to reduce wildfire risks and improve habitats. In FY 2005, the refuge system fire management program achievements include:

- Completed hazardous fuel reduction treatments totaling 157,184 acres in the Wildland Urban Interface (WUI) and 256,458 acres outside WUI and exceeded fuel treatment target by 42%.
- Exceeded all National Fire Plan hazardous fuels treatment targets. The Service is the only DOI bureau to exceed hazardous fuels treatment targets in FY 2002, FY 2003, 2004, and FY 2005.
- At the height of the hurricane rescue and recovery efforts, more than 200 refuge system firefighters were involved in direct support including two Service Type III Incident Command Teams. The refuge system crews stationed at Big Branch NWR in Lacombe (LA) provided support (food, water, fuel, a safe place for the night) to local police and fire departments, 100 American Red Cross and International Red Cross volunteers, National Guard Servicemen, Immigration and Customs Personnel, other law enforcement officers and approximately 40 FEMA workers.

**Performance Overview**  
*(cost information in thousands)*

<b>Measure</b>	<b>2005 Plan</b>	<b>2005 Actual</b>	<b>Change from 2005 Plan</b>	<b>2006 Enacted</b>	<b>2006 Change from 2005 Actual</b>	<b>2007 Request</b>	<b>2007 Change from 2006</b>
1.1.3.1 # of wetlands acres restored per million dollars of gross investment (PART) (Refuges)	5,413	7,592	2,179	7,748	156	7,658	-90
1.1.4. % of acres (wetlands) achieving desired conditions (excludes Alaska prior to FY 06) as specified in management plans consistent with applicable substantive and procedural requirements in State and Federal water law (SP) (PART) (Refuges)	46% 1,022,165/ 2,227,095	52% 1,150,276/ 2,227,096	+6% +128,111	91% 25,054,788/ 27,557,815	+39% +23,904,512/ +25,330,719	91% 25,054,788/ 27,557,815	0%
1.2.3. % of acres (uplands) achieving desired conditions (excludes Alaska prior to FY 06) as specified in management plans consistent with applicable substantive and procedural requirements in State and Federal water law (SP) (PART) (Refuges)	42% 2,040,333/ 4,857,920	52% 2,502,152/ 4,857,920	+10% +461,819	89% 49,768,498/ 55,643,051	+37% +47,266,346/ +50,785,131	89% 49,768,498/ 55,643,051	0%

Measure	2005 Plan	2005 Actual	Change from 2005 Plan	2006 Enacted	2006 Change from 2005 Actual	2007 Request	2007 Change from 2006
1.4.7. % of acres (marine/coastal) achieving desired conditions as specified in management plans (SP) (PART) (Refuges)	41% 104,746/ 257,591	68% 174,586/ 257,591	+27% +69,840	48% 2,087,581/ 4,379,217	-20% +1,912,995/ +4,121,626	48% 2,087,581/ 4,379,217	0%
2.9 Air Quality: Percent of reporting Class I FWS lands that meet ambient air quality standards (NAAQS) (SP) (PART)(Refuges)	95% 20/ 21	100% 21/ 21	+5% +1	95% 20/ 21	-5% -1	95% 20/ 21	0%
4.2 % of known contaminated sites on NWRS lands are remediated (SP) (PART)(Refuges)	11% 16/ 140	14% 19/ 140	+3% +3/ 0	14% 17/ 120	0% -2/ -20	17% 17/ 103	3% 0/ -17
5.1.1. % of all refuges/WMDs are free of documented water quality problems with significant negative impacts to natural resources (PART) (Refuges)	est baseline	45% 262/ 582	n/a	79% 460/ 582	+34% +198	79% 460/ 582	0%
5.3.1. % of surface waters managed by FWS that meet EPA approved water quality standards (SP) (PART) (Refuges)	87% 4,672,421/ 5,386,603	87% 4,672,421/ 5,386,603	0%	87% 4,672,421/ 5,386,603	0%	87% 4,672,421/ 5,386,603	0%
7.5 % of populations of indicator species with improved or stable numbers (PART) (Refuges)	est baseline	est baseline	n/a	66% 294/ 444	n/a	66% 294/ 444	0%

Measure	2005 Plan	2005 Actual	Change from 2005 Plan	2006 Enacted	2006 Change from 2005 Actual	2007 Request	2007 Change from 2006
13.3 % of NWRS recovery actions for T&E species prescribed in recovery plans are completed. (PART) (Refuges)	36.3% 803/ 2,210	40.5% 895/ 2,210	+4.2% +92	35.5% 813/ 2,292	-5.0% -82/ +82	35.0% 804/ 2,292	-0.5% -9
14.1.1. % change from baseline in the number of acres infested with invasive plant species (PART) (Refuges) (SP)	12% 246,050/ 1,996,273	12% 238,752/ 1,996,273	0% -7,298	9% 220,768/ 2,356,740	0% -17,984/ +360,467	9% 218,217/ 2,451,010	-0% -2,551/ +94,270
15.8 Invasive animals: % change in baseline in the number of invasive animal populations (SP) (Refuges)	n/a	3% 155/ 4,964	n/a	5% 248/ 4,978	2% +93/ +14	5% 245/ 5,177	0% -3/ 199

**FY 2007 NWRS Wildlife and Habitat Management RONS List**

Region	Cost	Refuge	Title	Description
Region 2	204	Anahuac NWR	Expand Native Prairie Restoration Program	Acquire basic equipment needed for native prairie restoration. Less than 1% of the Texas Gulf Coast's historic native tall grass prairie remains today, as most has been converted for agricultural uses and urban development. Native coastal grasslands are extremely important migrational habitats for many declining grassland songbird species, and provide vital nesting habitat for the resident mottles duck. This project will greatly increase opportunities for partnerships with private landowners to accomplish native grassland restoration on a landscaped scale.
Region 5	113	Montezuma NWR	Control Invasive Pest Species Through Integrated Pest Management	Control invasive pest species through integrated pest management. Wetland habitats have been altered drastically by the establishment of two invasive plants: phragmites and purple loosestrife. Both plant species out-compete native vegetation, changing valuable natural habitat to monotypic stands of little value to wildlife. Control measures will be monitored, demonstration sites established, and an invasive species management plan will be developed. The project will be completed in partnership with Cornell University and Ducks Unlimited.
Region 6	200	Chase Lake NWR Complex	Improve Nesting Cover for Migratory Birds	Improve grassland nesting cover on priority Waterfowl Production Areas to increase nest success of migratory waterfowl and passerine birds by restoring and/or enhancing grasslands. Available grasslands in portions of North Dakota are severely invaded by introduced grasses and invasive noxious weeds. This has dramatically reduced the height, density, and diversity of the grassland nesting cover and has reduced the diversity and nest success of numerous bird species. This project will replace weed-infested grasslands with tall, diverse and robust nesting cover that will improve nest success and protect migratory and resident wildlife. Also, hunters, hikers, and birders will greatly benefit from this project.
Region 1	194	Pacific Remote Islands NWR	Eliminate Exotic Rodent Species on Remote Pacific Island	Provide temporary biological technicians and transportation expenses needed to restore habitat for pelagic sea birds and terrestrial plant and animal species. The technicians will concentrate on restoring colonies of three species of burrow-nesting and surface-nesting sea birds by eradicating an alien rodent ( <i>Mus muscus</i> ) and restoring the habitat. This effort will help establish a new colony of Polynesian storm petrels and Phoenix petrels. Both species have been severely depleted worldwide by rodents and by human activities on their native nesting areas. In addition, efforts will be made to establish a colony of Audonon's shearwaters, as they are severely impacted by human activities and breed only in the Pacific region.
711			Total Wildlife and Habitat Management RONS Projects	