
U.S. Fish and Wildlife Service



Environmental Stewardship

and

Greening of the Government

February 2003

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This document is published and maintained by the Environmental and Facility Compliance Branch, Division of Engineering, with input from many other Service Offices. For questions/comments, please call Billy Umsted, Chief, EFC, at (303) 984-6865.

I. Introduction

The Fish and Wildlife Service (Service) is a leader within the Department of the Interior in environmental stewardship. The public looks to the Service as stewards of the environment. We must provide an outstanding model of environmental leadership. Efforts in this area are in direct support of the Service mission which is:

“Working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.”



The Service has an active commitment to “Greening the Government” by protecting the natural processes that sustain life. Greening Service facilities will improve the future health of the environment on the lands that we are entrusted to conserve. The greening goals of the Service are contained in the Department of the Interior Strategic and Action Plans and Director’s Order 144.

Noteworthy is a commitment to stewardship initiatives in the following areas:

- Environmental Compliance
- Environmental Management Systems
- Environmental Training
- Remediation and Cleanup of Solid Waste
- Energy Conservation
- Sustainable Design in Construction
- Natural Resource Damage Assessment
- Historic Preservation
- Pollution Prevention
- Green Acquisition and Restoration
- Recycling

The Service extends its environmental commitment to 95 million acres across the United States, encompassing a network of 540 refuges within the National Wildlife Refuge System and 70 installations within the National Fish Hatchery System.



II. Environmental Compliance Auditing Program

Background

The Service initiated a comprehensive environmental compliance auditing program in 1994. The Division of Engineering (DEN) started the program with publication of state and federal handbooks for auditor use in the field. The DEN developed a sustainable program by training and certifying Regional personnel to accomplish the audits while maintaining central control over an audit database, training, and distribution of funding. During 2002, the Service completed a full cycle of audits at all facilities. The Service has also assisted other Bureaus in setting up mandatory compliance auditing programs.



Audit Team - Missisquoi NWR
October 2002

Purpose

The Service engages in certain operations and activities that could cause environmental impacts on public health and the environment.

The purpose of the Service Environmental Compliance Auditing Program is to:

- Establish Service-wide standards and consistency for Regional environmental compliance audits as a means of ensuring the Service’s compliance with all applicable environmental laws and regulations;
- Assure the Service Directorate and environmental program managers that environmental programs are effectively addressing issues that could:
 - Impact Service mission effectiveness
 - Jeopardize the health of Service personnel or the public
 - Degrade the environment
 - Expose the Service to avoidable financial liabilities as a result of noncompliance with environmental requirements
 - Erode public confidence
 - Expose individuals to civil and criminal liability
- Maintain a record of outstanding and corrected environmental deficiencies; and
- Provide accurate information to develop budget priorities.

Scope

The Service has a wide range of field facilities that require audits. They include the following:

Refuges	540
Hatcheries	70
Wetland Management Districts	34
Ecological Services Field Offices	61
Law Enforcement	43
Fisheries Research Facilities	16
Training Facility	1
Miscellaneous Field Offices	96
TOTAL:	861

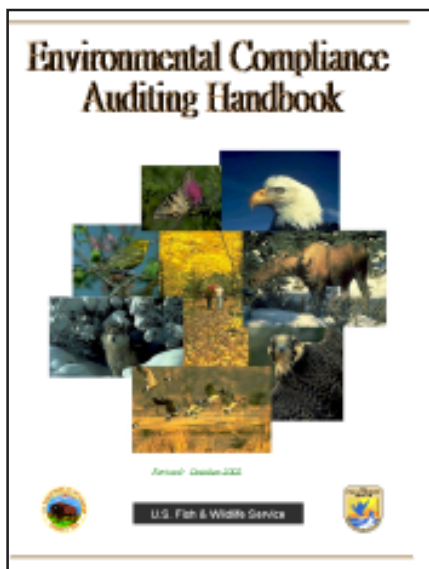
Procedures

- Audits are conducted using Federal (updated annually) and State (updated every 2 years) handbooks. These handbooks list all state and federal compliance requirements in a matrix format that is easy for auditors to follow.



The handbooks are divided into 11 protocols:

- Air Emissions Management
- Drinking Water Management
- Hazardous Materials Management
- Hazardous Waste Management
- Pesticide Management
- Petroleum, Oils, and Lubricants (POL) Management
- Solid Waste Management
- Special Pollutants Management
- Underground Storage Tank (UST) Management
- Wastewater Management
- Greening



Federal Auditing Handbook

Audits are divided into 3 categories:

- **Formal Audits.** Formal audits are performed on all staffed facilities with maintenance facilities, fuel storage areas, laboratories and chemical storage areas. Formal audits require a site visit to the Service facility to be evaluated. While on-site, the auditors conduct record searches, interviews and site surveys, to determine the compliance status of a facility. These audits are performed by a team of two to three Service-trained individuals. Additionally, auditors provide compliance training to field personnel while on-site.



Environmental Auditor Training
October 1-4, 2002, Burlington, Vermont

- **Informal Audits.** Informal audits are utilized on facilities that are not staffed and have minimal operations, storage and maintenance activities. This is accomplished through a telephone conversation with the facility manager and by using a questionnaire and auditing handbooks.
- **Self Audits.** The Service requires audits for all field facilities through the use of the Self Audit Questionnaire. Through the self audit process, field stations perform an annual inspection to determine compliance with environmental laws and regulations. The purpose of a self audit is to provide a quick evaluation of environmental issues during the period between formal and informal audits.

Types of Findings

Audit findings are listed in five different categories as follows:

- **Significant:** A problem categorized as significant requires immediate attention. It poses, or has a high likelihood to pose, a direct and immediate threat to human health, safety, the environment, or the facility's mission.
- **Major:** A major deficiency requires action, but not necessarily immediate action. Major deficiencies may pose a threat to human health, safety, or the environment. Any immediate threat, however, must be categorized as significant.



- **Minor:** Minor deficiencies are usually administrative in nature, even though those findings might possibly result in a notice of violation. This category may also include temporary or occasional instances of noncompliance.
- **Required Practice:** Required Practice items are those derived from Service policy or Executive Orders. While not a federal or state regulatory requirement, compliance is still required.
- **Management Practice:** Management Practice items are those for which there is no specific regulatory requirement.



Inadequate storage/disposal of hazardous waste

Most Common Findings on Service Facilities

- **Operational practice**
 - The improper handling, storing and labeling of hazardous materials;
 - The improper handling, storing and disposal of hazardous waste;
- **Environmental and Safety Plans**
 - Deficient Hazardous Communication Plan;
 - Deficient or non-existing Spill Prevention, Control and Countermeasure (SPCC) Plan;
- **Recordkeeping**
 - Proper training records for personnel engaged in hazardous material/hazardous waste operations;
 - Proper records for recycling of used oil and discharge permits.



Improper storage/labeling of hazardous waste



Bulky solid waste needing proper disposal

Photos from past audits:



Inadequate storage facility



Incompatibles stored together
(flammables and corrosives)



Open Dump



Leaking Containers



Abandoned barrels of hazardous material

Quality Assurance/Quality Control (QA/QC)

In order to maintain consistency in the audit program, QA/QC evaluations are performed by the DEN and the Corps of Engineers.

Program Status

Through FY 2002, the Service audited over 800 facilities. The average number of audit findings per formal audit is 12. Approximately 90% of all findings are corrected without cost. The average percentage of open findings was 16.

A complete summary (by Region) of the audit program (FY 1994-2002) is shown on the table below:

Summary of Formal Audit Finding Results (FY 1994-2002)								
Type of Findings								
Region	Detailed Regulatory Findings			Required Mgmt Practice	Mgmt Practice Findings	Total # Findings	Total # Audits	Average # Findings
	Minor	Major	Significant					
1	684	653	3	287	327	1954	134	15
2	307	228	2	121	224	882	62	14
3	560	322	1	273	179	1335	84	16
4	493	325	0	215	185	1218	98	13
5	392	338	2	256	261	1249	63	13
6	220	299	0	229	219	967	161	6
7	195	58	0	89	63	405	41	10
Totals	2851	2223	8	1470	1458	8010	670	12



Shown below is a chart that compares the number of **Open Detailed Regulatory Findings** to the **Total Number of Detailed Regulatory Findings**.

Open Detailed Regulatory Findings (Cumulative) as of January 2003

Region	Total Findings	Total "Open" Findings	% Open Findings
1	1352	275	20%
2	504	53	11%
3	887	187	21%
4	830	152	18%
5	794	74	9%
6	539	54	10%
7	259	41	16%
9	0	0	0%
Totals	5165	836	16%



III. Environmental Compliance Audit Tracking

Audits and associated findings are tracked in the Environmental Facility Compliance Audit Tracking System (EFCATS). The EFCATS database is a user-friendly system that enables Service employees to input, edit and generate reports using internet browser technology. The next 4 pages illustrate features of the database.

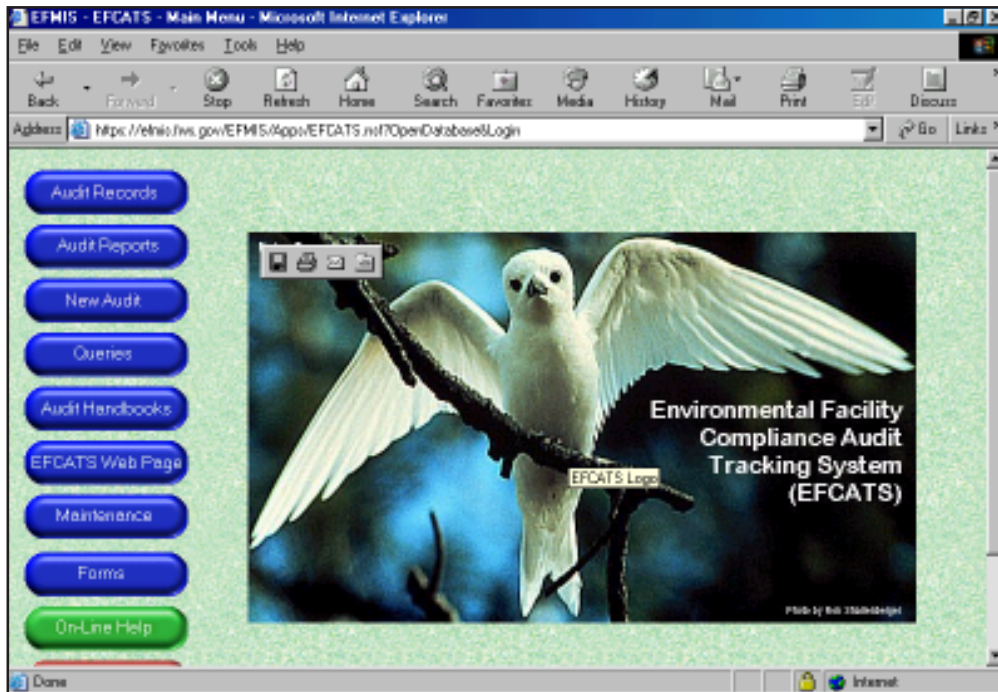
Brief Description of Attached Screen Shots:

Page 9 – “Environmental and Facility Compliance, EFMIS, etc.” This is the Log-In Screen.

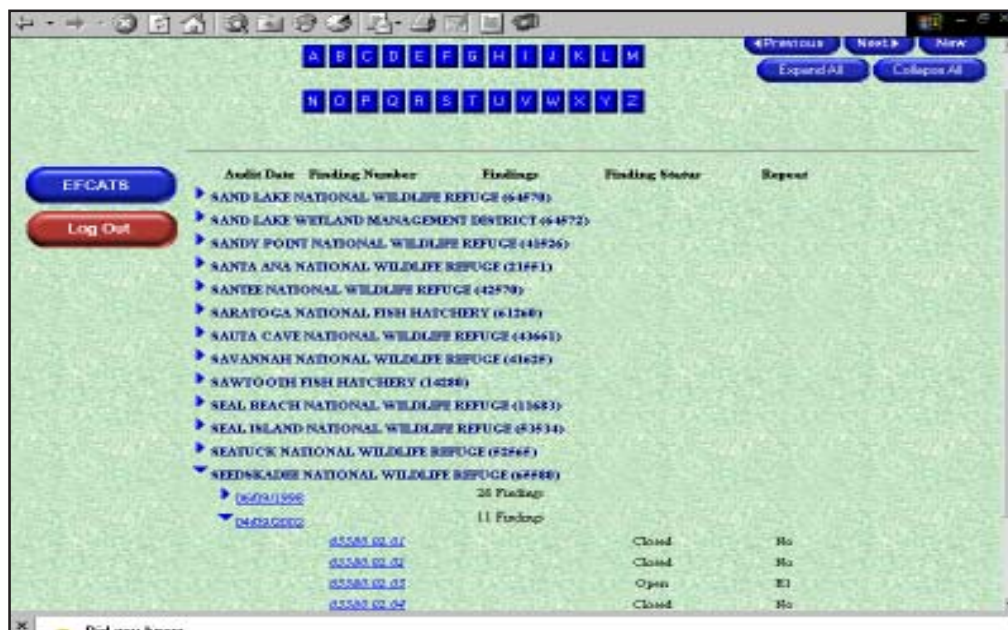
Page 9 – Audit Record (in expanded view)

Page 10 - This screen displays finding information including Condition, Solution, Status, Cost Information, and Photos.





This photo depicts the first page of the Service’s database for tracking environmental compliance audit findings. This national database is web-enabled and allows Regions to input audit data and track findings.



This screen shows the “Records” view (in expanded format which includes number of findings and whether the finding is open or closed).




Env. Cat. Section: Hazardous Materials Management Finding Type: Detailed Regulatory
 Audit Protocol: HM.35.4 Finding Category: Major
 Section Code: HM4 - Flammables/Combustibles Compliance: Regulatory
 Universal Code: 09Z - Operational Practices

FINDING SUMMARY SECTION

Criteria: Storage cabinets used for the storage of flammable/combustible liquids must meet specific requirements (29 CFR 1910.106(d)(3)).
Condition: Flammables (aerosol containers) are stored on wooden shelves in the Cleaning Closet of the Headquarters Building. Other flammables were scattered throughout the Garage and Working Area.
Sugg. Solutions: Store flammables/combustibles, not in use, in a flamm. cabinet.
Corrective Action: Safety cabinets (flammable and corrosive cabinets) were purchased and all chemicals properly stored. Item is closed.
Comments: Contact Regional Office for funds if purchasing flamm. cabinets. Although this exact item was not identified on the last audit, similar types of items/ findings were found during previous audit (65580.98.7).
Finding Status: Closed **Closed Date:** 10/21/2002

FINDING PHOTO SECTION



Flammbles (aerosol containers) are stored on wooden shelves in the cleaning closet.

Finding Cost Information Section

[Log Out](#) [EFCAT8](#) [Audit Records](#) [View Findings](#) [Finding](#) [Edit](#)

Station Name: SEEDSKADEE NATIONAL WILDLIFE REFUGE Audit Date: 04/09/2002
 Finding Number: 65580.02.01

Cost Guide Ref. No.	Item Description	Unit # of Items	Standard Cost (\$)	Non-Standard Cost (\$)	Total Est. Cost	Completed	Date Completed
11.c.	Flammable Storage Cabinet: 60-Gallon / Each	1		\$35	\$35	Yes	10/21/02
	TOTAL Est. Cost - All Items per Finding				\$35		
	TOTAL Est. Cost - All Items per Finding, including 0% contingency				\$35		
	Total Est. Cost - all COMPLETED items				\$35		
	Total Est. Cost - all NOT COMPLETED items				\$0		

[Log Out](#) [EFCAT8](#) [Audit Records](#) [View Findings](#) [Finding](#) [Edit](#)

These screens display finding information, including condition, solution, costs, and photos



IV. Environmental Management System

The Service’s Environmental Management System (EMS) is being developed in response to Executive Order 13148 and Department of the Interior and Service policy.

Beginning in August 2001, the Division of Engineering (DEN) interviewed supervisors and staff throughout the Washington Office. The process revealed strong support for EMS and a desire to improve existing environmental systems, policies and communication. During the first quarter of fiscal year 2002, the DEN completed Environmental Management Reviews (EMRs) in Regions 1-4 and visited fields stations including Ridgefield NWR, Little Salmon NFH, Sevilleta NWR, Mora NFH and Technology Center, Minnesota Valley NWR, LaCrosse Resource Center, Savannah NWR and Chattahoochee Forest NFH.

We discovered from the EMRs that Regional Offices and field stations have a strong commitment to the environment. The Regional Offices have effective recycling programs for items such as paper products and aluminum cans. Most field stations place high priority on pollution prevention and green procurement. All employees interviewed are eager to learn more about developing sustainable environmental programs.

The EMRs revealed several areas of environmental stewardship that needed some improvement both at the Regional and the field levels:

- Guidance on greening programs;
- Communication on environmental initiatives;
- Training;
- Emergency response procedures for spills;
- Procedures for addressing regulatory requirements such as hazardous materials management; and
- Follow-up on numerous open audit findings.



Minnesota Valley NWR



Little White Salmon/Willard NFHC



Regional Interviews - Region 1



The DEN implemented Environmental Management Plans (EMPs) at 4 pilot sites including Charles M. Russell NWR, E.B. Forsythe NWR, Leavenworth NFH, and Ding Darling NWR. The DEN also provided seed money to all the pilot facilities to accelerate the EMS implementation process. The EMS process was well received and will help the Service formulate the program implementation Servicewide.

At CMR Russell NWR, the purchase and use of biodiesel, antifreeze recycling equipment, 100% re-refined oil and alternative fuel vehicles, was recommended. Most of the recommendations have been implemented.



Charles M. Russell NWRC

At E.B. Forsythe NWR and Ding Darling NWR, DEN recommended the use of recycling containers, 100% re-refined oil, green-tip fluorescent bulbs, alternative fuel vehicles and interpretive exhibits for environmental programs.

At Leavenworth NFH, the maintenance shop foreman, in partnership with the local U.S. Forest Service office, initiated a solid recycling program for shop wastes (oil and solvents). The team services their vehicles only at facilities that used re-refined oil. The recycling rate at Leavenworth was 46%, already meeting the DOI's goal of 45% by the year 2005.



Leavenworth NFH, Washington

EMS Implementation Strategy - Overall Approach

The Service-wide EMS implementation strategy contains three major components: planning and preparation, field implementation and implementation support. Each of these three major components has multiple sub-components, the exercise of which will provide appropriate technical, managerial, and administrative support. Figure 1 depicts the implementation strategy.

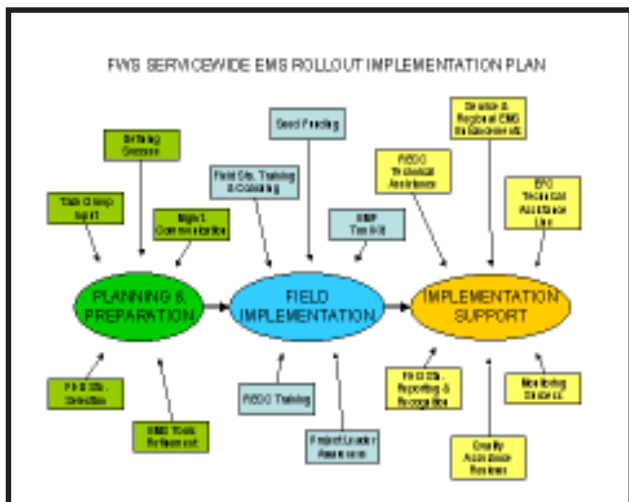


Figure 1

The implementation strategy focuses on the development of an EMS at the field station level where Service activities have the most direct and immediate impact on the environment. The Service recognizes that EMS benefits could be realized at all field stations, regardless of size and complexity, but that EMS development will focus on field stations that are larger and more complex and have the *greatest* environmental aspects and impacts. The Service will therefore concentrate on a select set of field stations (approximately 70). A team will implement the initial EMS for those field stations as was done with the pilot projects. The remaining smaller field stations may voluntarily implement the program on their own but implementation will not be mandatory for them. The Service also recognizes that Regional and Service environmental management programs are necessary to effectively support field station efforts. Therefore the strategy addresses the strengthening of EMS at these levels as well.

The implementation strategy incorporates a comprehensive approach to EMS. Efforts will be managed and coordinated by DEN, but widespread commitment from many people within the Service is required to ensure success; from awareness and communication, to training, monitoring and reporting within and between field stations, Regions, and Headquarters.

The Service-wide implementation schedule extends over three years. The schedule details implementation of EMS at the field station level by the Executive Order-specified deadline of December 31, 2005.

Stage One - Planning and Preparation

Field Station Selection – EMS implementation will take place at approximately 70 field stations. Selection criteria were as follows:

- Size, complexity and impact on the environment;
- Number of personnel at the field station (ten or more);

- DEN and region knowledge of environmental critical aspects;
- Field station management commitment;
- Regional representation;
- Service organizational representation; and
- The above equated to complexes and large field stations.

Task Group Input – An implementation team was organized and will meet periodically to provide input on the EMS rollout strategy and process.

Management Communication – The EMS strategy will be communicated to top management through briefings and other means to ensure their understanding of the program and to gain support for the project.

EMS Tool Kit – An EMS tool kit has been developed. The principle components of the tool kit are the model Environmental Management Plans (EMPs). Other environmental management system related tools include model Standard Operating Procedures (SOPs) and other information such as Fact Sheets on specific subjects, projects, and related EMS requirements (i.e., greening initiatives). The tool kit will also evolve to include resources for general environmental program development, pollution prevention, model plans, and resource lists and other information requested by field stations to help them meet environmental goals and targets.

Stage Two - Field Implementation

Field Station Training and Coaching – Approximately 70 field stations will be visited for the purpose of providing hands-on assistance in the development of a field station EMS. This effort will involve the following:

- Training on what an EMS is, and how the EMP fits the program;



- Assistance in developing a field station EMP and SOPs; and
- Other support as necessary to enable the field station to complete a draft site-specific EMP.

The roll-out schedule for this effort is based on the implementation of an EMS in at least 3 or 4 field stations per region per year; a total of approximately 20-23 stations per year. The expected time on site by the EMS Assistance Team is one week per site. Smaller field stations who want to voluntarily implement the program on their own will be provided kits upon request.

Regional Environmental Compliance Coordinator Training – Regional Environmental Compliance Coordinators (RECCs) have been trained on EMS concepts, field station EMS technical assistance, and regional EMS improvement. This training helps the RECCs understand the Service-wide EMS approach, provides guidance on how to offer technical assistance to field stations, and specifies how they can lead the development of the regional EMP.

Project Leader Awareness – Management support and understanding is required for the EMS to not only be implemented in the first place, but to flourish. Opportunities will be identified to offer EMS training to project leaders and others at field station and also at appropriate centralized meeting and/or conferences.

Stage Three - Implementation Support

Service and Regional EMS Enhancements – A range of EMS improvements were identified during the EMS gap analyses. Some of these are necessary to support the efforts at the field station level. Others are Service and Region environmental management enhancements. Activities to enhance the Regional and Service EMS will include:

- DEN support to the RECC in the development of a Region-specific EMP; and
- Development of EMS components at Region and Service levels.

RECC Technical Assistance – Field stations and Regions will require technical assistance in order to continue EMS development activities beyond the site visit effort. The RECC is the primary “front-line” environmental technical assistance source for field stations. This role should now include EMS development activities.

Field Station Reporting and Recognition – Some data may be collected from field stations on their EMS progress, especially the data required by DOI and EPA. The DOI web-site will assist in this reporting. This reporting will serve to:

- Help field stations continue to keep EMS activities active;
- Collect information on EMS successes; and
- Identify areas where more assistance is required.

A program to share EMS implementation data will be developed so that lessons learned can be shared across the organization. Either web postings or e-mails will be used for communication for those implementing the program.

Monitoring Success – Implementation of the EMS will be monitored. Summary reports will be prepared to describe program maturation. In obtaining and using such data, DEN can tailor support of the field station implementation effort, and the overall implementation strategy can be kept relevant to the needs of field stations and regions.

Quality Assurance Reviews – Tools will be developed to assess the quality of information gathered from field stations. Such information will be disseminated to other field stations. Measures will be in place to ensure the quality of data provided to other parties. Any self-assessment tool developed for use by field stations in gathering information will be both user-friendly and robust. This will ensure a standardized and comprehensive analysis of EMS activity.



Consistent with EMS policy, the DEN developed the first Environmental Leadership Award for the Service. Individual recipients of the award were recently announced by the Director. The “Outstanding Refuge/Hatchery of the Year” awards for Environmental Leadership went to Buenos Aires NWR and Little White Salmon/Willard NFH Complex (see Page 41 on Environmental Awards).



V. Training

Environmental Compliance Training

The Service’s environmental compliance training is a proactive approach to achieve the goal of full compliance and “no notices of violation.” Proper training helps achieve this goal.

The Service uses outreach techniques for training whereby Service personnel travel to select locations close to the field stations.

The training classes include Environmental Compliance Training (ECT) (formerly known as the Resource Conservation and Recovery Act Training), Comprehensive Environmental Resource Compensation and Liability Act (CERCLA) and environmental auditing. Environmental compliance training makes Service personnel aware of some of the basic tenets of environmental laws. The training stresses the elimination/minimization of the use of hazardous materials with a goal of zero waste. The course provides a primer in pollution prevention and trains employees on “Greening the Government” with the purchase of environmentally preferable products as required by Executive Order 13101. The training also summarizes the goals of Executive Order 13148 relating to Environmental Management Systems. The course teaches procedures in a “cradle-to-grave” approach for handling, storing and disposal of any hazardous waste that the field station may generate. CERCLA training involves teaching the process of cleanup of large or “Superfund” sites. Additionally, a few 8-hour Hazardous Waste Operations (HAZWOPER) Refreshers have been conducted. An Environmental Compliance Auditor Training Certification Course was conducted in October 2002.



Environmental Compliance Training Course
Loxahatchee NWR, October 2002



Participants from the Environmental Compliance
Training Course-Loxahatchee NWR, October 2002

As of December 2002, 60 ECT classes have been conducted to train more than 1200 Service field personnel. Findings on compliance audits have been significantly reduced as a direct result of these training efforts.

Additional specific compliance training is provided to field stations with regular environmental compliance audits.



VI. Remediation/Cleanup

As trustee of 95 million acres of federal lands, the Service is required by law to clean up known contamination. The main federal regulations for cleanup are CERCLA and RCRA. Appropriate cleanup studies, plans, and reports must be accomplished for the regulatory agency (state or federal) prior to cleanup. In the larger cleanups such as Superfund or large CERCLA sites, public hearings are held to gather input on the proposed remedy.

The Service has two major programs for cleanup of contaminated property. These programs include the Refuge Cleanup Program and the CERCLA/RCRA cleanups under the DOI Central Hazardous Materials Program.

The Refuge Cleanup Program consists of 40 to 60 projects per year with an annual budget of \$2.4 million. Examples of projects include the cleanup of pesticides, small landfills, and other contaminants. These projects normally range from \$20,000 to \$250,000 per project.

Klamath Marsh NWR

A cattle dip station on the Klamath Marsh NWR, Oregon, was utilized until 1979.

After conducting a PA/SI in FY 1999, the investigation revealed that elevated levels of toxaphene, DDT and DDE existed at the site. After pursuing bioremediation as an alternative, it was determined that removal of the contaminated soils was the preferred method of cleanup.

Through a cooperative agreement with the State of Oregon, the cleanup will be finalized in January 2003 with a final determination of no further action required.



Klamath Marsh NWR - Tank Excavation



Klamath Marsh NWR - After Cap Placement



Prime Hook National Wildlife Refuge

In 1999, the Service identified the lead shot cleanup site on the Prime Hook NWR, Delaware. The lead shot was deposited on Service land by an adjacent gun club that was in operation for 37 years. A site characterization study found as many as 57,868 lead shot pellets per square foot at a concentration in soils as high as 2,745 mg/kg. To protect waterfowl, the removal project began in the fall of 2002 and will be completed in the spring of 2003.



Prime Hook NWR - Before Removal



Prime Hook NWR - Excavation and Removal of Lead Shot Pellets and Contaminated Soils

Great Swamp National Wildlife Refuge, New Jersey - Harding Landfill

A removal action was completed in October 2000, at the former Harding Landfill Site on the Great Swamp National Wildlife Refuge at a cost of approximately \$2 million. A baseline ecological risk assessment identified cadmium, lead and zinc as the contaminants of concern within the existing landfill and surrounding wetlands. The remedial activities included the removal of large debris, the dredging of wetland areas and surrounding sludge pit sediments and subsequent placement of sediment on the landfill, the solidification and stabilization of wetland and sludge pit sediments with lime kiln dust and the placement of an impermeable cap over the treated contaminants and sediments. Operation and maintenance continues to assure that the remedy remains successful.



Great Swamp NWR, New Jersey After Removal Action for Heavy Metals



Great Swamp NWR, New Jersey Restored Wetland



VII. Environmental Compliance Policy

The Service has published 25 chapters in the Fish and Wildlife Service Manual concerning environmental issues. These chapters include the following topics:

- Policies and Responsibilities
- Pollution Prevention
- Reporting Pollution Incidents
- Inventories
- Hazardous Waste Compliance Docket
- Environmental Compliance Auditing Program
- EPA Enforcement Policy
- Clean Air Act
- Clean Water Act
- Safe Drinking Water Act
- Solid Waste Disposal Act
- RCRA Hazardous Waste
- Asbestos Management
- Underground Storage Tanks

- PCB's
- CERCLA Cleanup Sites
- Radioactive Materials
- Radon
- Medical Waste
- Emergency Planning and Community Right-to-Know
- Recycling
- Energy Conservation
- Green Acquisition
- Remediation, Abatement, and Environmental Compliance Funding
- Reporting Releases of Hazardous Substances, Oil Discharges and Contaminated Sites

Additionally, the Service has published a Director's Order, No. 138, Ozone Depleting Substances Phaseout Plan.



VIII. Energy Management

The Service applies innovative approaches in energy management and is recognized as a Federal energy conservation leader. In FY 2002, the Service met the FY 2003 building energy reduction goal. Many energy-efficient lighting, fuel switching, and renewable energy projects have proven to be cost effective. Four facilities are designated as “Federal Energy Saver Showcases.” Twenty-eight Alternative Fuel Vehicles (AFV’s) and four electric trams for visitor wildlife tours have been acquired, and field stations in Massachusetts will be receiving seven donated Th!nk electric vehicles in 2003.



Energy Consumption and Progress Toward Energy Reduction Goals

The Service reports energy consumption data to the Department of Energy (DOE), as mandated by the Energy Policy Act of 1992 and Executive Order 13123. In FY 2002, the Service spent \$8.6 million for energy in over 6 million energy-using square feet of buildings, processes, aviation gasoline and jet fuel. Although energy consumption in Service buildings in FY 2002 decreased approximately 50 percent from the 1985 base year, which exceeds the FY 2003 goal of -25 percent, total energy use and costs increased by approximately 5 percent from the previous year.

Energy Management Guidance

Policies and procedures of the Service’s energy management program are described in Part 373 of the “Fish and Wildlife Service Manual.” The manual was updated to reflect recent energy mandates and presents new Service policy to substantially reduce

energy usage below recommended standards through responsive design of buildings including passive solar, geothermal energy, and low-risk energy efficiency technologies.

Energy Efficiency Projects and Backlog

Within funding limitations, the Service incorporates energy efficiency in the planning/design, construction, and ongoing maintenance of buildings. In FY 2002, a total of 43 energy projects were attempted, accomplished or implemented at a total cost of \$767,024. The Service has an energy-related deferred maintenance backlog of 163 projects totaling \$11,604,000 at National Wildlife Refuges and National Fish Hatcheries.

Program	Number of Projects	Energy-Related Deferred Maintenance
National Fish Hatcheries	73	\$4,370,000
National Wildlife Refuge	90	\$7,234,000
Total	163	\$11,604,000

Energy Studies and Audits

Energy Prioritization Surveys were completed at 298 facilities in FY 2000. A total of 59 comprehensive energy audits have been completed at 79 facilities. “SAVEnergy” Audits have been completed at 6 of 27 sites nominated. On July 6, 2001, renewable energy opportunity assessments were completed at 20 Service field stations, which were funded by a \$35,000 grant from the National Renewable Energy Laboratory (NREL). A SAVEnergy Audit of the Minnesota Valley NWR visitor center, Minnesota was completed in September 2002. Results are intended to be used as a guide to implement feasible and practical energy efficiency measures.





Minnesota Valley NWR Visitor Center

use of low-risk energy efficient technologies that are readily available, easily maintained, and cost effective. In September 2002, the Service developed a draft policy that would require any new construction or rehabilitation of Service buildings to be consistent with industry standard building ratings, such as the Leadership in Energy & Environmental Design (LEED) Green Building Rating System, and Energy Star® compliant.



Minimization of Petroleum-Based Fuel Use

Several Service facilities, such as the Bozeman Fish Technology Center, Montana, have been successfully converted from fuel oil to natural gas. In the summer of 2002, the Litchfield Wetlands Management District, Minnesota, successfully converted from electric to propane heating.

Operation and Maintenance Procedures to Increase Energy Efficiency

The Service purchases energy-efficient appliances (especially microwave ovens and refrigerators) for its offices and promotes purchase of energy-efficient items on the GSA schedule and through the Javits Wagner O’Day (JWOD) Program, which aggressively incorporate energy-efficient items into their product lines. (The JWOD Program provides employment opportunities for thousands of people with severe disabilities to earn good wages and move to greater independence.)

Energy Efficiency During the Planning/ Design Process

All Service engineering designs must be certified as complying with applicable building energy codes. Service engineers are required to use computer programs and implement passive solar strategies when designing new buildings. Emphasis is on the



The Service is currently recommending use of COMcheck-EZ, which includes the provisions of the American Society of Heating, Refrigerating and Air_Conditioning Engineers’ (ASHRAE) energy standard 90.1-2001, “Energy Standard for Buildings Except Low-Rise Residential Buildings;” EPA’s “Portfolio Manager” to evaluate compliance with Energy Star® goals in existing buildings; and EPA’s “Target Finder” model for future Energy Star® building compliance.

Electrical Load Reduction Measures

The Service acted quickly to ease possible energy shortages in California and other States in the summer of 2001, coinciding with the Presidential directive of May 3, 2001. The conditions that created this crisis appeared to have abated in 2002, but the Service has continued to implement energy reduction strategies within funding limitations. Specifically, the Service completed Facility Energy Strategic Plans for 487 individual field stations that reported data in FY 2002. Common strategies are included in all plans.



Renewable Energy

The Service advocates the use of renewable energy technologies such as solar, geothermal, wind, and hydroelectric power to reduce the use of fossil fuels, reduce maintenance costs, and free-up resources for other priorities. In FY 2002, 11 solar energy, two wind energy, and two geothermal energy projects were implemented.

Solar Energy

Long before the President urged each agency to strive to expand the use of renewable energy, the Service was committed to cost-effective solar energy applications. Among 53 others, the Service has active solar energy facilities at sites in remote Pacific Islands, Hawaii, South Dakota, Rhode Island, and Puerto Rico (solar cooling). Solar lighting has proven to be efficient at Merritt Island NWR, Florida.



Solar light over a boater safety and manatee warning sign at a remote boat launch site at Merritt Island NWR

Geothermal Heat Pumps

The Service is Interior’s leader in ground source (geothermal) heat pump (GHP) projects, with nine systems installed since 1994, including three energy showcase facilities. GHP’s are earth heat exchangers that consist of either a closed or open loop piping system circulating through the ground, rejecting heat to or extracting heat from the earth. The Service’s experience shows, in most cases, supplemental heating is not needed, there are no noise or vibration problems if the systems are located on the second floor such as at the office building at Long Lake NWR, North Dakota, and systems are often turned off in summer months, such as at Lake Andes NWR, South Dakota. As a general rule, GHP systems save approximately 25 percent of the energy compared to a conventional system.



Headquarters at Long Lake NWR, ND



Wichita Mountains Wildlife Refuge

Even though the GHP system at the \$6.3 million, 22,000 square-foot Visitor Center, Wichita Mountains Wildlife Refuge, Oklahoma, did not have the lowest initial cost, the impact on the environment was considered to be a very important part of the project.



Wichita Mountains Wildlife Refuge Visitor Center

Creston National Fish Hatchery

At the Creston NFH, Montana, seven GHP projects were done since 1993: five closed-loop GHP systems for the residences, and two open-loop GHP systems at the hatchery, where they have the potential of flowing water.



Geothermal Heat Pump Units at Creston NFH

Cusano Environmental Education Center

The ribbon cutting at the 14,000 square-foot Cusano Environmental Education Center, John Heinz NWR at Tinicum, Pennsylvania, was in December 2000. The difference in cost between a GHP system and a standard HVAC system was approximately \$70,000 to \$80,000, and with an annual savings of at least \$3,900, the simple payback period is 20 years. Construction costs were higher than expected because the contractor had to drill through huge chunks of concrete of a former fill area.



Cusano Environmental Education Center

Demonstration Wind Energy Project

A Bergey Excel 10KW wind turbine became fully operational after it was grid-connected on May 17, 2002, at the Eastern Neck NWR. It was installed to provide power to the administrative building from the Refuge's historically strong, northwest winds during winter months. Avian interaction surveys were implemented, and daily inspections of a 100 foot area around the wind turbine from June through September 2002 did not discover any birds injured or killed by the turbine or its tower. In FY 2002, DOE's Federal Energy Management Program awarded \$7,000 to the Refuge for a Renewable Energy Manager whose contracted services include conducting a three-year avian interaction study to determine any negative impacts on refuge bird populations in the vicinity of the wind turbine.

Eastern Neck NWR's partnership with the Maryland Energy Administration resulted in a successful FEMP proposal awarding funds for direct use at the Refuge to implement and evaluate sustainable energy by 2003, the National Wildlife Refuge System's Centennial. The FEMP project included \$22,000 for PV panels as a hybrid solar system for the summer months of light wind.



Wind Turbine at the Eastern Neck NWR

Water Conservation Projects

Executive Order 13123 requires water use reporting and implementation of Best Management Practices (BMP's) for water conservation. The Service owns approximately 5,000 buildings, most of which are small. Many facilities either do not have metered water consumption or draw their water from unmetered wells. Most Service field stations are staffed by only a few employees and generally have low water use. As such, in accordance with guidance from the Department of the Interior, the Service focuses on those owned buildings that purchase water from community water systems. Many facilities are exempt from reporting water use. In FY 2002, a total of 37,956,209 gallons of potable water was used at 31 field stations that purchase

water from community water systems at a cost of \$107,737. Water management is included in the Facility Energy Strategic Plan for each of these 31 field stations. In all new construction and building retrofits, the Service will continue to implement BMP's wherever possible. For example, all four energy-showcases have BMP's in-place.

Mora National Fish Hatchery

The Mora National Fish Hatchery and Technology Center, New Mexico, received a 2000 Federal Energy and Water Management Award for implementation of a fishery water reuse system that saves approximately 2.2 billion gallons of water, based on a remarkable water reuse rate of 95 percent. This initiative is one of the Department of the Interior's most outstanding examples of water conservation.

In addition, the Cusano Environmental Education Center has implemented an innovative on-site "marsh machine" wastewater treatment plant.

Alternative Fuel Vehicles

Over the past eight years, the Service has planned and implemented Alternative Fuel Vehicle (AFV) acquisitions in accordance with Executive Order 13031, and organized a network of Regional staff specialists to promote and oversee AFV acquisition and fuel conversion, and promote AFV awareness. Servicewide efforts have led to: acquisition of 28 AFV's and four electric trams for wildlife tours; plans for greatly increasing use of AFV's (including dual-system retrofits for the large number of isolated field stations); greater emphasis on vehicle fuel conservation; a positive climate for continuing Regional Office and field station participation in the AFV program; and introduction of utility companies, manufacturers, and AFV consortiums to new markets. The following are documented contributions and benefits which have increased use of AFV's and fuel conservation:

- Entered into an agreement in FY 2002 with the Ford Motor Company through the National Park Foundation to donate seven Th!nk electric vehicles to the following field stations in Massachusetts (not included in the 28 AFV's mentioned above):

- Eastern Massachusetts NWR Complex, Sudbury (two vehicles)
- North Attleboro NFH, North Attleboro (two vehicles)
- Parker River NWR, Newburyport, (two vehicles)
- Richard Cronin National Salmon Station, Sunderland (two vehicles)



Ford Electric Th!nk Vehicle

- Obtained three state-of-the-art alternative energy 24-passenger electric trams customized for off-road use, several electric bikes, and an electric pickup truck for Back Bay NWR, Virginia, creating a "clean transportation zone." An impressive coalition of the Southern Coalition for Advanced Transportation, Georgia Power, Virginia Power, Department of Defense, National Fish and Wildlife Foundation, Commonwealth of Virginia and Department of the Interior, all contributed financially or technically to make this innovative program possible.

- Partnered with the Virginia Electric Power Company to obtain three noiseless, emission-free S-10 electric pickup trucks placed at wildlife refuges throughout Virginia for a 60-day no-cost trial demonstration.

- Developed a new Web site for alternative fueling sites and vehicles that contains a list of Service field stations with more than 5 vehicles and the addresses of any alternative fueling sites within 10 miles. Another list has the distances from these stations to the nearest ethanol (E-85 or ethyl alcohol), Compressed Natural Gas (CNG or methane), and Liquefied Petroleum Gas (LPG or propane). The site also has hypertext links to all available alternative fuel sites and vehicles, Executive Orders, and Federal literature.

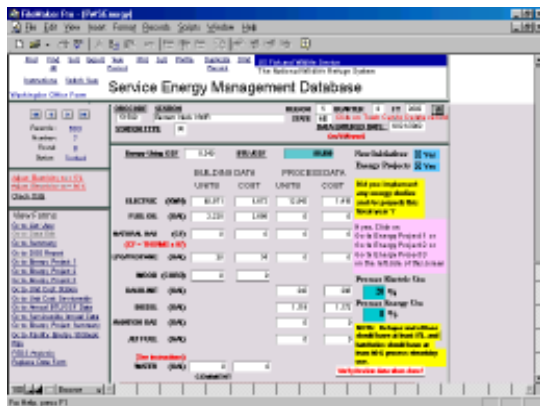
Incentive Awards

Since 1989, the Service has had an excellent "track record" of nine winners that have received Federal Energy and Water Management Awards sponsored by the Department of Energy -and the Federal Interagency Energy Policy Committee. On October 23, 2002, the Eastern Neck National Wildlife Refuge at Rock Hall, Maryland, received the "Renewable Energy" award under the "Small Group" category for the implementation of innovative energy efficiency and renewable energy projects. Specifically, Refuge staff provided a renewable energy system educational opportunities and demonstration projects for the community. Additional accomplishments included: installation of a wind turbine to produce most of the power needed for the Refuge office (saving an estimated \$1,700 in 2001); installation of two solar photovoltaic (PV) demonstration panels which provide the battery power to illuminate the American flag at night and a recirculating pump for a Refuge pond; and purchase of an alternative-fuel (ethanol) van. Additionally, on June 6, 2002, the Refuge sponsored a public workshop on renewable energy that received enthusiastic response from the local community and media.



Innovative Reporting of Energy Data

A new web-enabled energy data base developed by the Service allows more immediate reporting and monitoring of Service energy consumption. The database also includes updated energy-using gross square footage (gsf) data from the Service’s Real Property Inventory, organization codes and station names from the Service’s Corporate Master Table, and additional analytical features that enable a more accurate identification of building and process (includes the “plug load”) energy use.



IX. Sustainable Design

Background

Executive Order 13101, "Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition," requires the Service to expand waste prevention and recycling programs, implement affirmative procurement programs for EPA-designated items, and procure environmentally preferable products and services for design and construction projects.

Specific Goals

The Service is following sustainable design and construction practices that significantly reduce or eliminate the negative aspects of buildings on the environment.

Sustainable design is a holistic action promoting design choices that save energy, lower maintenance costs, conserve water usage, and eliminate unnecessary construction waste. Recycling and purchasing environmentally preferable products are easy ways to practice sustainable architecture.

The Service shows environmental leadership by providing sustainable management practices that move beyond compliance with environmental regulations. Sound resource stewardship is demonstrated not only by our conservation of fish and wildlife, but also by actively identifying sustainable features used in our facilities to the visiting public.

Every effort will be made to increase the use of environmentally preferable products and services during the planning, design, and construction of Service facilities.

Environmentally Preferred Purchasing

EPA-designated recovered material products, as required under the Resource Conservation and Recovery Act (RCRA) of 1994, Section 6002, will be used by the Service when considering product performance, availability, and price. EPA issues Recovered Materials Advisory Notices (RMANs) identifying specific recovered materials as part of their Comprehensive Procurement Guidelines or CPGs.

Participating in the procurement of recycled content products contributes to sound waste management practices. Recycled content purchases help reduce the use of virgin materials, reduce our dependency on imported raw materials, and slow the rate at which the nation's landfills become filled. Recycling is also a highly effective strategy for reducing health risks and pollution resulting from virgin material extraction and processing.

EPA's Recycled Content Requirements

Section 6002 of the 1976 Resource Conservation and Recovery Act (RCRA) requires the Service to purchase EPA-designated products for buildings containing recovered (or recycled content) materials "to the maximum extent practicable." EPA has designated 54 recycled content products or categories of products in their Comprehensive Procurement Guidelines (CPG). CPGs are regulations issued by EPA identifying items produced, or which can be produced, with recycled materials. Specific product designations can be found on EPA's website at www.epa.gov/cpg.



The Service is required to purchase the EPA’s designated items composed of the highest percentage of recovered materials practicable unless such items:

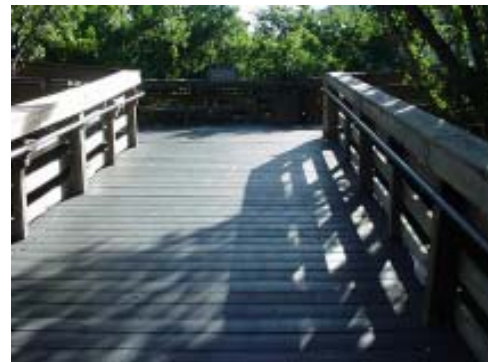
- Are not available within a reasonable period of time, or
- Fail to meet the performance standards set forth in applicable specifications or fail to meet reasonable agency performance standards, or
- Are only available at an unreasonable price, or
- Are not available from a sufficient number of sources to maintain a satisfactory level of competition. In order for an item to be considered as non-competitive, it has to have less than two (2) product sources.



Recycled Plastic Decking at the Boyer Chute NWR, Nebraska



J. N. “Ding” Darling NWR



J. N. “Ding” Darling NWR

LEED Certification

Any new construction or rehabilitation of Service buildings must be consistent with industry standard building ratings, such as LEED rating (as defined in 373 FW 1.7.B). At a minimum, buildings must be designed to meet the equivalent of a “LEED Certified” rating. Service staff are encouraged to design and construct facilities to achieve the equivalent of a Silver Level or Gold Level rating. In accordance with Director’s Order No. 144, “whole building” design principles must be used to create sustainable buildings by increasing energy efficiency and reducing water consumption.

The Cusano Environmental Center at John Heinz NWR at Tinicum was designed to be the equivalent of LEED certified.

The U.S. Green Building Council currently is working on a version of LEED for existing buildings, which will incorporate Energy Star®.

Green Websites

The Fish and Wildlife Service will soon have their green website, called Greening the Fish and Wildlife Service, posted and up and running. Service employees will find this site at sii.fws.gov. It will also be available as a link on the Department’s green website called, “Greening the Department of Interior” at [www.http://ec21qa.nbc.gov/green/index.html](http://ec21qa.nbc.gov/green/index.html).

Links to Additional Information

www.ofee.gov/ - Executive Order 13101, "Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition"

www.epa.gov/cpg - Environmental Protection Agency's Comprehensive Procurement Guidelines

<http://www.usgbc.org> - Leadership in Energy and Environmental Design and LEED, Green Building Rating System, by the U.S. Green Building Council

<http://tjcog.dst.nc.us/> - High Performance Guidelines: Triangle Region Public Facilities, by the Triangle J Council of Governments

<http://www.ci.nyc.ny.us/html/dds/pdf/greentoc.pdf>
New York City's High Performance Guidelines

<http://www.sustainabledesignguide.umn.edu/default.htm> - The Minnesota Sustainable Design Guide

<http://www.sustainableportland.org/GB%20Housing%20Guidebook.pdf> - Greening Portland's Affordable Housing, Design and Construction Guidelines

<http://www.afcee.brooks.af.mil/green/facilitiesguide/facguide.asp> - United States Air Force Environmentally Responsible Facilities Guide

Sustainable Case Studies

The following pages highlight sustainable facility projects recognized by the Fish and Wildlife Service:

Index of Case Studies:

- Cusano Environmental Education Center, John Heinz National Wildlife Refuge

- Prairie Learning Center, Neal Smith National Wildlife Refuge, Walnut Creek, Iowa
- Wichita Mountains Visitor Center, Indianola, Oklahoma
- National Training and Conservation Center, Shepherdstown, West Virginia

See next section of photos depicting green design and showcase awards.



Cusano Environmental Education Center

John Heinz National Wildlife Refuge at Tinicum
Philadelphia, Pennsylvania



National Fish and Wildlife Foundation



This material used throughout the building is a formaldehyde-free MDF board, produced from waste wood fiber



Cusano Environmental Education Center





Greenhouse for a special, educational purpose



Wastewater Treatment



Rainwater Collection

1998 Federal Energy Showcase Award Recipient



Prairie Learning Center, Neal Smith
National Wildlife Refuge - Interior



Prairie Learning Center, Neal Smith
National Wildlife Refuge



Wichita Mountains Visitor Center
Indianhomia, OK

Federal Energy Showcase Award Recipient



National Conservation Training Center, West Virginia



National Conservation Training Center, West Virginia

X. Natural Resource Damage Assessment and Restoration

The primary aim of the Natural Resource Damage Assessment and Restoration Program (Restoration Program) is to restore natural resources injured as the result of oil spills or hazardous substance releases. Through the conduct of natural resource damage assessment activities authorized by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Clean Water Act (CWA) and the Oil Pollution Act (OPA), injuries to Interior trust resources are identified and damages assessed, leading to negotiated legal settlements or other legal actions against the responsible polluting parties. Settlements (in cash or in-kind services) are then used to finance or implement the restoration of the injured resources at no expense to the taxpayer. Settlements often include the recovery of costs incurred in conducting damage assessment activities, which are then used to fund other damage assessment projects.

Examples of Restoration Actions

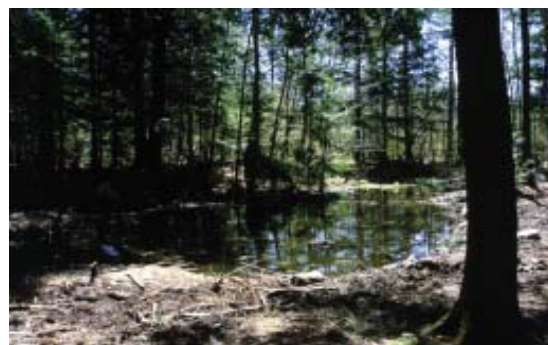
Several restoration projects conducted under CERCLA demonstrate how the Service works cooperatively with other co-trustees in restoring injured natural resources.

An example is the Bennington Landfill Restoration. Leachate from the Bennington Landfill in Vermont contaminated adjacent wetlands, used by migratory birds, with PCBs, volatile organic compounds, and metals. PCB poisoning in birds causes increased disease rates, beak deformities, reproductive impairments, coordination problems and tremors. As part of the settlement with the responsible party, the Town of Bennington obtained a conservation easement to permanently protect 14 acres of uncontaminated forested wetland habitat, including woodland pools. Natural hydrologic conditions were

restored by removing an antiquated water collection system consisting of concrete cisterns and underground pipes. A “citizen committee” oversaw the restoration, created trails and interpretive signs and helped local schools integrate restoration activities into their biological and social science curriculum. Involvement of the local community played a big role in the success of the project. The outcome was a sanctuary that provided public use, as well as migratory bird habitat.



An antiquated cistern alters hydrologic conditions and provides limited access to wildlife prior to restoration



After the cistern’s removal, the natural hydrology of this woodland pool is restored and access to wildlife is improved

Another example involves the restoration for injuries from the Sharon Steel and Midvale Slag Superfund sites along the Jordan River south of Salt Lake City. The Sharon Steel site was an ore milling facility, and the Midvale Slag site was a smelting site. Mine tailings and smelting wastes containing lead and arsenic buried hundreds of acres of riverine wetlands



and were also dumped into the Jordan River, contaminating sediments, killing fish and injuring migratory birds. Lead affects survival, growth, learning, reproduction, behavior and development in most living organisms. Arsenic can cause fetal death and malformation in many mammals. A \$2.3 million settlement is being used to fund acquisition and restoration of approximately 270 acres of high-value wetland and riparian habitat along the Jordan River. Restoration activities include river bank stabilization, replacement of non-native plants with native species, and modification of site hydrology to enhance wetlands.



The Jordan River - As part of the Restoration Plan, approximately 270 acres of wetland and riparian habitat will be acquired and restored

The effort is proceeding in partnership with state and local agencies, non-profit and private organizations, and businesses, which are providing additional funding or in-kind work. These cooperative efforts will benefit numerous bird species, fish and other wildlife dependent on the River, as well as the people in the local communities. Similarly, when funds are collected from parties responsible for oil spills they are spent on habitat restoration activities or activities to accelerate recolonization of spill sites. For example, after the Exxon Valdez oil spill in Prince William Sound, the Service, along with other federal and state agencies, was responsible for numerous purchases of land scheduled for timbering to reduce future impacts to birds using nearshore areas and to marbled murrelets using shoreside forests.

Additional funds collected from responsible parties have been spent on restoration projects to enhance salmon runs, restore damaged bird habitat, and protect archeological resources, as well as research and monitoring to guide restoration efforts. After an oil spill on the Central California coast that killed 9,900 seabirds, of which 6,300 were common murrelets, funds collected from the responsible party through Restoration Program efforts were used by state and federal agencies to successfully attract murrelets back to abandoned rock island rookeries, purchase marbled murrelet nesting habitat, and restore island habitat at Southeast Farallon Island.

Restoration

The Service is a leader in the restoration of natural resources. The goal of the Restoration Program is to bring natural resources back to the way they would have been had there been no spill or hazardous substance release. Restoration actions vary in scope depending upon the site and complexity of injury, and may include: increasing the population of a species through reintroduction and/or restocking; increasing the amount of quality habitat available to a trust species through wetland or other habitat restoration and/or acquisition; enhancing or restoring the quality of existing habitat; enhancing the perpetuation of a species by protecting habitat through the use of deed restrictions or easements; and the purchase of quality habitat for management by states, non-profit organizations, or the federal government.



Sacramento River at Ney Springs after completion of habitat enhancement activities

Sometimes the restoration can be completed quickly (e.g., limited plantings, addition of gravel to streambeds, protective fencing), and in other circumstances full recovery takes years (e.g., population supplementation projects, complex habitat restorations).

Restoration activities are achieved through payments received from responsible parties or through in-kind restoration actions carried out by the responsible parties. Settlement payments from responsible parties are used to restore, replace, or acquire the equivalent of injured natural resources. In some cases, rather than monies being paid by responsible parties, the responsible parties may agree to carry out the restoration actions under supervision of the trustees. Settlement funds can also be used for restoration planning activities. The Restoration Plan is made available for public review and comment prior to implementation. Many restoration efforts are planned and implemented cooperatively and in partnership with state agencies, citizen groups and responsible parties.



XI. Historic Preservation:
Protecting and Using Our
Nation's Past

Lands managed by the Fish and Wildlife Service contain tens of thousands of historic, archaeological and cultural sites. These irreplaceable resources are managed under many laws and executive orders, the most notable being the National Historic Preservation Act of 1966, as amended. The Act requires the Service to establish a preservation program to identify, evaluate and protect important historic and archaeological sites on its lands or affected by projects.

The types of sites managed by the FWS are geographically and culturally diverse—11,000 year old archaeological sites providing evidence of the hemisphere's earliest inhabitants, cemeteries and other sacred areas, 19th Century homesteads and farms, battlefields, and lighthouses.

Historic preservation is not just about studying our nation's distant past. More importantly, it is about bringing our nation's rich history to life and making it relevant to current needs and plans. Examples include the re-use of historic buildings which add a sense of place and character to our lands and communities. Adapting historic buildings for use as offices and visitor facilities may also save on construction, maintenance and even energy costs over an extended period of time.

Lighthouses have played pivotal roles in our nation's maritime history, guiding ships safely along our nation's rugged coasts. Today, many lighthouses serve as beacons for their surrounding communities, attracting millions of visitors each year to experience their unique histories and scenic locations. There are currently about 30 light stations located within the boundaries of national wildlife refuges, some of

which have been maintained and opened for public visitation. Examples include the Kilauea Light on the Kilauea Point National Wildlife Refuge in Hawaii and Monomoy Light on the Monomoy National Wildlife Refuge in Massachusetts.



Kilauea Light, Kilauea Point
National Wildlife Refuge

Constructed in 1913, Kilauea Light is located on the northern most point of the Island of Kauia. In addition to the 52 foot tall light tower, there are three early 20th Century Coast Guard houses on the refuge that were used when the light was operated manually. These buildings have been adapted for current refuge use. The light station plays a prominent role in interpreting the cultural and natural history of the refuge for the visiting public.



XII. Green Acquisition

Director's Orders On Environmental Leadership

The Director's Order on Environmental Leadership was officially published and distributed to all concerned Service parties in Fiscal Year 2002.

Regional Greening Coordinators

The Service has established Service-wide, Regional and field Greening Coordinators. The Greening Coordinators continue to work closely with the Service's Regional Business and Economic Development Program Managers (BEDP). The Regional Greening Coordinators and the Regional BEDP Managers work together in order to provide products and services that will ultimately reduce the environmental impact.

Special Assistance Provided by Regional BEDP Managers, Charge Card Holders, and Program Administrative Officers

In support of the Greening Program and the BEDP, our Regional BEDP Managers attend various Procurement Conferences, Trade Fairs, and Seminars throughout the fiscal year to carefully identify contractors who can successfully provide green products and services and these sources are provided to all concerned parties within the Service's region. The Regional Greening Coordinators, BEDP Managers, Charge Card Holders, and Program Administrative Officers continue to stress the full significance of purchasing green products and services.

Purchases

The Service continued the practice of purchasing energy-efficient appliances (especially microwave ovens and refrigerators) for all offices. This is done via charge card, other methods, on the GSA schedule and through the Javits Wagner O'Day (JWOD) Program, which aggressively incorporate energy-efficient items into their product lines. (The JWOD Program provides employment opportunities for thousand of people with severe disabilities to earn good wages and move to greater independence.)

Alternative Fueling

The Service's CFM division has established a Web site for alternative fueling sites and vehicles at: <http://sii.fws.gov/r9cgs/altfuel.htm>. It contains a list of Fish and Wildlife Service stations with more than 5 vehicles and the addresses of any alternative fueling sites within 10 miles. Another list has the distances from these Service stations to the nearest ethanol (E-85 or ethyl alcohol), Compressed Natural Gas (CNG or methane), and Liquefied Petroleum Gas (LPG or propane). The site also has hypertext links to all available fuel vehicles (AFVs), including 7 FORD Th!nk electric vehicles that were donated by the manufacturer through the National Park Foundation.

Tactical Vehicle and Equipment Fuel Use

Fuel consumption data, including miles driven, fuel added during the quarter (diesel, gasoline, gasohol, propane/LPG), and total repair costs for every Service-owned (non-tactical) motor vehicle with a personal property number are submitted directly to GSA by each field station, Regional Office, and the Washington Office online via the "Fast" system.



Action Taken to Reduce Vehicle Energy Use

The Service took the following actions in Fiscal Year 2002 to reduce vehicle energy use:

- Regional Offices were requested to consider acquiring alternative fuel vehicles (AFVs).
- In November 2002, during the CFM monthly CGS conference call the attendees were briefed on voluntary saving an average of 2 gallons per month per government-owned or GSA leased vehicles and also were provided a guide via the CFM website for how to reduce fuel consumption.

Fish and Wildlife Service's Greening Contract

The Service awarded a "greening" contract to Prizim, Inc. on July 2, 2002. Prizim, Inc. is classified as a small business firm located in Gaithersburg, Maryland. The contract is divided into two phases, Phase 1 & 2. The purpose of Phase 1 was to refine CFM goals and objectives of the Plan to incorporate greening initiatives included in other Executive Orders related to greening in addition to E.O. 13101, and those other Federal regulations. The Plan collected supplemental information from CFM staff and other interested parties, such as the Division of Engineering, to ensure that the full range of issues and responsibilities were considered in the refined plan. It incorporated information developed during tasks one and two into activities that CFM needs to develop or undertake to assist in implementing their responsibilities.

Phase 2 will consist of three tasks to assist in implementing CFM's responsibilities under the refined Action Plan. The contractor will develop products identified in the refined Action Plan, draft training materials, and draft model greening specifications for the Service's Construction and Service contracts. The anticipate completion date of Phase 2 is April 2003.

Currently, the Service is developing a list of contractors with expertise in providing greening products and services. Such information will be provided to the Regional Greening Coordinators, BEDP Managers, Charge Card Holders, and Program Administrative Officers for review and appropriate action.



XIII. Recycling

The largest waste component in an office environment is paper products. Service goals are to establish and maintain active recycling programs for office wastes, to reduce usage of paper and to increase the procurement of paper containing recycled materials. In a typical year, the Arlington Square Headquarters Building alone recycles 25-30 tons of paper according to reports from the General Services Administration.

EPA and DOI Waste Prevention and Recycling Goals

- Divert solid waste from disposal in landfills through recycling at the rate of **40% by the year 2000, 45% by the year 2005, and 50% by the year 2010.**
- Recycle the following commodities at all facilities, unless significant barriers exist (e.g., lack of markets, prohibitive cost): white paper, mixed paper/cardboard, aluminum, plastic, glass, pallets, scrap metal, fluorescent lamps and ballasts, batteries, toner cartridges, oil, antifreeze, cleaning solvents, tires, and composting.

As confirmed by our environmental audit program, most Service facilities have active recycling and green acquisition programs.

Tracking Progress to Meet Waste Prevention and Recycling Goals

Currently, the DOI Office of Environmental Policy and Compliance (OEPC) is working towards establishing a website that will enable field sites to report their data easily through the Internet.



Recycling Bins at the Minnesota Valley NWR



XIV. Environmental Awards

An awards program was established in FY 2002 for the Service. This award recognizes Service offices, employees, and contractors for their exceptional achievements in: recycling, pollution prevention, green buildings, alternative fuels/vehicles, green procurement and environmental management systems. Fiscal Year 2002 recipients for Fish and Wildlife Service Leadership Awards in the Facility category were:

**“Hatchery of the Year”
Little White Salmon/Willard National
Fish Hatchery**

The Little White Salmon/Willard National Fish Hatchery has an outstanding Environmental Management Systems program currently in place. The hatchery staff implemented operating plans and procedures, an aggressive recycling program, a program to address environmental compliance issues, innovative approaches to address suspended solids, pollution prevention initiatives and a state-of-the-art formalin treatment system.



Traveling Trophy for the “Best of the Best” Hatchery of the Year in Environmental Leadership



Complex Manager Speros Doulos (right) receiving award from Deputy RD Rowan Gould (left)

**“Refuge of the Year”
Buenos Aires National Wildlife
Refuge**

The Buenos Aires National Wildlife Refuge, recipient of the Service’s “Refuge of the Year” Award, has established a highly commendable pollution prevention program. It has grown from a single-person, informal operation, to one that is a showcase for the Service’s Southwest Region. Under the aggressive leadership of the Refuge Manager, the program has expanded to full-scale involvement of the entire staff, as well as local citizens and conservation groups. Extensive recycling, waste avoidance, and purchasing products made with recycled content are some of the ways that Buenos Aires has effectively contributed to the Service’s mission.



Staff at the Buenos Aires NWR, AZ





Traveling Trophy for the “Best of the Best” Refuge of the Year in Environmental Leadership

National Wildlife Refuge Environmental Leadership Awards

Balcones Canyonlands NWR

This Refuge recently implemented a unique extension to its existing recycling program. In 1999, the Refuge developed a joint effort with the Habitat for Humanity RE-Store to deconstruct vacant buildings that were acquired through land acquisitions. All salvageable building materials (70-90 percent) were sold at discounted prices in the RE stores. Not only were the Materials recycled, but the proceeds were used to support the Habitat for Humanity.

Sabine NWR

The Refuge had stored building materials, waste metal, surplus equipment and parts in its boneyard along a levee that extended out into the marsh, out of the way until needed. However, through time, the staff forgot what was stored. Vegetation grew over the stock piles and more material was added. In addition, this site had been used as a staging and construction area for State Highway 27 and asphalt, gravel and rock piles had also accumulated.

The clean-up operation involved Refuge staff and volunteers clearing vegetation and sorting wastes. Roll-off containers were obtained and filled with metal for recycling. Equipment and materials that

could be reused were picked up by other refuges. Cameron Parish dump trucks hauled away rock, broken concrete and other materials for reuse in shoreline protection projects.

The Creole Nature Trail National Scenic Byway Board obtained funds for design and development of a paved parking area and interpretive kiosk at the site. Refuge staff built an elevated observation deck for viewing waterfowl and other wildlife. An interpretive trail has been laid out on the former boneyard levee for use by bird watchers, nature photographers and school groups.

The combined efforts of the partners and volunteers have resulted in the elimination of a problem site, recycling it to provide new wildlife viewing and environmental education opportunities for visitors and residents in southwest Louisiana.

J. N. “Ding” Darling NWR

The J. N. “Ding” Darling NWR has incorporated environmentally-preferred materials into new construction projects:

- Tarpon Boat Dock Reconstruction Project. This was the Region’s first effort to utilize recycled plastic products in critical structural components such as piles, joints, and beams. Plastic lumber withstands the harsh salt air and moist summer heat better than treated lumber.
- Rehabilitation of a Refuge road. The road surface was paved with an environmentally-acceptable product known as open-graded emulsified mix. It allows surface water to pass through the pavement into the gravel base and through the sodded slopes. This process lessens surface runoff and minimized oils and other pollutants from entering fragile estuaries.



National Fish Hatchery Environmental Leadership Awards

Lahontan NFH

The Lahontan NFH has several excellent proactive environmental programs currently in place at the facility.

In July of 2001, an environmental compliance audit was conducted at the facility. Due to exceptional environmental management practices, the Lahontan National Fish Hatchery was free of any deficiencies. A previous environmental audit conducted in 1996 made the facility aware of their deficiencies and triggered their interest in environmental excellence. They quickly corrected all of their known deficiencies and implemented practices to prevent the same deficiencies in the future.

An aggressive recycling and waste reduction program was implemented and a paper trail to document all materials that leave the site was established.

Individual Environmental Leadership Awards

Sharon Seim

Ms. Seim, a Service Biologist from Anchorage, Alaska, was the Regional Green Star Committee Coordinator during FY 2001. The Committee is a team within the Green Star Program, a voluntary pollution prevention program developed in Anchorage in 1990 to encourage small and large businesses to recycle. Ms. Seim led the group in a Region-wide effort to increase recycling through education, providing recycling bins, and publishing the quarterly newsletter, *Green News*. She organized the very successful 2001 Spring Clean-up Week for Anchorage employees. Her enthusiasm and determination have made the recycling effort in Region 7 a success.

Gary Melvin

Mr. Melvin, a Maintenance Worker at the Alaska Peninsula/Becharof NWR, was designated Waste Prevention and Recycling Coordinator for that facility.

Mr. Melvin helped establish a community recycling program for the remote area of King Salmon, Alaska. This was no small feat, because all supplies have to be flown in or brought in by barge. He arranged for these materials to be transported off the Refuge by outfitters on return trips at no cost.

Solar panels, purchased and installed by Mr. Melvin, now power electronic and radio equipment at remote field camps. He was also responsible for replacing gravity-feed diesel drip heaters with propane systems, a much cleaner alternative for remote field camps. Every product purchased by the Refuge is now screened by Mr. Melvin who ensures that the less hazardous, less toxic products are purchased whenever possible.

As a result of Mr. Melvin's diligence, an Environmental Management System is now in place and the Refuge, including procedures for grey water management, fuel-efficient operations of vehicles in a cold climate, and hot-draining oil cans to ensure clean disposal.

Donald Moore

Mr. Moore from the Pacific Region received this award in recognition of his efforts in waste prevention, recycling and environmentally preferable and affirmative procurement. He assisted in establishing field Recycling Coordinators; providing training to employees; initiating green procurement and recycling programs; recycling office computer equipment, batteries and fluorescent light bulbs; and procuring refined oil, retread tires and alternative fuel vehicles.



Individual Environmental Leadership Awards (Con't)

James Behrmann

Mr. Behrmann exhibited innovative leadership in promoting environmental stewardship in Region 6 Refuges, Hatcheries, and throughout the Regional Office. Mr. Behrmann emphasized the relationship between sustainable practices and the mission and objectives of the Service. For example, by encouraging the use of re-refined lubricating oil in passenger vehicles, his work supports used oil recycling businesses which helps prevent illegal discharges into waterways. Environmentally-preferable copy paper is now used in the Regional Office and in 20 field stations, supporting markets for “tree-free” post-consumer fiber and preventing discharges associated with chlorine de-inking and bleaching at these paper mills.

Through Mr. Behrmann’s efforts, 85 of the Region’s field stations have appointed Waste Prevention and Recycling Coordinators. Ten engineering projects have used fly ash, an industrial by-product, in their concrete and/or recycled plastic lumber for decking.

Michael Keeler

Mr. Keeler received this award in recognition of his outstanding recycling and pollution prevention efforts while serving as Assistant Hatchery Manager at the Coleman NFH in California.

The Hatchery recycled 2,313 pounds of R-12 refrigerant and 2,798 pounds of R-11 refrigerant during the replacement/rehabilitation of freezer units. The recovered dollars were used to correct environmental noncompliance issues at the Hatchery.

2002 Department of the Interior Environmental Achievement Award

The Fiscal Year 2002 Fish and Wildlife Service recipients for the Department of the Interior Environmental Achievement Awards were:

“Individual” Category



James Behrmann - Region 6 - Greening

(Left to Right) Clint Riley, Special Asst. to the Director, FWS; James Behrmann; and Lynn Scarlett, Asst. Secretary, Policy, Management, and Budget



Gary Melvin - Region 7 - Greening & Environmental Management Program

(Left to Right) Clint Riley, Special Asst. to the Director, FWS; Gary Melvin; and Lynn Scarlett, Asst. Secretary, Policy, Management, and Budget



“Team” Category



Chattahoochee Forest National Fish Hatchery Region 4 - Hazardous Material Pollution and Minimization Program (Left to Right) Clint Riley, Special Asst. to the Director, FWS; Mitchell Pickelsimer and Terry Callihan, Hatchery Maintenance Personnel; Deborah Burger, Hatchery Manager; and Lynn Scarlett, Asst. Secretary, Policy, Management, and Budget



Buenos Aires National Wildlife Refuge - Region 2 - Standard Operation Procedure for Refuge Procurement & Waste Management (Left to Right) Clint Riley, Special Asst. to the Director, FWS; Don Ciccone, Regional Chief of Refuges; Bernie Freeman, Region 2 RECC, Sally Gall, Assistant Refuge Manager; Wayne Shifflet, Refuge Manager; and Lynn Scarlett, Asst. Secretary, Policy, Management, and Budget

“Cooperator” Category



Confederated Tribes of Warm Springs Reservation of Oregon, Region 1 - Stewardship of Wild Fish and Cooperative Management of Warm Springs National Fish Hatchery (Back Row from Left): Clint Riley, Special Asst. to the Director, FWS; Bobby Brunoe, Tribal Natural Resource Director; Mike Paiya, FWS Hatchery Manager; (Front Row from Left): Lee Hillwig, Region 1, Fisheries; Chief Nelson Wallulatum; Chief Delvis Heath; Olney Patt, Jr., Tribal Chairman; and Lynn Scarlett, Asst. Secretary, Policy, Management, and Budget





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