

From: [Shaun Sanchez](#)
To: jim_kurth@fws.gov
Subject: Fwd: Department Direction on Greenbooks
Date: Tuesday, January 30, 2018 11:51:51 AM
Attachments: [ATT00001.htm](#)
[06. FY19 HC v2.docx](#)
[07. FY19 NWRS v2.docx](#)
[ATT00002.htm](#)

Sent from my iPhone

Begin forwarded message:

From: "Harms, Hillary" <hillary_harms@fws.gov>
To: Katherine Spomer <Ketti_Spomer@fws.gov>, David Robinson <david_c_robinson@fws.gov>, "Hopper, Katy" <katy_hopper@fws.gov>
Cc: Shaun Sanchez <shaun_sanchez@fws.gov>, Cynthia Martinez <cynthia_martinez@fws.gov>
Subject: Department Direction on Greenbooks

We received direction from the Department on our Greenbook chapters. I have attached the version that they reviewed, but we have not received their actual edits. It seems there may be substantial deletions to chapters.

There is an impactful direction to eliminate all Construction and Deferred Maintenance projects from FY19-23 for Illinois, New Mexico, and Washington. This will require updated Deferred Maintenance plans.

Please let me know if I can assist in any way. I will pass along any further details we receive.

Thank you,
Hillary

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Hillary Harms
Budget Formulation Analyst
Division of Budget
U.S. Fish and Wildlife Service
703-358-1837



Activity: National Wildlife Refuge System

		2017 Actual	2018 CR Baseline	2019				Change from 2018 (+/-)
				Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)	Budget Request	
Wildlife and Habitat Management	(\$000)	231,843	230,268	+1,293	-441	-2,788	228,332	-1,936
	FTE	1,387	1,377	0	-3	-4	1,370	-7
Refuge Visitor Services	(\$000)	73,319	72,821	+476	0	-2,030	71,267	-1,554
	FTE	531	528	0	0	-11	517	-11
Refuge Law Enforcement	(\$000)	38,054	37,796	+268	0	-81	37,983	+187
	FTE	239	238	0	0	0	238	0
Conservation Planning	(\$000)	2,523	2,506	0	0	-2,506	0	-2,506
	FTE	17	17	0	0	-17	0	-17
Refuge Operations	(\$000)	345,739	343,391	+2,037	-441	-7,405	337,582	-5,809
	FTE	2,174	2,160	0	-3	-32	2,125	-35
Refuge Maintenance	(\$000)	138,188	137,249	+420	0	-2,182	135,487	-1,762
	FTE	587	584	0	0	-10	574	-10
Total, National Wildlife Refuge System	(\$000)	483,927	480,640	+2,457	-441	-9,587	473,069	-7,571
	FTE	2,761	2,744	0	-3	-42	2,699	-45

Summary of 2019 Program Changes for the National Wildlife Refuge System

Request Component	(\$000)	FTE
• Wildlife & Habitat Management Activities	+3,277	0
• Invasive Species	+48	0
• Administrative Savings	-500	0
• Inventory & Monitoring	-888	0
• Youth	-1,547	-4
• Cooperative Recovery Initiative	-3,178	0
• Visitor Services Activities	-1,880	-11
• Law Enforcement Activities	-81	0
• Refuge Planning	-2,506	-17
• Annual Maintenance	+129	0
• Deferred Maintenance	-295	0
• Maintenance Support	-1,716	-10
Program Changes	-9,587	-42

Program Mission

The National Wildlife Refuge System’s mission 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.

Program Elements

With Refuges in every State and many territories, the Refuge System is the front door of the Service. Refuges are accessible to nearly all Americans, from rural communities and suburbs to urban centers, and from the mainland to far away Pacific and Arctic islands. Over 53 million visitors are welcomed each year and provided opportunities for hunting, fishing, environmental education and interpretation, photography, wildlife viewing, and other recreational opportunities. Refuges are the world's most extensive network of public lands and waters and are dedicated to maintaining our nation's legacy of stewardship and conservation of fish, wildlife, and plants.

The Refuge System manages 855.6 million acres of lands and waters and includes 566 National Wildlife Refuges, 38 wetland management districts, 50 coordination areas, and seven National Monuments. The 855.6 million acres includes 77 million acres in the State of Alaska alone, 740.5 million acres of submerged lands and waters in Marine National Monuments within the Refuge System, and 19.1 million acres in Marine National Monuments under other authorities. These totals include fee acres, easement acres, and acres under agreement or lease.

The 566 National Wildlife Refuges include all of the Refuge System lands, waters, and interests administered by the Service as wildlife refuges, wildlife ranges, wildlife management areas, game preserves, and conservation areas. Virtually all of the 77 million acres in Alaska are open to public hunting. In the lower 48 States, the Service has management responsibility for 12.7 million fee acres, and 8.9 million acres are open to public hunting. The 12.7 million acres includes 1.5 million fee acres of refuge overlays on other agency lands, such as the San Andres Refuge within the U.S. Army's White Sands Missile Range in New Mexico, that are generally closed to public hunting for national security or safety reasons. Another 1 million acres are conservation easement acres, where landowners retain possession and most property rights, including control over public access.

The Service's 38 wetland management districts administer 4.0 million acres of waterfowl production areas (WPAs). WPAs are small natural wetlands and associated grasslands located primarily in the upper Midwest, which the Service acquires under the authority of the Migratory Bird Hunting and Conservation Stamp Act. The 4.0 million acres of WPAs includes 786,897 fee acres open to public hunting as well as 3.2 million acres of private lands under Service wetland and grassland easements, where landowners retain possession and most property rights, including control over public access.

The Refuge System's 50 coordination areas encompass 257,976 acres of Federal lands that States manage as wildlife habitat under cooperative agreements with the Service, furthering the Secretary's priority of restoring trust with local communities and building relationships with persons and entities bordering our lands.

The protection of Refuge System lands and waters contributes to the Secretary's priority of creating a conservation stewardship legacy, improves local and national economies, and enhances Americans' health and well-being. Over 80 percent of the 566 refuges are open to public use, providing such recreational activities as hunting, fishing, wildlife observation and photography, outdoor education, and

Types of Refuge System Lands

National Wildlife Refuges (NWRs) include the Refuge System lands, waters, and interests administered by the Service as wildlife refuges, wildlife ranges, wildlife management areas, game preserves, and conservation areas.

Waterfowl Production Areas (WPAs) are small natural wetlands and associated grasslands located primarily in the upper Midwest that the Service acquires under the authority of the Migratory Bird Hunting and Conservation Stamp Act.

Coordination Areas are Refuge System lands that States manage as wildlife habitat under cooperative agreements with the Service.

interpretation. Through efforts to conserve migratory birds, protect endangered species, restore and manage habitats, and combat invasive species, the Refuge System helps to improve air and water quality, reduce erosion, improve soil health and groundwater retention, reduce coastal impacts from hurricanes, and store excess water during storms or spring snow melts.

The Refuge System fulfills its mission and supports the Secretary's Top Priorities by focusing efforts in five primary areas:

- **Wildlife and Habitat Management**: Includes refuge operations that are vital for providing the scientific information needed to identify best practices to manage land and water resources and adapt to changes in the environment.
- **Refuge Visitor Services**: Welcomes over 53 million visitors to National Wildlife Refuges and builds their appreciation for recreation and the outdoors by providing access and opportunities for hunting, fishing, wildlife observation, nature photography, environmental education, and interpretation (collectively called wildlife-dependent recreation).
- **Refuge Law Enforcement**: Serves the public by protecting people, wildlife, and habitats and making refuges safe places for staff and visitors. Includes emergency managers, Federal wildlife zone officers, regional refuge law enforcement chiefs, field officers, training, equipment, and supplies.
- **Conservation Planning and Policy**: Enables the Service to successfully implement conservation efforts on-the-ground through a public planning process that engages stakeholders and local communities in the development of policies that are streamlined, reduce potential regulatory burden, and increase public access.
- **Refuge Maintenance**: Supports active management of over 3 million acres of wildlife habitat each year, and maintains over \$42 billion in constructed real property assets such as roads, trails, buildings, hunting blinds, fishing piers and boardwalks. The Refuge Maintenance staff takes care of administrative, visitor use, and maintenance facilities, as well as the fleet of vehicles and heavy equipment necessary to conduct wildlife and habitat management activities and maintain infrastructure to ensure an enjoyable and safe experience for visitors.

Applicable Laws, Acts, and Orders

The National Wildlife Refuge System is implemented under the following authorities:

- The **Fish and Wildlife Act** (16 U.S.C. 742a-742j) establishes a comprehensive national fish and wildlife policy and authorizes the Secretary of the Interior to take steps required for the development, management, advancement, conservation, and protection of fisheries resources and wildlife resources through research, acquisition of refuge lands, development of existing facilities, and other means;
- The **Fish and Wildlife Coordination Act** (16 U.S.C. 661-666e) directs the Service to investigate and report on proposed Federal actions that affect any stream or other body of water, and to provide recommendations to minimize impacts on fish and wildlife resources;
- The **National Wildlife Refuge System Administration Act** (16 U.S.C. 668dd-668ee) provides authority, guidelines, and directives for the Service in administering the lands and waters of the

National Wildlife Refuge System, including establishing six wildlife-dependent recreation activities as priority uses;

- The National Wildlife Refuge System Improvement Act (P.L. 105-57) spells out wildlife conservation as the fundamental mission of the Refuge System, requires comprehensive conservation planning to guide management of the Refuge System, directs involvement of private citizens in land management decisions, and provides that compatible wildlife-dependent recreation is a legitimate and appropriate use that should receive priority in refuge planning and management;
- The National Wildlife Refuge Volunteer Improvement Act (P.L. 111-357) authorizes cooperative agreements with nonprofit partner organizations, academic institutions, or State and local governments to construct, operate, maintain, or improve refuge facilities and services, and promotes volunteer, outreach, and education programs;
- The Refuge Recreation Act (16 U.S.C. 460k-460k-4) authorizes the Secretary of the Interior to administer refuges, hatcheries, and other conservation areas for recreational use, when such uses do not interfere with the area's primary purposes;
- The National Wildlife Refuge System Centennial Act (P.L. 106-408) reinforces National Wildlife Refuge System Improvement Act provisions to raise public understanding and appreciations for the Refuge System;
- The Alaska National Interest Lands Conservation Act (16 U.S.C. 410hh-3233, 43 U.S.C. 1602-1784) provides for the designation and conservation of certain public lands in Alaska, including units of the Refuge System, and for the continuing subsistence needs of Alaska Natives;
- The Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r) authorizes the Secretary of the Interior to conduct investigations and publish documents related to North American birds, and establishes a Migratory Bird Conservation Commission to approve areas recommended by the Secretary for acquisition;
- The Migratory Bird Hunting and Conservation Stamp Act (16 U.S.C. 718a-718k) requires waterfowl hunters 16 years of age or older to possess a valid Federal Duck Stamp;
- The Migratory Bird Treaty Act (16 U.S.C. 703-712) establishes Federal responsibility for protecting and managing migratory birds; and
- The Wilderness Act (16 U.S.C. 1131-1136) establishes a National Wilderness Preservation System for the permanent good of the whole people.

Activity: National Wildlife Refuge System
Subactivity: Wildlife and Habitat Management

		2017 Actual	2018 CR Baseline	2019			Change from 2018 (+/-)	
				Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)		Budget Request
Wildlife and Habitat Management	(\$000)	231,843	230,268	+1,293	-441	-2,788	228,332	-1,936
	FTE	1,387	1,377	0	-3	-4	1,370	-7

Summary of 2019 Program Changes for Wildlife and Habitat Management

Request Component	(\$000)	FTE
• Wildlife & Habitat Management Activities	+3,277	0
• Invasive Species	+48	0
• Administrative Savings	-500	0
• Inventory & Monitoring	-888	0
• Youth	-1,547	-4
• Cooperative Recovery Initiative	-3,178	0
Program Changes	-2,788	-4

Justification of 2019 Program Changes

The 2019 budget request for Wildlife and Habitat Management is \$228,332,000 and 1,370 FTE, a program change of -\$2,788,000 and -4 FTE from the FY 2018 CR Baseline.

Wildlife and Habitat Management Activities (+\$3,277,000/+0 FTE)

Within this budget request, the Service requests an increase \$3,267,000 to general wildlife and habitat activities and an increase of \$10,000 to Marine National Monuments. The Marine National Monument increase is equal to the FY 2017 Enacted level, and ensures the Service can continue managing the five Marine National Monuments in its care.

The nearly \$3.3 million increase to general wildlife and habitat management activities contributes to the Service’s activities that support conservation stewardship in alignment with Secretarial Order 3347, *Conservation Stewardship and Outdoor Recreation*, that calls for improving game and habitat management and increasing outdoor recreation opportunities, particularly for hunters, anglers, and sportsmen. Such activities include opening acres of national wildlife refuges to hunting and fishing opportunities while aligning regulations with the States to increase access and strike a regulatory balance.

Invasive Species (+\$48,000/+0 FTE)

Invasive species are one of the most serious threats to native wildlife, fish, and plants in the Refuge System. This increase in funding supports the Service’s ability to prevent invasive species introduction and spread, and control or eradicate existing ones.

Administrative Savings (-\$500,000/+0 FTE)

The Department annually spends nearly \$3 billion to procure goods and services, over \$1 billion on information technology and over \$300 million to administer acquisition and human resources services. The Service will work to achieve cost savings of at least \$5.6 million Service-wide by reducing travel costs and more aggressive use of shared services.

Inventory & Monitoring (-\$888,000/+0 FTE)

To adapt the Service's conservation delivery and refine management actions, investments in conservation design capacity must be paired with investments in our monitoring and information management capacity. This decrease to the Service's Inventory and Monitoring (I&M) program will reduce the Service's ability to provide data and information needed to ensure conservation delivery activities are targeted, effective, and transparent, and evaluate the effectiveness of our conservation actions.

Youth (-\$1,547,000/-4 FTE)

Because of fiscal constraints and other priorities, the Service will not fund programs focused on youth engagement in FY 2019. The Wildlife and Management program will continue providing youth engagement opportunities with base operations funds when practicable.

Cooperative Recovery Initiative (-\$3,178,000/+0 FTE)

The Service began this cross-programmatic approach to restoring and recovering Federally-listed species on National Wildlife Refuges in FY 2013. Since then, the Service has directed \$23.2 million to 57 projects at 70 refuges across the country, benefitting 149 listed species. This reduction will allow the Service to address other priorities. Staff from Service programs will continue collaborating to promote species recovery as resources permit.

Program Overview

This subactivity provides the basic operating funding for the National Wildlife Refuge System. The Refuge System spans 855.6 million acres and includes 566 National Wildlife Refuges, 38 wetland management districts, 50 wildlife coordination areas, seven National Monuments, and 19.1 million acres in Marine National Monuments under other authorities.

The Refuge System works collaboratively to leverage resources to provide public access and achieve effective conservation. Improving dialogue and relationships with stakeholders and entities bordering our lands fosters partnerships for balanced stewardship and allows individual refuges to respond more effectively to resource challenges and opportunities to provide for increased public use of refuge lands. These partnerships help restore trust in federal management of resources through consulting with our neighbors and recognizing their concerns.

The Charles M. Russell National Wildlife Refuge Opens its Lands to Emergency Grazing

When the massive Lodgepole Complex Fire burned through Montana in July 2017, it devastated the local communities. With over 270,000 acres burned, ranchers faced severe shortages of grass to feed their cattle and the prospect of significant financial losses. The Charles M. Russell Refuge in north-central Montana immediately reached out to neighboring ranchers and opened land on the refuge for grazing. Because of this fast response, the Service was able to help all nine ranchers that sought new grazing areas, enabling them to protect their livelihoods and help restore trust with the local community. Ultimately, the neighboring ranchers grazed their cattle at the refuge from July 30 to November 1.

Wildlife and Habitat Management General Program Activities

Wildlife and Habitat Management funds vital refuge operations that identify best practices to manage land and water resources. This helps the Refuge System achieve its dual mission of conservation and

wildlife-dependent recreation, which contributes to the Secretarial priority of creating a conservation stewardship legacy second only to Teddy Roosevelt.

These activities include:

- Monitoring plant and animal populations;
- Restoring wetland, forest, grassland, and marine habitats;
- Managing habitats through manipulation of water levels, prescribed burning, haying, grazing, timber harvest, and planting vegetation;
- Controlling the spread of invasive species;
- Assessing water quality and quantity;
- Monitoring air quality;
- Preventing and controlling wildlife disease outbreaks; and
- Investigating and cleaning contaminants.

The Refuge System funds the bulk of our on-the-ground habitat work through the General Program Activities. Some of these programs are described below.

Refuge Energy Program

The Service's Energy Program coordinates the management of oil and gas exploration and development within the Refuge System, helping to meet our security and economic needs and contributing to America's energy dominance. As outlined in Secretarial Order 3349, *American Energy Independence*, we work collaboratively with States, oil and gas operators, and other partners to promote development of energy resources by ensuring the exercise of oil and gas rights on refuges occurs efficiently, consistently, and without undue burden on operators or the public.



Oil and Natural Gas Production Facility at Sabine NWR, LA. Credit USFWS

The Energy Program's goals are to ensure resource sustainability, increase management consistency and efficiency through avoiding unnecessary delays in oil and gas operations, and minimize impacts to refuge resources and public uses. Energy Program staff provide project-level technical assistance to field staff in their management of oil and gas activities, such as seismic exploration surveys, drilling, ongoing production operations, and well plugging and surface reclamation.

Marine National Monuments

The Refuge System has management authority for five Marine National Monuments. The four Pacific monuments (Marianas Trench, Pacific Remote Islands, Papahānaumokuākea, and Rose Atoll) include 12 refuges, about 8,300 acres of land, and over 750 million acres of submerged lands and waters. The Northeast Canyons and Seamounts Marine National Monument in the Atlantic Ocean protects over 3 million acres surrounding ecologically important canyons and seamounts. The Refuge System manages these areas for their unique value to marine ecosystems and the economic and scientific benefits provided to local communities, tourism, and related industries as supported by science and practical resource management.

The Pacific marine monuments span an area larger than the Continental U.S. and cover over 20 islands, atolls, and reefs scattered across five time zones of the tropical and temperate Pacific. Monuments support healthy fisheries and can act as sources for fish and wildlife populations outside of the monuments, including commercially fished populations. Protecting these areas also enhances recreation and tourism opportunities, such as locally run whale and seabird boat tours, virtual tourism through research dives, recreational fishing, and aquarium exhibits/outreach. The monuments also have great scientific value as intact ecosystems—over 40 new species were discovered in 2017 during research expeditions in the Pacific Remote Islands Marine National Monument. Millions of people watched these research expeditions live through interactive online broadcasts. Finally, the three underwater canyons and four seamounts in these monuments provide important feeding grounds and habitat for protected species such as seabirds, sea turtles, and marine mammals, including endangered sperm, fin, and sei whales and Kemp’s ridley turtles.



Blacktip sharks prowl off Kingman Reef NWR in the Pacific Remote Islands National Marine Monument. Credit: Kydd Pollock.

Integrated Pest Management (IPM)

The Service’s integrated pest management program uses diverse tools, methods, and techniques to manage pests and invasive species while minimizing risk to public health, the environment, and the economy. The Service’s IPM program reviews nearly 3,000 diverse uses of pesticides in Service programs each year while integrating proven innovative technologies, including biological controls, biopesticides, and new tools. For example, Service refuges in southern California are using the proven method of cutting and chipping to down invaded/damaged trees to target the aggressive shot hole borer that targets and kills numerous native tree species. Biological control agents are a non-pesticide and low risk IPM tool that uses other living organisms to effectively control invasive species. Refuges in the Southwest released permitted biocontrol agents to target giant cane that outcompetes all native vegetation, impedes border security, and robs much needed water from the rivers and streams.

Refuge System Contaminants Program

The Contaminants Program includes activities related to assessment and cleanup. The Assessment Process evaluates known or potential contaminants sources, and conducts a risk assessment to evaluate adverse impacts to natural resources (species and habitats, both terrestrial and aquatic). These risk assessments allow Refuge Managers to prioritize cleanup activities. The Contaminants Program performs regularly scheduled internal environmental compliance audits to ensure that refuges conform to Federal regulations. The Refuge Cleanup Process funds five to ten projects each year, including phased, multi-year projects. Projects range from small-scale removals of contaminated soils to decontaminating former landfills. The cleanup of these locations is an important part of the Service’s work to continue our conservation legacy by mitigating contaminant impact on natural resources.



Fishing at Kenai National Wildlife Refuge Wilderness Area. Credit FWS

Refuge System Wilderness Program

For more than 50 years, the National Wilderness Preservation System (NWPS), established by the 1964 Wilderness Act, has provided a stewardship legacy ensuring future generations continue experiencing wild and natural places. Today the NWPS includes over 109 million acres, of which 20.7 million acres (19 percent of the entire NWPS) are within 65 national wildlife refuges and one fish hatchery. The Wilderness Act defines wilderness as a place that is untrammeled, undeveloped, and natural and that offers outstanding opportunities for solitude or primitive recreation. This

definition encompasses a variety of natural areas, including extensive forests, coastal wetlands, and untamed deserts.

Wilderness areas provide some of the finest opportunities to enjoy America's great outdoors. Wilderness visitors may hunt, fish, and observe and photograph wildlife, if these activities are non-motorized and compatible with the refuge's primary mission of wildlife conservation. Many other types of recreational uses may be compatible such as cross-country skiing, canoeing, horseback riding, kayaking, and hiking. Relatively untouched wilderness lands and waters can fulfill important roles as wildlife corridors and serve as baseline representations of healthy natural areas against which we can measure change in other refuge lands and waters. The program coordinates with the other Federal wilderness-management agencies to leverage funding for wilderness training, education, and research, and to apply stewardship polices in a consistent manner.

Inventory and Monitoring

The Service embraces a scientific approach to conserving, managing, and restoring lands and waters to deliver conservation within the Refuge System. Inventory and monitoring (I&M) of the biological resources, ecological processes, physical environment, and human interactions with these resources are a critical component of the Service's effort to successfully deliver conservation and create efficiencies.

The I&M program provides the information necessary to implement the Service's adaptive management framework, where planning management actions and monitoring outcomes creates an iterative process of increasing efficiency. I&M efforts are coordinated nationally through the Service's Natural Resource Program Center to ensure that collected data is consistent and relevant to all users, and that data analysis and storage achieve the highest scientific standards.

Successful integrated conservation requires intense coordination, both internally and externally. The I&M program works directly with the National Park Service, U.S. Geological Survey, and other Federal and State partners to integrate efforts across the Federal government and minimize duplication. We continue streamlining and enhancing the Service's scientific capacity through integration and collaboration with the scientific efforts and protocols of other agencies, States, and scientific communities, thus saving the taxpayer money.

Invasive Species Management

Invasive species are one of the most serious threats to native wildlife, fish, and plants in the Refuge System, and these threats are expected to grow. In fact, invasive species are the second greatest threat to biodiversity and federally-listed threatened and endangered species, with habitat loss the first. Invasive species negatively affect native species through habitat modification, disruption of vital ecosystem functions, competition, predation, herbivory, transmission of pathogens, and by hybridizing with natives.

Management activities are critical to preventing the introduction and spread of invasive species, and controlling or eradicating them where established. Funds are used to prevent, detect, inventory, map, monitor, treat, control, and eradicate invasive species from refuge lands to protect and restore native ecosystems. Treatment methods can include mechanical removal, applying pesticides and biopesticides, controlled burns, flooding, sterile male releases, and biological and genetic control. Moving forward, the Service is particularly interested in working with



The Service, Island Conservation, the US Department of Agriculture, Bell Laboratories, and Tomcat, with others successfully eradicated nonnative black rats in 2017 from Desecheo National Wildlife Refuge. A helicopter aerially broadcasted the rodenticide. Photo credit: Island Conservation. Used with Permission.

partners on the early detection and rapid response (EDRR) of emerging invasive species, exploring new technologies for control, and eradicating invasive species from islands. EDRR aims to limit the establishment or range expansion of invasive species and prevent the need for the more costly ongoing treatments often required once they are established. Finding technologies could help overcome the invasive species challenge. Islands represent the greatest concentration of both biodiversity and species extinctions, and eradication of invasive species from islands is achievable.

2019 Program Performance

The 2019 budget request will enable the Service to focus on wildlife and habitat management activities in support of Secretarial priorities, including conservation stewardship, utilizing natural resources, expanding access for outdoor recreation, and using science to identify best practices to manage land and water resources. This includes using traditional approaches, such as water level manipulation, prescriptive grazing, and selective timber harvesting, to achieve desired habitat conditions for fish and wildlife. Healthy habitats are vital to ensure sustainable wildlife populations, whether they are imperiled or game species. In 2019, the Service expects to actively manage more than 3 million acres of habitat. Invasive species management includes the continuing operation of five Invasive Species Strike Teams with a focus on early detection and rapid response to recently established infestations that will control both the number of acres with invasive plants and invasive animal populations on refuges at relatively current levels.

The budget level requested will maintain the I&M program the Service began in 2010. At the requested funding level, the Service will complete I&M surveys in the field that are a critical first step for the Service to more effectively manage habitats for wildlife and plant species, albeit at a reduced amount. In 2019, the Refuge System plans to implement approximately 2,000 threatened and endangered species recovery actions, 1,100 population management actions, and six refuge contaminant cleanup actions. These actions contribute to the Department's focus on recovery and delisting of threatened and endangered species, which reduces regulatory burdens of the Endangered Species Act on communities and industries, as well as helps sustain robust populations of game fish and wildlife species in accordance with Secretarial Order 3356, *Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories*.

Activity: National Wildlife Refuge System
Subactivity: Refuge Visitor Services

		2017 Actual	2018 CR Baseline	2019			Change from 2018 (+/-)	
				Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)		Budget Request
Refuge Visitor Services	(\$000)	73,319	72,821	+476	0	-2,030	71,267	-1,554
	FTE	531	528	0	0	-11	517	-11

Summary of 2019 Program Changes for Refuge Visitor Services

Request Component	(\$000)	FTE
• Volunteer Services Activities	+106	-11
• Administrative Savings	-150	0
• Visitor Services Activities	-1,986	-0
Program Changes	-2,030	-11

Justification of 2019 Program Changes

The 2019 budget request for Refuge Visitor Services is \$71,267,000 and 517 FTE, a program change of -\$2,030,000 and -11 FTE from the FY 2018 CR Baseline.

Visitor Services Activities (+\$106,000/-11 FTE)

Annual visitation to National Wildlife Refuges has grown from 40 million in FY 2007 to over 53 million in FY 2017. The increase to general visitor services activities is combined with a reduction in salary costs to preserve program funding. In FY 2019, the Service will decrease FTE through leaving positions open when employees leave, especially at sites with low public demand. Vacancies will be redistributed to support higher visitor demand locations and enhance our ability to connect and invite hunters, anglers, photographers, bird watchers to our refuges.

Administrative Savings (-\$150,000/+0 FTE)

The Department annually spends nearly \$3 billion to procure goods and services, over \$1 billion on information technology and over \$300 million to administer acquisition and human resources services. The Service will work to achieve cost savings of at least \$5.6 million Service-wide by reducing travel costs and more aggressive use of shared services.

Youth and Careers in Nature (-\$1,986,000/+0 FTE)

The decrease in the youth program is a reduction of approximately 1,200 youth partner hires contributing in-kind services equivalent to 169 FTE's. These young partners support infrastructure and habitat improvement projects; trail, road, and visitor access projects; and deliver programming supporting priority public uses including hunting, fishing, boating, wildlife observation and photography. Funding will be redirected to Secretarial priorities to provide greater public recreational access on DOI lands including hunting and fishing.

Program Overview



Visitors enjoy a ranger-led walk at San Diego NWR (CA). Each year millions of people experience wildlife on national wildlife refuges. The Visitor Services Programs works to make these visits rewarding and educational. Credit: USFWS

Refuge Visitor Services provides essential public access and high-quality outdoor recreational opportunities on National Wildlife Refuges to millions of visitors each year. This program is on the front line of implementing a number of Secretarial priorities including ensuring a thriving wildlife conservation legacy by working with partners to foster outdoor skills and recreation for future generations. Refuges are also places where wildlife-dependent recreation opportunities are a priority,

specifically hunting, shooting sports, fishing, wildlife observation, photography, boating, environmental education, and interpretative programs. With units and staff across the country from rural communities to large cities, Visitor Services are central to advancing the Secretarial priority to restore trust and engage with local communities. Through a community-centered approach, Visitor Services professionals work closely with communities to develop partnerships, build a volunteer cadre, and inspire the next generation of hunters, anglers, and wildlife enthusiasts in communities across the nation.

Unique Nearby Recreation Experiences

The Visitor Services Program and the recreational opportunities offered on wildlife refuges are central to delivering the Secretarial priority of creating a conservation stewardship legacy. These nearby places offer safe and accessible opportunities for Americans to easily enjoy and connect with their wildlife heritage. These places are particularly critical to improving access to hunters and anglers who help grow and sustain these unique public lands.

Each year sets a new record for visitation. In FY 2017 more than 53 million visitors enjoyed over 2,700 special events and spent millions of user days recreating by themselves or with friends and families. Of the 566 refuges, 336 (59 percent) are open to hunting, and 277 (49 percent) are open to fishing. Over 2.4 million hunters and 7.3 million recreational anglers visited refuges and wetland management districts last year. Wildlife watching was the most popular recreational activity on refuges, attracting a new all-time high of 35.6 million participants.

The Refuge System's extensive network of trails, auto tour routes, observation towers, platforms, photography blinds, and boardwalks is widely accessible to visitors, professional and amateur photographers, families, and school groups. Wildlife photography is growing in popularity faster than any other activity. In 2017, 13.9 million refuge visitors took wildlife and nature photos, an increase of 80 percent in participation in the last five years. Refuge System interpretation and environmental education programs more than tripled participation from 2016, with approximately 2.7 million people enjoying the outdoors in 2017. Additionally, thousands of young Americans found job opportunities and career-building experiences through volunteer programs and partnerships.



The National Wildlife Refuge System offers unique recreation opportunities for people of all ages and interests like canoeing on Alligator River National Wildlife Refuge (NC). Photo: Hillerbrand/USFWS

Public Service Excellence

The Visitor Services program is also critical to delivering high quality service to the public and meeting the Secretary's priority to achieve our goals and lead the DOI forward. A 2012 peer-reviewed national visitor survey showed that an average of 90 percent of refuge visitors gave high marks to all facets of their experiences on refuge lands. The survey was sponsored by the Service and designed, conducted, and analyzed by researchers with the U.S. Geological Survey. Results from over 10,000 respondents indicate:

- 91 percent are highly satisfied with recreational activities and opportunities;
- 89 percent are highly satisfied with information and education about the refuge;
- 91 percent are highly satisfied with services provided by refuge employees or volunteers;
- 91 percent are highly satisfied with how refuges are conserving fish, wildlife, and their habitats; and
- Wildlife observation, birdwatching, photography, hiking, and auto-tour-route use were among the visitors' most popular refuge activities.

Economic Benefits to Local Communities

The public services delivered by the Visitor Services programs strategically advance the Secretarial priority to generate economic benefits to local economies. Refuges attract tens of millions of visitors who come to hunt, fish, observe, and photograph wildlife and are a significant boon to local economies. Of the Refuge System's \$453 million spending in FY 2013, final demand—the economic impact on local communities from recreation visits—totalled \$2.4 billion of spending in regional economies, according to the *Banking on Nature 2013* report¹, which looked at 21 national wildlife refuges across the country. This final demand generated \$792.7 million in job income and over 35,000 jobs nationally.



The Friends of the San Luis Valley Refuges help plan Colorado's annual Monte Vista Crane Festival which includes a tour of Monte Vista Refuge. The festival is one of many refuge-based events that bring tourism dollars to towns and cities across the country. Photo: Kate Miyamoto/USFWS

The Refuge System provides an additional benefit to landowners and residents in nearby communities because of the positive financial impact that its open-space amenities has on property values. Property values surrounding refuges are higher than equivalent properties elsewhere². The study found that homes within 0.5 miles of a refuge and within eight miles of an urban center were valued at three to nine percent higher than other homes, depending on the region of the country.

Outdoor Access Infrastructure Enhancement

Outdoor Access Infrastructure Enhancement Program advances the Secretarial priority to modernize infrastructure and improve access by developing, rehabilitating, and constructing small-scale and cost-

¹ <https://www.fws.gov/uploadedFiles/Banking-on-Nature-Report.pdf>

² *Amenity Values of Proximity to National Wildlife Refuges* prepared by the Center for Environmental and Resource Economic Policy at North Carolina State University in April 2012

efficient infrastructure such as parking areas at trailheads, wildlife observation platforms, hunting blinds, boat ramps, interpretive kiosks, and other projects that promote access to wildlife-dependent recreation and minimize barriers for the visiting public. The Outdoor Access Infrastructure Enhancement Program gets more people outdoors and provides them with high-quality, affordable visitor experiences at many refuges. The Refuge System has leveraged funding from partners and youth corps to facilitate and improve public access to refuge lands and waters. Most of these enhancements are available free of charge to local residents and out-of-town refuge visitors.

Education and Interpretation

The Service also prioritizes environmental education and interpretive programs on hunting, shooting sports, fishing, and other recreational activities. Each year, over 3.5 million people attend educational and interpretive programs on and off refuges. Interpretive programming includes mobile applications, exhibits, live presentations, signs, and audiovisual elements. All are designed to welcome, orient, and inspire visitors of all ages to carry on the Secretary's priority to instill a strong conservation legacy into the future.



Students in Palm Beach County, Florida, share an outdoor lesson at the Pine Jog Environmental Education Center, an urban partner of Loxahatchee Refuge. Refuge partnerships expand opportunities for adults and children.

Credit: Ian Shive

Through a variety of learning activities, the Service and many refuge Friends organizations deliver education programs about outdoor recreational opportunities and natural and cultural resource management on refuges. Nearly 800,000 students and educators use nearby refuges as hands-on, outdoor classrooms to complement and enhance core classroom subjects including science, math, art, reading, writing, and natural resource management.



On the Savannah Coastal Refuges Complex (SC), the Friends group purchased a 15-seat electric shuttle to help expand the refuge's interpretive program. Projects like these are made possible with our community-centered approach.

Community-Centered Conservation

The Visitor Services program is a leader in advancing the Secretarial priority to restore trust and engage with local communities. Visitor Services professionals serve nearby communities of all shapes and sizes (rural, farming, suburbs, urban) by delivering community-centered conservation that aims to match the unique needs of various communities (recreationists, youth, seniors, nearby towns and cities). Projects result in unique public benefits ranging from health and wellness to economic development through ecotourism, netting benefits for both people and wildlife. The Service uses a variety of Community-Centered

Conservation models, including Volunteers and Community Partnerships, Youth and Veteran Internships, and the Urban Wildlife Conservation Programs.

By leveraging the interests of over 39,000 volunteers to serve, travel, or learn a new skills, we extend our ability to fight invasive weeds, deliver education programming, and restore habitat. With refuges near over 100 cities, and working with partners, the Urban Wildlife Conservation Program is able to recruit many more new users to wildlife-dependent recreation activities. Through our Youth Program, the Service partners with over 111 partners to employ over 1,200 youth. Youth gain valuable on-the-job experiences while rehabilitating miles of trails, staffing visitor centers, creating digital media, and conducting wildlife studies.



John Heinz NWR (PA) works with community groups to increase residents' access to nature and improve neighborhood amenities while providing outdoor skills programming. Such collaborations help foster both conservation and community goodwill.

Credit: Lamar Gore/USFWS

Urban Wildlife Conservation Program

To recruit and retain the next generation of hunters, anglers, and outdoor recreationists the Service engages people where they are. The Urban Wildlife Conservation Program aims to increase public engagement in and near large population centers by working closely with local communities and partners to leverage the greatest positive impact for both wildlife and people.

With 101 refuges within 25 miles of a population center of 250,000 or more people, these areas can be innovative models for passing on traditional outdoor activities such as hunting and fishing. Several Service programs, especially Migratory Birds, Fish and Aquatic Conservation, and Ecological Services, have joined efforts with the Refuge System to improve access to new audiences. In 2017, the Service expanded the reach of the program to seven new communities including: Las Vegas, NV; Buffalo, NY; Birmingham, AL; Vallejo, CA; Boise, ID; Detroit, MI; and Lansing, MI.



A young volunteer holds red-cockaded woodpecker chicks at Okefenokee NWR (GA).

Photo: Dean Easton/USFWS

This program is particularly successful at increasing public/private partnerships. For example, in Rhode Island, the Providence Parks Urban Wildlife Refuge Partnership leverages grant funds through The Walt Disney Company, the Roger Williams Park Zoo, and Groundwork Rhode Island to offer a series of programs that introduce local residents to new outdoor activities.

Volunteers and Community Partnerships

Nearly 200 non-profit Friends organizations directly serve more than 300 refuges and are critical to expanding other refuge-community partnerships, leveraging additional resources, and

connecting other potential volunteers to opportunities at refuges.

Some specific examples of the contributions of Friends and volunteers include:

- In FY 2017, over 39,000 Refuge System volunteers contributed nearly 1.33 million hours of volunteer service valued at almost \$32 million.
- Friends of Holla Bend Refuge (Arkansas) host an annual youth archery program, at the refuge attracting 150 youth from the community.
- Ding Darling Wildlife Society (Florida) hosts an annual tarpon fishing tournament, raising nearly \$80,000 in FY 2017 to go toward conservation-related projects at the refuge.
- Friends of Brazoria Wildlife Refuge (Texas) raised \$55,000 to build a new trail on recently acquired property.
- Friends of the Savannah Coastal Wildlife Refuges (South Carolina) used a \$37,000 grant to buy the refuge a 15-passenger electric shuttle to offer new visitor access to Pinckney Island Refuge.
- Friends of Bear River Refuge (Utah) pay for buses to transport students to the refuge and a full-time intern who provides an environmental educational curriculum for fourth graders.
- Friends of the Trinity River Refuge (Texas) raised money and volunteered time to build a 500-foot boardwalk across the Trinity River to give city residents new access to the refuge through the city's Liberty Municipal Park.



International Wildlife Refuge Alliance (Michigan/Ontario) helped raise \$3.5 million to build a 740-foot-long fishing pier and boat dock for the Michigan Sea Grant School.

Credit: Hamilton Anderson

In return, the Service continues to support volunteers and Friends organizations through specialized leadership and skills-based training, mentoring to build capacity and effectiveness, workshops to share best practices and build the national Friends community, and awards to recognize outstanding contributions.

Cultural and Historic Resources

The Cultural Resources Program is integral to the Secretary's priority to restore trust with local communities by ensuring that significant tribal, cultural, archaeological, and historic resources are interpreted and protected in accordance with authorizing legislation and policies. In particular, the Cultural Resources Specialists are responsible for the proper stewardship of 4.4 million museum objects in collections, which are maintained in Service facilities or on loan to over 175 non-Federal repositories, such as qualified museums and



The Refuge System conserves more than two dozen historic lighthouses like the Assateague Lighthouse at Virginia's Chincoteague NWR.

academic institutions, for scientific study, public viewing, and long-term care.

The Refuge System protects 103 cultural resources listed on the National Register of Historic Places. Ten have been designated National Historic Landmarks, including two World War II battlefields (Attu and Midway). The Refuge System has identified over 20,000 archaeological and historical sites on its lands to date, with more yet to be discovered.

Cultural resource specialists review projects funded or permitted by the Service for compliance with the National Historic Preservation Act (NHPA). The NHPA regulatory reviews may include field surveys, archaeological investigations, site evaluations, and mitigation.

Building History and Community—Jabs Farm Restoration

Service Wage Grade staff from four regions worked with NPS instructors from the Historic Preservation Training Center to re-roof and re-construct stone walls from two 19th century structures from the Jabs farm, a historic site located on the Louisville Swamp unit of Minnesota Valley National Wildlife Refuge.

The goals of the project were to: (1) provide our Wage Grade staff with the experience and techniques that will enable them to complete similar repairs on historic buildings on their home field stations, and (2) interpret these historic assets for visitors that access the many trails in this part of the refuge. Such projects are important ways that the Service can meet its stewardship responsibilities for historic resources while at the same time delivering quality recreation and interpretation for its diverse visitors.

2019 Program Performance

In FY 2019 budget, the Visitor Services program will direct funds to a number of Secretarial priorities by working with partners on strategies to expand and improve access for hunting and fishing, maintain customer satisfaction, and continue public services that foster a conservation legacy in nearby communities. At the requested FY 2019 funding level, the Visitor Services Program strategically balances expected increases in public demand for services and sustaining high rates of visitor satisfaction (90 percent); the conservation of plants, animals, and habitat; and meeting outdoor access priorities. These activities may include focusing efforts on providing a full range programming only at places with a high demand and supported extensively through partnerships.

Where possible, the approximately 500 FTE will maintain visitor facilities; deliver interpretive and educational programs; construct and maintain trails and boardwalks; improve hunting, angling, and other outdoor access; and design outreach materials to better inform and educate the public about recreational opportunities on national wildlife refuges. In 2019, we expect to host 2,500 special events with nearly one million participants. We also expect to host about 2.4 million hunting visits and 7.3 million fishing visits

In FY 2019, the Visitor Services Program will also direct efforts to the Secretarial priority to restore trust with local communities' through community-centered conservation models. Service staff will train and supervise 40,000 volunteers, who contribute over 1.3 million hours annually, to deliver programs for refuges. The Service will continue to provide support for refuges working with Friends organizations. In addition, continued engagement with local communities and industry partners by developing private/public partnerships will increase opportunities for outdoor recreation awareness and skill building activities for youth and their families.

Activity: National Wildlife Refuge System
Subactivity: Refuge Law Enforcement

		2017 Actual	2018 CR Baseline	2019			Change from 2018 (+/-)	
				Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)		Budget Request
Refuge Law Enforcement	(\$000)	38,054	37,796	+268	0	-81	37,983	+187
	FTE	238	238	0	0	0	238	0

Summary of 2019 Program Changes for Refuge Law Enforcement

Request Component	(\$000)	FTE
• Refuge Law Enforcement	-81	0
Program Changes	-81	0

Justification of 2019 Program Changes

The 2019 budget request for Refuge Law Enforcement is \$37,983,000 and 238 FTE, a program change of -\$81,000 and +0 FTE from the FY 2018 CR Baseline.

Refuge Law Enforcement Activities (-\$81,000/+0 FTE)

At the requested level, the funding will allow the Service to maintain current officer levels. The Refuge System’s officers will provide security and safety to over 53 million refuge visitors, and for employees, government property, and wildlife and habitats.

Program Overview

Refuge Law Enforcement includes funding for the Refuge Law Enforcement Program and the Service’s Emergency Management and Physical Security Program. This subactivity supports the DOI priorities of protecting our people and the border by funding salaries, training, equipment, supplies, and management of the Refuge System’s Federal Wildlife Officers, Regional and Headquarters management support staff, and emergency managers.



Federal Wildlife Officer contacts two hunters. Credit: USFWS

Refuge Law Enforcement

Federal Wildlife Officers are often the first and most recognizable employees that the public sees. They serve as ambassadors for the Refuge System and the Service as a whole, providing important public services above and beyond law enforcement such as information and guidance to visitors on fishing, hunting, hiking, and wildlife viewing opportunities.

Federal Wildlife Officers provide safety and security for the visiting public and Service staff; protect fish, wildlife, cultural, and archaeological resources on refuges; educate the public about the Service’s mission; contribute to environmental education and outreach; assist local communities with law enforcement and disaster recovery; and help protect Native subsistence rights. In FY 2017, Federal Wildlife Officers were deployed to Texas and Puerto Rico as a part of the Department’s emergency hurricane response.

They were tasked with providing law enforcement assistance during the immediate hurricane recovery efforts.

This year, at the Federal Wildlife Officer Basic Training, Federal Wildlife Officers completed training in Service ambassadorship, public outreach, and Aldo Leopold Conservation Land Ethics all designed to support the DOI priority of promoting a public service demeanor within our law enforcement community. This new training course will help new Federal Wildlife Officers better connect with hunters, anglers, and the public we serve.

In FY 2017, Federal Wildlife Officers had contacts with nearly 4,500 hunters and over 2,000 anglers, many of which were positive interactions to provide assistance to these visitors. Officers participated in over 7,500 education encounters, such as school programs, Scout programs, game warden camps, and community organizations, or otherwise educating visitors about hunting, trapping, rules, and regulations. They serve the public as hunter safety instructors, coordinate with Veterans and Disabled Sportsman's Groups to create hunting opportunities, and lead youth shooting, hunting and fishing events on refuges. They are also routinely involved with local and other Federal law enforcement agencies in cooperative efforts to combat the Nation's drug problems, address border security issues, and aid in other security challenges. Approximately 11 percent of all Federal Wildlife Officers are located on the U.S. southern border to assist with these efforts.



Service Federal Wildlife Officer assisting with Border Patrol activities on Service-managed lands

Refuge Law Enforcement supports the Secretary's priority of restoring trust with local communities by collaborating with local, county, State, and other Federal agencies for mutual law enforcement assistance for the purpose of protecting lives, property, and resources on lands neighboring our national wildlife refuges. The Strategic Wildlife Enforcement Program (SWEP), for example, is an initiative that provides funding for enforcement activities by partnering with State and local agencies on various activities, including actions focused solely on preventing wildlife violations.

Federal Wildlife Officers support the Secretary's priority of creating a conservation stewardship legacy by serving as a critical link with the public in the role of conservation. Fair and legal use of wildlife resources is ensured, whether it is tagging a grizzly bear in Alaska, checking deer hunters in Mississippi, or supporting duck hunters in California. Federal Wildlife Officers assist in biological surveys and educate the public on the importance of conservation of America's natural resources. Conservation efforts go far beyond recreation. Hunting, fishing, and trapping opportunities are vital to many Native Alaskans to supply their day-to-day food for survival. Federal Wildlife Officers work to ensure these resources will be available, not only for Native Alaskans, but for all Americans for generations to come.



A Federal Wildlife Officer engages with two young anglers. Credit: USFWS

At the end of FY 2017, the Service had 255 full-time equivalent Federal Wildlife Officers charged with patrolling and responding to law enforcement issues throughout the more than 90 million land acres and 740 million acres of marine waters under Refuge System management. Our law enforcement officers are

spread very thinly throughout the Refuge System. For example, thirteen States have only one or no officer. As visitation to refuges has grown more than 20 percent in the last 10 years and continues growing each year, the number of officers has remained about the same or declined. Today, each officer is responsible for the safety of an average 161,300 visitors and 29,000 hunters and anglers.

Emergency Management and Physical Security

The Service's Emergency Management and Physical Security program (EMPS) supports the Secretary's priority of protecting our people by providing expertise and leadership for the Service's emergency management and physical security responsibilities nationwide. We participate in activities described in Homeland Security's National Response Framework, the guide to how the Nation responds to all types of disasters and emergencies. Through this effort, the Service supports activities to prevent, protect against, prepare for, mitigate the effects of, respond to, and recover from all hazards that may affect any part of the Service and the people and communities we serve. The program has three major goals:

Goal 1: Promote a resilient Service, ensuring that the lands administered by the Service and the surrounding communities are able to withstand and recover from all hazards.

EMPS continuously supports thorough, direct, and open communication with all stakeholders to promote resilience in the face of emergency situations, such as oil spills, chemical releases, wildlife-to-human disease transmission, and natural disasters. EMPS helps these stakeholders save lives, mitigate impacts, and preserve habitats. As outlined in the National Response Framework and in partnership with the Department, the Service supports 13 of 15 Emergency Support Functions. EMPS coordinates the deployment of subject matter experts to provide all hazards response, recovery, consultations, and technical assistance to State and local authorities during and after emergencies. In addition, EMPS integrates and synchronizes the existing capabilities to advance risk reduction goals in disaster mitigation, response, and recovery. Most recently, EMPS was able to bring various Service program areas together to identify ways in which gray and green infrastructure, buildings, and homes can be rebuilt to be resilient to disasters, which will save taxpayer money in the future and protect communities.

Goal 2: Facilitate a significant improvement in the Service's ability to provide emergency responder capacity in times of crisis.

The Service has an agile workforce that is deployable on short notice and brings both diverse and cross functional (i.e. scientists that are pilots, divers, boat operators, etc.) skill sets to emergencies. Because these skills can be used in many situations, the Service's workforce is often thrust into the most challenging types of incidents, oftentimes requiring proficiency in the fundamentals of Emergency Management and the use of the Incident Command System (ICS). ICS is a standardized on-scene incident management tool and structure used across the Federal, State, and local government and designed to meet the needs of incidents of any kind or size. For example, ICS was used in the 2016-2017 New World Screwworm infestation in the Florida Keys and during Hurricanes Harvey, Irma, and Maria in 2017. By increasing the number of Service employees who are qualified and able to perform in an ICS managed incident, the Service is better equipped to respond and partner on emergencies on a local, region, and national scale.



Federal Wildlife Officers on their way to Hurricane Maria response. Credit: USFWS

Goal 3: Institutionalizing a whole Service approach to preparedness.

Preparedness is a shared responsibility. It calls for the involvement of the entire organization—not just EMPS practitioners. By working together from a Service-wide approach, all employees take part in keeping the Service, the lands we administer, and the nation safe from harm when struck by natural and human-caused disasters.

The whole Service approach requires that all Service employees take part in awareness training, testing, and drills to strengthen the Service's ability to stay agile and ready to serve. Additionally, this approach helps improve our community partnerships by conducting training, testing, and drills with our local partners. These efforts strengthen those vital partnerships where oftentimes the Service is the only Federal entity to interface with the community.

Activity: National Wildlife Refuge System
Subactivity: Conservation Planning

		2017 Actual	2018 CR Baseline	2019			Change from 2018 (+/-)	
				Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)		Budget Request
Conservation Planning	(\$000)	2,523	2,506	0	0	-2,506	0	-2,506
	FTE	17	17	0	0	-17	0	-17

Summary of 2019 Program Changes for Conservation Planning

Request Component	(\$000)	FTE
• Refuge Planning	-2,506	-17
Program Changes	-2,506	-17

Justification of 2019 Program Changes

The 2019 budget request for Conservation Planning is \$0 and 0 FTE, a program change of -\$2,506,000 and -17 FTE from the FY 2018 CR Baseline.

Refuge Planning (-\$2,506,000/-13 FTE)

Because of fiscal constraints and other priorities, the Service will not provide separate funding for refuge planning activities and staff in FY 2019. Individual refuges will fund these efforts from their base funds to the extent possible given other competing priorities.

Program Overview

The National Wildlife Refuge System Improvement Act requires the Service to prepare a Comprehensive Conservation Plan (CCP) for every unit of the Refuge System and revise each CCP every 15 years, as may be necessary. The Refuge Planning subactivity funds development of CCPs and associated step-down plans, such as Habitat Management Plans and Visitor Services Plans, which “step down” the CCP and guide the management of a specific refuge to inform local conservation action. Refuge System planning processes are administered to include public input, engage stakeholders and local communities, and with aim to enhance public access while reducing potential regulatory burdens on the public.

2019 Program Performance

The FY 2019 budget request eliminates all funding for the Conservation Planning program, including funding for the Headquarters and Regional planning staff who have provided technical expertise for management plans. However, the Service is still required by the Refuge Improvement Act to complete CCPs for every refuge. With this dedicated funding eliminated, individual refuges will fund these efforts from their base funds and with staff on hand.

Activity: National Wildlife Refuge System
Subactivity: Refuge Maintenance

		2017 Actual	2018 CR Baseline	2019			Change from 2018 (+/-)	
				Fixed Costs (+/-)	Internal Transfers (+/-)	Program Changes (+/-)		Budget Request
Maintenance Support	(\$000)	55,230	54,855	+420	0	-2,016	53,259	-1,596
Annual Maintenance	(\$000)	26,350	26,171	0	0	+129	26,300	+129
Deferred Maintenance	(\$000)	41,620	41,337	0	0	-295	41,042	-295
Equipment and Vehicle Management	(\$000)	14,988	14,886	0	0	0	14,886	0
Refuge Maintenance	(\$000)	138,188	137,249	+420	0	-2,182	135,487	-1,762
	FTE	587	584	0	0	-10	574	-10

Summary of 2019 Program Changes for Refuge Maintenance

Request Component	(\$000)	FTE
• Annual Maintenance	+129	0
• Deferred Maintenance	-295	0
• Administrative savings	-300	0
• Maintenance Support	-1,716	-10
Program Changes	-2,182	-10

Justification of 2019 Program Changes

The 2019 budget request for Refuge Maintenance is \$135,487,000 and 574 FTE, a program change of -\$2,182,000 and -10 FTE from the FY 2018 CR Baseline.

Annual Maintenance (+\$129,000/+0 FTE)

This proposed increase supports the Administration’s priority of generating cost savings, while spurring local economic growth and job creation. Annual maintenance targets preventative maintenance activities on facilities and equipment to achieve and extend the expected life of facilities and equipment, which ultimately saves taxpayer money.

Deferred Maintenance (-\$295,000/+0 FTE)

The Service will complete six fewer deferred maintenance projects with this proposed decrease. Combined with the requested funding and FTE decrease in maintenance support, which provides critical labor for preventative maintenance, the Refuge System’s deferred maintenance backlog will increase. Priority will be given to projects that target infrastructure modernization and provide safe reliable access to public lands by dedicating 60% of the funding to infrastructure that enables outdoor recreation and the supporting habitat.

Administrative Savings (-\$300,000/+0 FTE)

The Department annually spends nearly \$3 billion to procure goods and services, over \$1 billion on information technology and over \$300 million to administer acquisition and human resources services. The Service will work to achieve cost savings of at least \$5.6 million Service-wide by reducing travel costs and more aggressive use of shared services.

Maintenance Support (-\$1,716,000/-10 FTE)

Within this decrease, the Service reduces youth hiring programs by \$645,000 and general maintenance support activities by \$1,071,000. The reduction eliminates 750 seasonal youth hires from local communities for maintenance projects that supported priority public uses including hunting, fishing and boating. The decrease to general maintenance support activities has a correlated reduction of 10 FTE.

The Service's maintenance workforce peaked at over 900 FTE in the mid-1990s, and has been declining ever since. With 566 refuges and 38 wetland management districts, many field stations no longer have maintenance employees to proactively maintain habitats, equipment, vehicles, roads, buildings, or infrastructure that provides safe and reliable public access for over 53 million visitors in a manner that prevents deferred maintenance. The Refuge System has worked diligently to reduce its deferred maintenance backlog.

Remaining maintenance support funds will be used to advance Secretarial priorities to create a conservation stewardship legacy and modernize our infrastructure. Projects supporting maintenance and construction of high quality habitat and outdoor recreation infrastructure have associated positive benefits of protecting Service lands and neighboring communities through improved storm resiliency, erosion control, flood risk reduction, and water quality while supporting local economies and jobs. Well-maintained and accessible outdoor recreation infrastructure ensures that public lands are safe and welcoming to hunters, anglers and, other visitors.

Program Overview

With the Refuge Maintenance funding, the Service builds and maintains publically accessible hunting blinds (left, Modoc NWR (CA)) and fishing piers (right, Crab Orchard NWR (IL)).

The Refuge Maintenance subactivity underpins every management activity that occurs in the Refuge System, including wildlife and habitat management, fire management, law enforcement, and public access and outdoor recreation. It enables these primary capacities:

Operations

The Refuge System conserves, protects, and enhances fish, wildlife, and plants for the benefit and use of the American people on 855.6 million acres of lands and waters geographically dispersed throughout the U.S. and its territories.

A Conservation Legacy for the Next 100 years

Active habitat management conducted by refuge maintenance is key to ensuring a conservation legacy for the next 100 years. Best practices are applied to manage the land water resources for the greatest wildlife and public benefit and provide the highest return on investment for the American tax payer. Activities include mowing and disking fields, selective burning, planting food crops, manipulating water levels on impoundments, and removing undesirable and invasive vegetation. Water levels are managed to optimize habitats and involve an extensive array of water control structures, levees, canals, pumps, and other infrastructure that must be monitored, maintained, and repaired to ensure appropriate water is provided and damage from storm events is ameliorated in the most cost effective manner possible.

Outdoor Access

A critical function of the maintenance program is providing and maintaining safe and reliable public access to outdoor recreational opportunities for over 53 million visitors - including 2.4 million hunters and 7.3 million recreational anglers. There are over 13,300 roads, trails, and bridges in the Refuge System with a combined replacement value of over \$15.7 billion, which must be maintained to provide safe and reliable access to the public on their lands.

Economic Benefits to Local Communities

Refuge maintenance activities generate economic development and job creation in communities near refuges. The purchase of local building materials and supplies, contracting with architectural and engineering firms, construction companies, and maintenance and repair contractors all support economic growth beyond the benefits associated with Refuge visitation and tourism.

**Nationwide Portfolio of Refuge System Constructed Facility Assets
As of September 30, 2017**

Asset Grouping	Asset Count		Replacement Value		Deferred Maintenance	
	Amount	% of Total	\$ (Millions)	% of Total	\$ (Millions)	% of Total
Buildings	5,252	14.70%	\$3,867	9.17%	\$292	25.22%
Water Management Structures	8,930	25.00%	\$17,720	42.02%	\$335	28.93%
Roads, Bridges, and Trails	13,364	37.41%	\$15,713	37.26%	\$255	22.02%
Other Structures	8,180	22.90%	\$4,874	11.56%	\$276	23.83%
Total	35,726	100%	\$42,174	100%	\$1,158	100%

Modernizing Infrastructure

The Service Maintenance Program excels in delivering cost-effective operations and facility management - ensuring high returns on investment for taxpayers and a impressive rate of infrastructure modernization. The Service strategically uses life cycle management considerations and financial and performance data to improve management of its facility infrastructure and mobile equipment fleet. Using principles in Executive Order 13327, Federal Real Property Asset Management, as signed by President George W. Bush, the Service is managing our portfolio of facility and mobile equipment assets in a manner that focuses on accomplishing Administration and Secretarial goals and legislative mission, including safe and reliable public recreational opportunities, using the most cost effective means possible. These strategic investments, the types of infrastructure constructed, and diligent maintenance completed by our workforce contain the deterioration rate of our portfolio to approximately 1.1 percent of current replacement value (CRV) per year.

At a Glance: Maintenance of Facilities, Fleet, and Equipment

The Refuge System maintenance program optimizes the alignment between infrastructure investments and mission delivery. Enabling activities include repairing and replacing:

- Roads, trails, and visitor facilities that allow over 53 million Americans to enjoy refuge lands and wildlife, and allow access for management purposes including fire prevention, law enforcement, and fish and wildlife management;
- On- and off-road vehicles needed to carry out everyday field activities of nearly 2,700 FTE and over 40,000 volunteers;
- An extensive fleet of agricultural and construction equipment needed to actively manage habitat and to maintain constructed real property assets; and
- A portfolio of constructed assets valued at \$42.2 billion that provides the base of operations for all refuge programs and enables all fish and wildlife management on Refuge System lands and waters that occur throughout the U.S. and its various island territories.

The Refuge Maintenance budget consists of four program elements:

Refuge Maintenance Support

Refuge Maintenance Support includes supplies, materials and salaries for maintenance and facilities management. Maintenance employees are critical in properly maintaining facility and equipment assets, which enable the Service to accomplish habitat management and refuge operations goals and provide the public safe and reliable recreational and educational opportunities. Maintenance employees spend about half their time maintaining infrastructure and equipment and the other half maintaining habitat and supporting public recreational activities.

Annual Maintenance

Annual Maintenance encompasses all non-staff expenditures for preventative maintenance needed to keep the Service's infrastructure and mobile equipment fleet functioning for its intended purpose. It is required to achieve the expected life of infrastructure and equipment. Annual maintenance includes: utilities, custodial care, and snow removal for offices, administrative, and public buildings; repair of system failures before they are deferred; and preventive maintenance—including scheduled servicing, repairs, and parts replacement—required to achieve the expected life of facilities and equipment.

Proactively maintaining facilities through Maintenance Support and Annual Maintenance is 30 to 40 percent more cost effective on average than waiting until maintenance is deferred. These funds are critical in providing the American taxpayers the maximum return on investment.

Deferred Maintenance

Deferred Maintenance projects repair, rehabilitate, dispose of, or replace constructed real property assets. Available funds are directed to the highest priority mission critical projects based upon facilities condition, asset priority, consequences of failure to act, and return on investment (in reducing Deferred Maintenance, operations costs and obtaining outside funding) in accordance with Departmental guidance. Prioritization of projects is completed by utilizing the DOI priority scoring and by the front line field, operations, and facilities managers that know firsthand the field based mission impacts, return on investment, and outside funding opportunities available and are reported to DOI and OMB in the five-year deferred maintenance plans annually.

Beach Restoration Project on McFaddin NWR Protected Communities from Hurricane Harvey

The McFaddin Refuge has the largest existing wetland in Texas, and its seemingly endless expanse of cordgrass provides an important buffer for the refuge and communities from hurricanes. Historically, a natural dune ridge system along the Gulf Coast prevented seawater from directly entering the refuge’s marshes under all but storm tides. But sediments that once moved down the rivers and rebuilt the coastline are being held back, and the beaches and dune systems on this stretch of the Gulf Coast are eroding and turning into open water. The refuge and nearby public lands are losing 15 to 40 feet of land a year, diminishing the distance between the Gulf and inland infrastructure, including the largest oil refinery complex in North America.

In 2017, the Service began working with partners to restore the refuge’s diminished beaches and protect the marshes. The Service completed a pilot project in May to rebuild the dune system on about three miles of the most vulnerable portion of beach. The project was a success. The buffering effects were critical in diminishing the impacts of the refuge’s direct hit from Tropical Storm Cindy and Hurricane Harvey. The newly built beach and dunes protected the marshes—and the infrastructure behind them. The next phase of the restoration project will focus on an additional 17 miles of coastline with proposed project completion within two years.



McFaddin NWR unrestored beach (left) and restored beach

6-Year History of Deferred Maintenance Backlog by Four Major Categories of Assets

Category	Refuge System Deferred Maintenance (beginning of FY) (\$ millions)					
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Buildings	349	315	316	302	306	292
Water Management	404	343	299	286	286	335
Roads/Bridges/Trails	1,356	849	383	296	305	255
Other	289	240	286	281	279	276
Total	2,398	1,747	1,284	1,165	1,176	1,158

The Service uses a strategic, portfolio-based approach to manage assets in a manner that informs decision-making and maximizes efficient and effective mission delivery with an emphasis on mission- critical assets and the protection of investments through long-term life cycle management.

Modernizing Infrastructure by Reducing the Deferred Maintenance Backlog

The Refuge System has worked to reduce the deferred maintenance backlog through the use of Maintenance Action Teams, proactive investments, improved policies, improved data quality and increased focus on preventative and routine maintenance investments. This improved focus and investment of limited resources in areas with the largest return has resulted in reducing the Refuge System's deferred maintenance backlog by about 50 percent. In FY 2019 through FY 2023, 60 percent of Refuge System Deferred Maintenance funding will be dedicated to retaining, restoring and enhancing outdoor recreational opportunities and the supporting habitats.

Equipment and Vehicle Management

The Refuge System requires an extensive fleet of vehicles and equipment to successfully carry out the conservation mission and provide safe and reliable public recreation and education opportunities. The Refuge System employs rental and leasing options to provide a cost-effective, efficient program. Equipment and Vehicle Management funds optimize the management of fleets to meet mission needs and serve as an example for the efficient use of public assets. The Refuge System is actively focusing on



The Refuge System uses heavy equipment to maintain roads and trails, and to create and maintain healthy wildlife habitats.

modernizing our equipment and vehicle fleet and is implementing utilization and age standards to increase proceeds of sales to reinvest in a smaller, more agile, and modernized fleet.

Fleet Management

The majority of the 3,600 vehicles used on refuges are four wheel-drive trucks and utility vehicles for transporting personnel, equipment, materials, and tools to remote sites for firefighting, wildlife and habitat management, and law enforcement. The vehicles must be capable of operation under on-road and off-road conditions, which limits the ability to utilize two-wheel drive vehicles, vans, or sedans and limits the applicability of recommended annual vehicle mileage use typical of non-natural resource agencies.

Small Equipment

Specialized equipment such as all-terrain vehicles, small aircraft, boats, small tractors, snowmobiles, trailers, agricultural implements, and similar equipment is needed to access, maintain, and restore habitats in remote or rugged areas. In total, the Refuge System's small equipment fleet consists of about 5,000 assets.

Heavy Equipment

Heavy equipment management includes acquisition, rental, and repair of heavy equipment. Agricultural, earthmoving, and construction equipment are used to maintain wetland impoundments and roads; construct and maintain wildlife habitat; control invasive plants; and maintain and construct visitor facilities such as boardwalks, observation platforms, fishing piers, hunt blinds, tour routes, and trails. The Service owns nearly 4,000 heavy equipment assets with a combined replacement value of about \$423 million.

2019 Program Performance

In FY 2019 the Refuge Maintenance Program will focus on implementing the Secretarial priorities to modernize infrastructure to support DOI and National interests while spurring local job creation. At the requested FY 2019 funding level, the Maintenance program will support maintenance staffing for field stations to carry out a wide variety of activities that provide safe and reliable outdoor access and habitat management. This funding level also enables annual preventative maintenance, including funds for supplies, materials, and contracts; for the Service to operate and repair facilities and equipment; perform regular annual maintenance; and complete cyclical maintenance on schedule.

The requested FY 2019 funding level for deferred maintenance will allow the Service to complete about 128 of the highest priority deferred maintenance projects, which will generate an estimated \$128 million and 735 jobs in local and State economies. The funding levels support the replacement of mobile equipment and fleet assets, further implementing an initiative to improve management and modernize the vehicle and equipment fleet. In total, this funding level will allow the Service to continue supporting refuge programs and prioritize projects that maintain wildlife habitats that expand or improve safe and reliable outdoor recreation for the American public on their lands.

Performance Goal	2014 Actual	2015 Actual	2016 Actual	2017 Target	2017 Actual	2018 Target	2019 PB	Change from 2018 Target to 2019 PB
1.0.1 - Number of NWRS riparian (stream/shoreline) miles achieving desired conditions (GPRA)	310,365	310,363	310,311	310,303	310,381	310,371	298,015	-12,356
2.0.1 - # of NWRS wetland, upland, and coastal/marine acres achieving desired condition (GPRA)	140,232,307	145,791,353	145,948,626	146,229,364	246,396,015	518,693,756	140,438,680	-378,255,076
11.1.1.2 - Total # of NWRS acres infested with invasive plants (GPRA)	2,399,819	2,245,244	2,337,279	2,345,638	2,345,638	2,450,769	2,488,253	37,484
12.1.1.2 - total # of invasive animal populations (GPRA)	1,701	1,699	1,745	1,700	1,700	1,771	1,803	32
13.3.1 - % of Wilderness Area acres achieving unique values described in the Wilderness Act	90% (18,663,479 of 20,700,342)	88% (18,265,296 of 20,700,342)	88% (18,265,435 of 20,700,342)	88% (18,265,585 of 20,700,342)	90% (18,665,379 of 20,700,342)	90% (18,665,377 of 20,700,342)	88% (18,218,675 of 20,703,040)	-2%
15.2.2.2 - total # of refuges with hunting programs	364	364	364	372	372	372	372	0
15.2.4 - % of NWRs/WMDs that have quality fishing programs, where fishing is compatible	76% (229 of 303)	76% (231 of 303)	79% (238 of 303)	77% (238 of 308)	79% (244 of 308)	79% (244 of 309)	81% (251 of 309)	2%
15.2.8 - % of NWRs/WMDs that have quality environmental education programs, where interpretation is compatible	75% (292 of 387)	73% (291 of 397)	75% (293 of 393)	74% (297 of 400)	74% (297 of 400)	74% (298 of 403)	74% (299 of 403)	0%
15.2.23 - Total # of visitors to NWRS - annual	46,912,041	48,477,661	50,172,483	48,166,877	53,610,857	36,797,101	40,000,000	3,202,899