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# Environmental Stewardship and Greening the Government



U.S. Fish & Wildlife Service  
2004 Annual Progress Report  
February 2005

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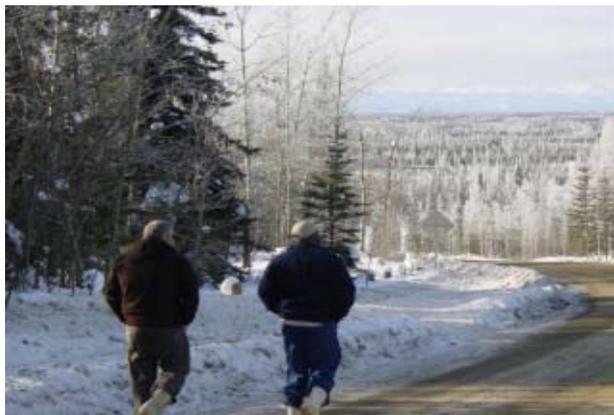
This document is published and maintained by the Environmental and Facility Compliance Branch, Division of Engineering, with input from many other Service Offices. For questions or comments, please call Billy Umsted, Chief, EFC at (303)984-6865.

*Center photo of alligators on the cover is by Dan Griggs. All other photos are property of the US Fish & Wildlife Service unless noted otherwise.*

## 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.”

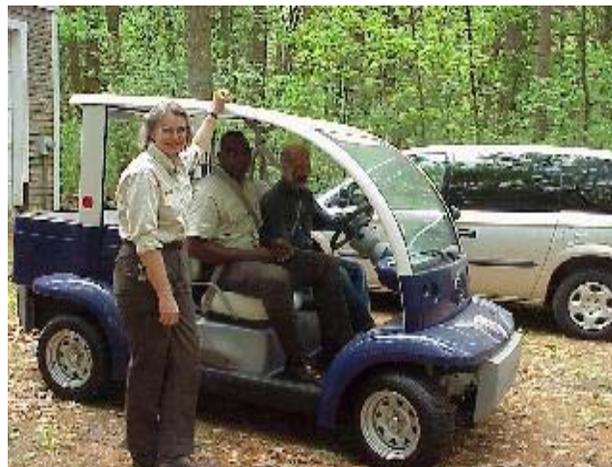


*Charles Grant and Ed Merritt at Tetlin NWR*

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.

The Service is making environmental leadership systemic to our mission, culture, policies, operations, activities, planning, management decisions, and day-to-day tasks. In doing this, we are incorporating the most ecologically sound and environmentally beneficial technologies, tools, materials and practices into all aspects of planning, operations, land

and water protection, natural and cultural resource management, wilderness protection, interpretation, education, facility design, facility construction, facility maintenance, lease acquisition, procurement, and contracted and/or permitted commercial visitor services.



*Libby Herland, Michael Dixon and Charlie Fasano in an electric “Think Vehicle” at The Eastern Massachusetts National Wildlife Refuge Complex*

Service managers must demonstrate an awareness and understanding of the interdependency of the ecosystems, resources, biodiversity, and the human culture entrusted to our stewardship in order to better preserve, conserve, and protect them for future generations. Sustainability of our lands and facilities must be viewed in this context of the larger systems of which they are a part.

All Service employees, contractors, partners, and volunteers have a responsibility to educate others regarding environmental leadership. We must demonstrate through management practices, our commitment to environmental stewardship. This commitment may be demonstrated in the design and maintenance of facilities, our administrative practices, as well as in the educational and interpretive opportunities available to the environmental leadership objectives should govern all decisions relating to the provision of commercial visitor services.



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
- Environmental Restoration
- 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 545 refuges within the National Wildlife Refuge System and 69 installations within the National Fish Hatchery System and 37 wetland management districts.



## 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. The Service completed its first full cycle of audits at all facilities in FY 2002. The Service has also assisted other Bureaus in setting up mandatory compliance auditing programs.



Bernie Freeman and Kelly McDowell - Environmental Compliance Audit at Anahuac NWR

### 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
- 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:

Type of Facility	# of Facilities
Wildlife Refuges	545
Fish Hatcheries	69
Wetland Management Districts	37
Ecological Services Field Offices	62
Law Enforcement	44
Fish Health Centers/Technology Centers	15
State Hatcheries	20
Fish & Wildlife Management Asst. Offices	14
Fisheries Assistance Office	3
Fisheries Resource Office	16
Wildlife and Habitat Management Office	8
Miscellaneous Field Offices	27
<b>Total</b>	<b>860</b>

Environmental audits completed during FY 2004: 146 Formal audits and 64 Informal audits.

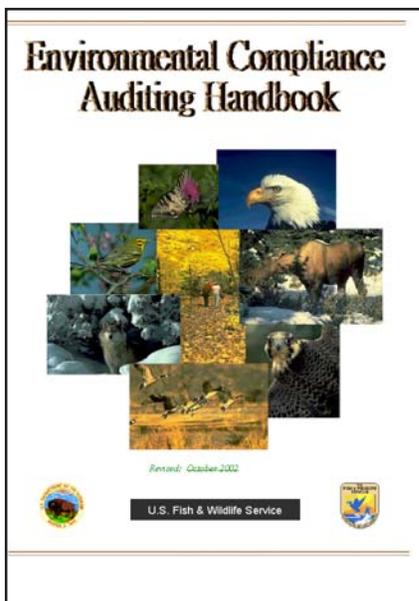


## Procedures

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. 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.
- **Informal Audits.** Informal audits are performed 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 scheduled 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, Service, or Executive Order requirement.

## Most Common Findings on Service Facilities

The following were some of the most common environmental compliance audit findings found at Service facilities in FY 2004:

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

Photos from 2004 audits:

## Typical Audit Findings



*Improper Storage - Hazardous Materials*



*Unlabeled Containers*



*Unlabeled pesticide applicator or container*



*Open Oil Containers*



*Open five-gallon container of glycol unlabeled without a top*



*Improper Battery Storage*



*55 and 5-Gallon Containers of Unknown Liquid*



*Unprotected Floor Drain Leading to Leachfield*



*Damaged Container of Linseed Oil*

Quality Assurance/Quality Control (QA/QC)

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

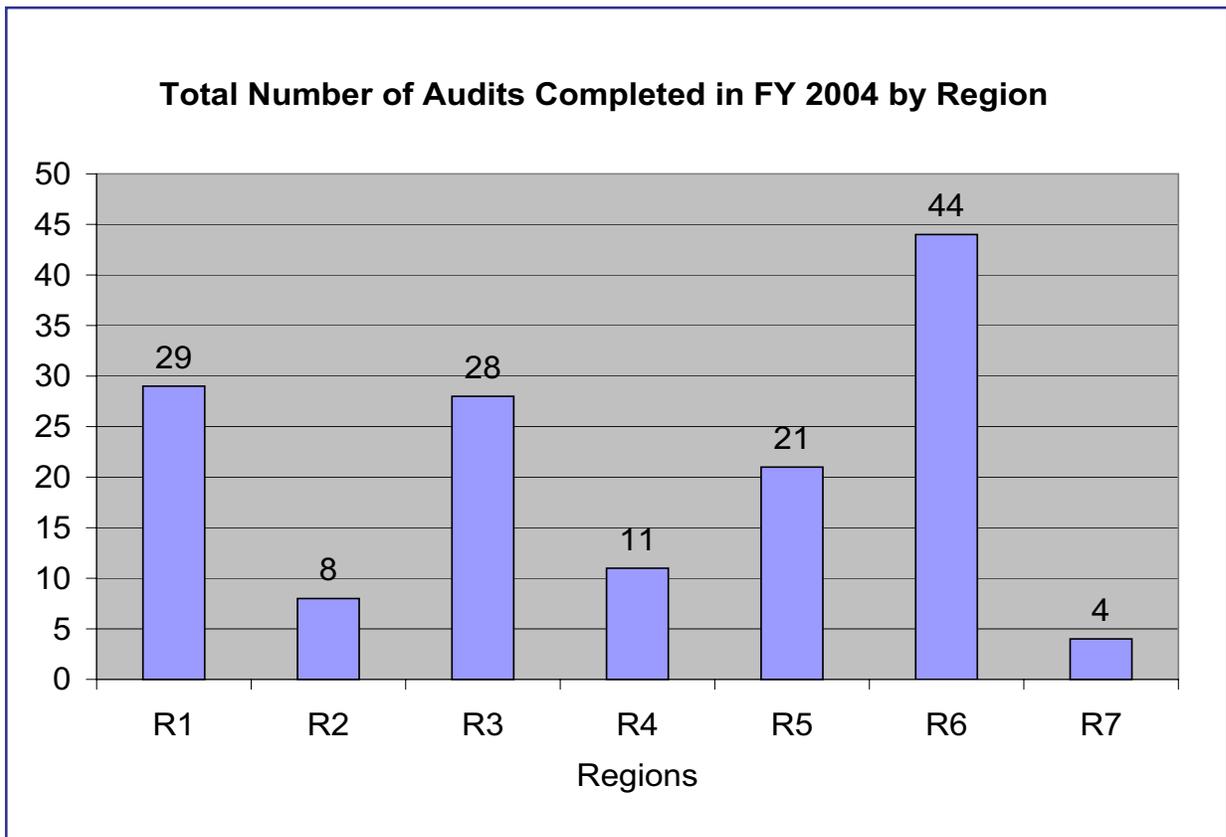
Program Status, 2004 Accomplishments

For the years FY 1994 through FY 2004, the Service completed audits at 917 facilities. The average number of all audit findings to date per formal audit is 11. Approximately 90% of all findings are corrected without the need for additional funding.

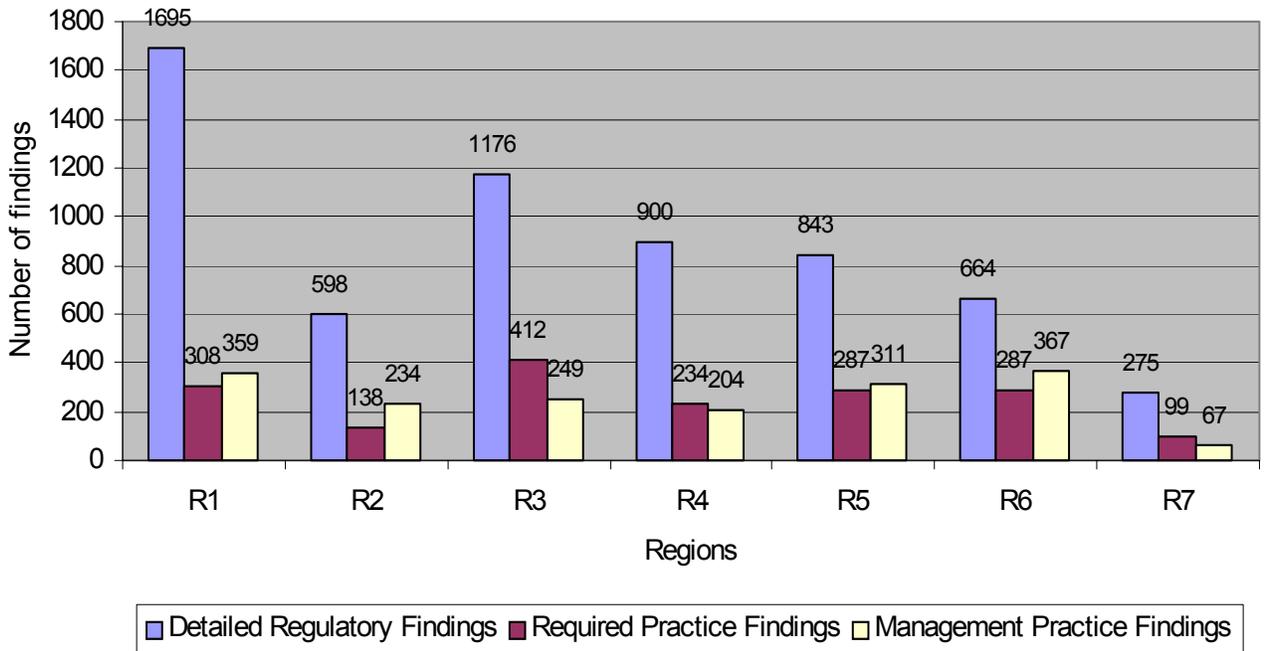
The average percentage of open regulatory findings was 13% through FY 2004. This compares to 14% open regulatory findings at the end of FY 2003.

In summary, during FY 2004, a total of 146 formal and 64 informal audits were conducted at Service facilities. The average number of findings per formal audit was 7. This compares to an average of 15 findings per formal audit in the early years of the program. There was 1 significant finding in FY 2004.

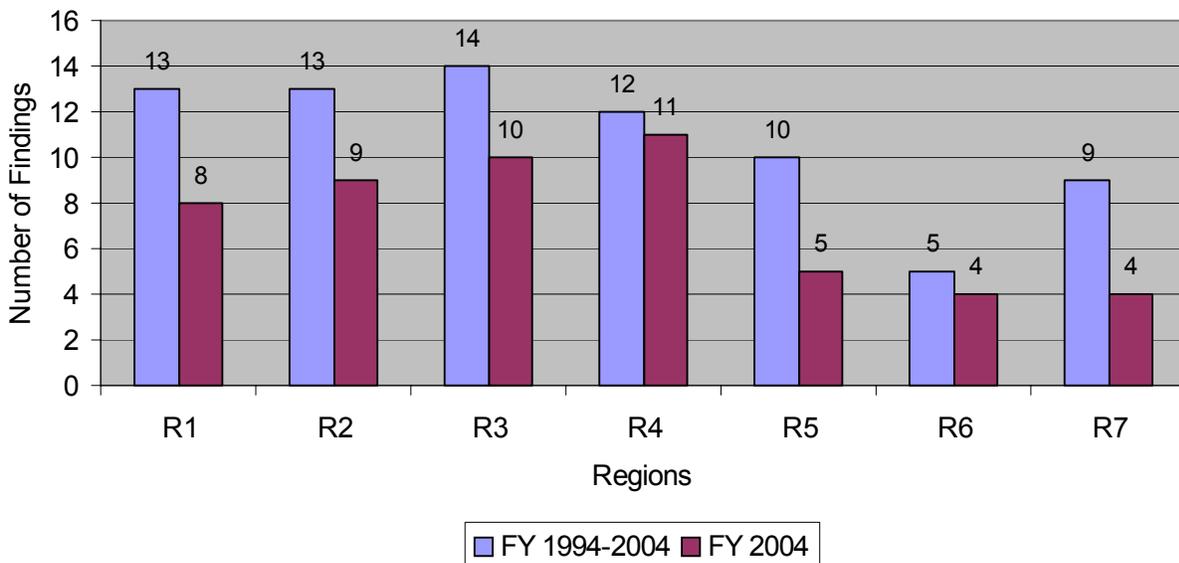
A complete summary (by Region) of the audit program (FY 1994-2004) is shown in the charts that follow:

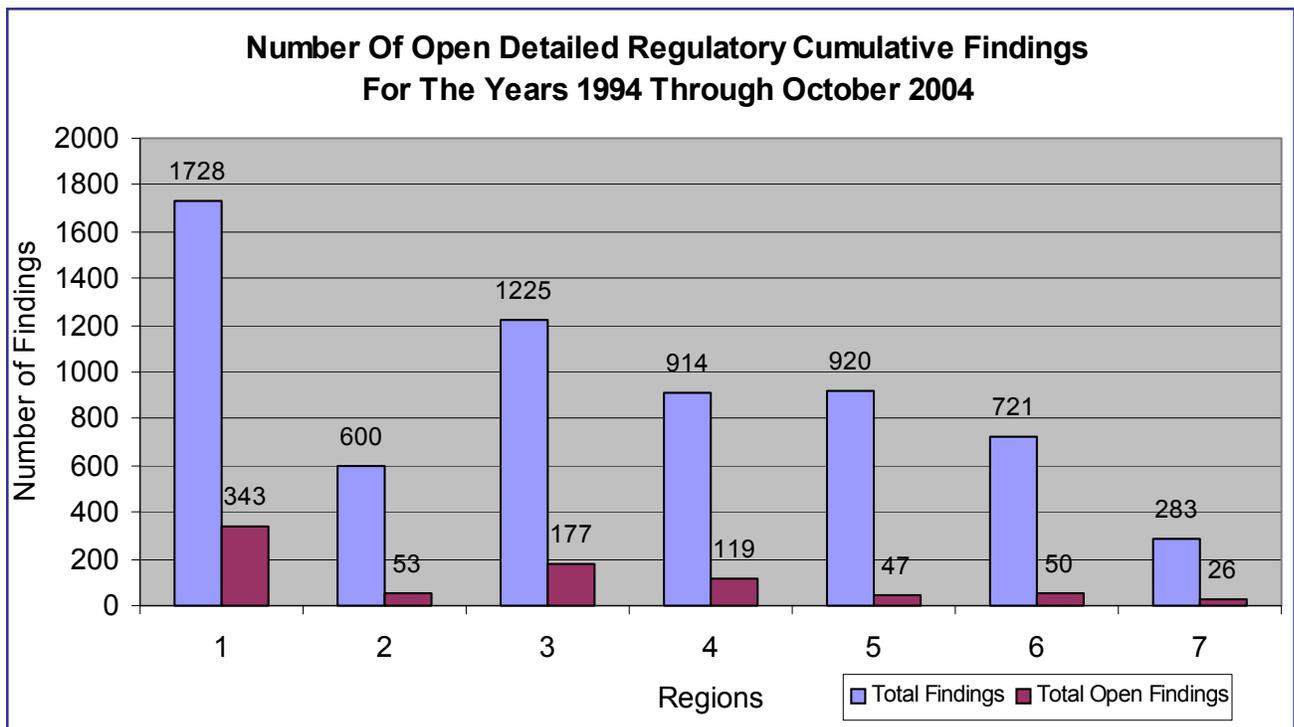
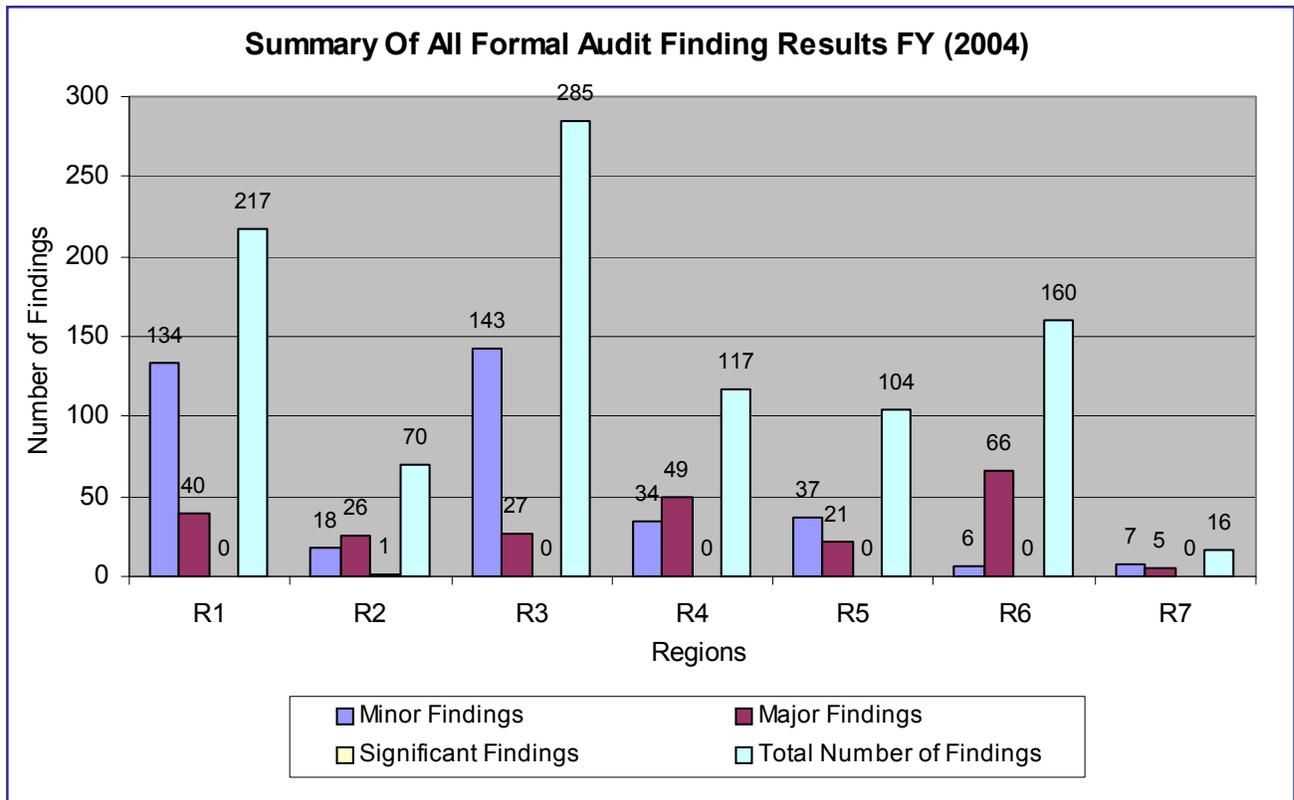


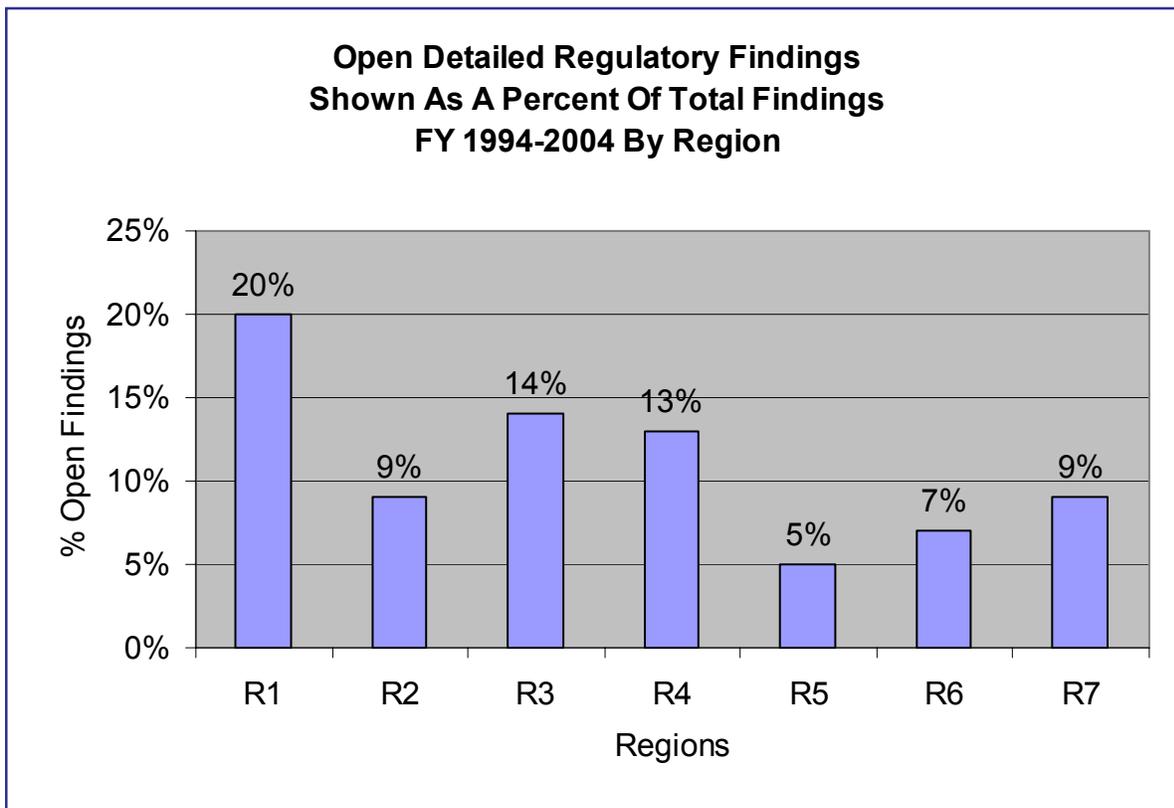
Summary of Formal Audit Findings FY 1994-2004



Average Number of Findings (All)







### III. Environmental Compliance Audit Tracking

Environmental compliance audits and associated findings are tracked in a National centralized web-enabled database referred to as 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 2 pages illustrate features of the database.

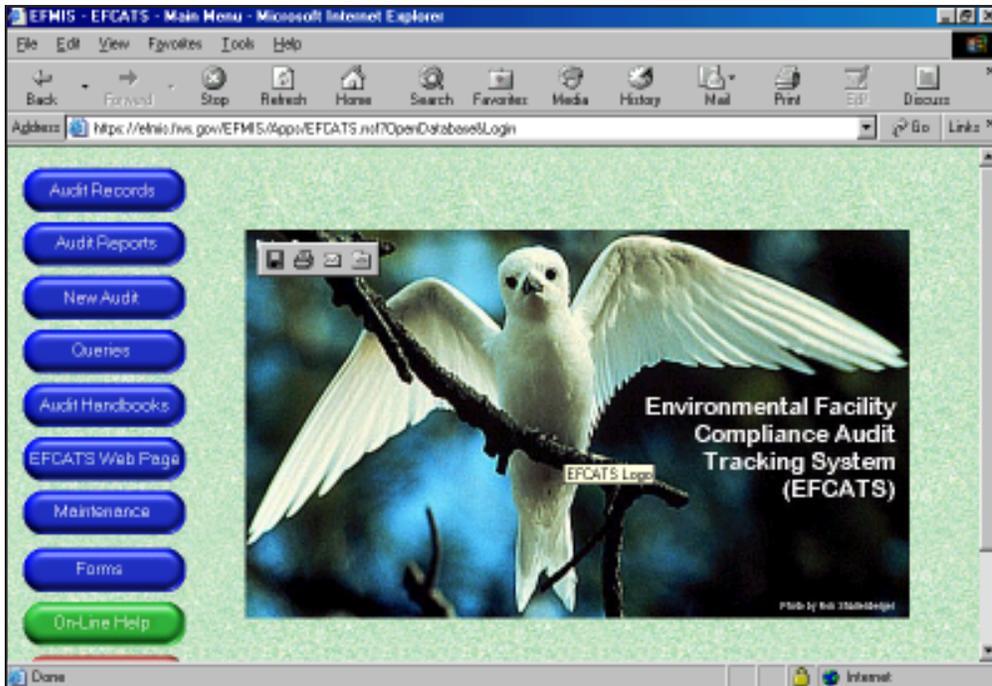
**Brief Description of Attached Screen Shots:**

**Page 12** – “Environmental and Facility Compliance, EFMIS, etc.” This is the Log-In Screen.

**Page 12** – Audit Record (in expanded view)

**Page 13** - This screen displays finding information including Condition, Solution, Status, Cost Information, and Photos.





This screen shot 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.

EFCATS - Audit Records - All Regions

Navigation: < Previous, Next >, New, Expand All, Collapse All

Alphabetical Index: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Buttons: EFCATS, Log Out

Audit Date	Finding Number	Findings	Finding Status	Repeat
▶ LAKE OTIS NATIONAL WILDLIFE REFUGE (62547)				
▶ LAKE THIBAudeau NATIONAL WILDLIFE REFUGE (61484)				
▶ LAKE UMBAGO NATIONAL WILDLIFE REFUGE (61880)				
▶ LAKE WOODBUFF NATIONAL WILDLIFE REFUGE (41448)				
▶ LAKE ZAHLE NATIONAL WILDLIFE REFUGE (62561)				
▶ LAMAR FISH HEALTH CENTER (62333)				
▶ LAMAR NATIONAL FISH HATCHERY AND NORTHEAST FISHERY CENTER (62236)				
▶ LAMESTER NATIONAL WILDLIFE REFUGE (61831)				
▶ LANDER FISH AND WILDLIFE MANAGEMENT ASSISTANCE OFFICE (61320)				
▶ LAS VEGAS NATIONAL WILDLIFE REFUGE (22480)				
▶ LEADVILLE NATIONAL FISH HATCHERY (65230)				
▶ 10/11/1992		3 Findings		
▶ 11/16/1992		10 Findings		
▶ 10/21/2004		19 Findings		
	65230.04.01		Open	No
	65230.04.02		Open	No
	65230.04.03		Open	No
	65230.04.04		Open	No
	65230.04.05		Open	No
	65230.04.06		Open	No

Buttons: Expand All, Collapse All, < Previous, Next >, New

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



Log Out EFCATS Audit View Findings Finding Cost Edit

**FINDING INFORMATION SECTION**

Station Name: LEADVILLE NATIONAL FISH HATCHERY Audit Date: 10/21/2004  
 Finding Number: 65230.04.01 Repeat Finding?: No  
 Repeat Finding No. 1: N/A Repeat Finding No. 2: N/A Repeat Finding No. 3: N/A

Env. Cat. Section: Drinking Water Management Finding Type: Detailed Regulatory  
 Audit Protocol: DWJ.2 Finding Category: Major  
 Section Code: DF - State Classification Other Than Federal Compliance: Regulatory  
 Universal Code: RFE - Survey/Inspection/Testing

**FINDING SUMMARY SECTION**

Criteria: FWS facilities are required to comply with state and local water quality regulations (EO 12088, Section 1-1 and 42 USC 3006-7(a)).

Condition: Drinking water system classification has not been determined. The hatchery is currently working with the State of Colorado to determine classification i.e. groundwater or surface water.

Sugg. Solutions: Continue working with the State to determine classification. Monitoring and treatment requirements will become known when classification has been determined.

Corrective Action:

Comments: Hatchery is currently performing coliform testing every three weeks using test kits recommended by Jim Beltrami. If source of water is surface find determine if State will accept this method of testing.

Finding Status: Open Closed Date:

**FINDING PHOTO SECTION**



Drinking water system classification has not been determined.

Log Out EFCATS Audit View Findings Finding Cost Edit

Log Out EFCATS Audit Records View Findings Finding Edit

**Finding Cost Information Section**

Station Name: LEADVILLE NATIONAL FISH HATCHERY Audit Date: 10/21/2004  
 Finding Number: 65230.04.01

Cost Guide Ref. No.	Item Description	Unit # of Items	Standard Cost (\$)	Non-Standard Cost (\$)	Total Est. Cost	Completed	Date Completed
		1		0	\$0	No	
	TOTAL Est. Cost - All Items per finding				\$0		
	TOTAL Est. Cost - All Items per finding, including 0% contingency						
	Total Est. Cost - all COMPLETED Items				\$0		
	Total Est. Cost - all NOT COMPLETED Items				\$0		

Log Out EFCATS Audit Records View Findings Finding Edit

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



#### IV. Environmental Management Systems

The Service is a leader within the DOI for the implementation of Environmental Management Systems (EMSs). Director's Order No. 144 was published in May 2002 and serves as a policy statement for the FWS. The scope of the Order can be accessed through our website: <http://policy.fws.gov/do144.html>. The Order addresses greening initiatives in the Service through: employee responsibilities, training, environmental audits, Environmental Management Systems, accountability through performance evaluations and awards, environmentally preferable procurement, contracting and designs, conservation planning, community outreach, energy management, landscape management, water and wastewater management and solid and hazardous waste management. A Director's memorandum (February 2003) reemphasizes management commitment, goals of the program and a schedule for the implementation of the service wide EMS.

The Service's EMS implementation strategy for 2004 focused on continuing EMS development at the field station level where Service activities have the most direct and immediate impact on the environment. The Service recognizes that EMS benefits can be realized at all field stations, regardless of size and complexity, but that EMS development are focusing on field stations that are larger and more complex and have the *greatest* environmental aspects and impacts. The Service selected approximately 70 facilities for EMS implementation over a three-year period (FY 2003-2005) to meet the deadline of December 31, 2005. A training program, conducted by the Division of Engineering (DEN) in Feb 2003, provided a hands-on approach with a custom designed EMS Tool Kit on EMS implementation to the Regional Environmental Compliance Coordinators. The principle components of the tool kit are the model Environmental Management Plans (EMPs), Other

EMS 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, resource lists and other information requested by field stations to help them meet environmental goals and targets. The environmental audit program is also part of the EMS implementation process and all facilities targeted for EMS are also audited at the same time.

A general EMP template was developed that is customized with every field visit. The EMP template provides a consolidated description of the EMS in place at the field station and includes the field station's environmental management policy, key environmental aspects and impacts of its operations, individual and collective roles and responsibilities of the field staff and the goals and targets established to improve the field station's environmental performance.

The EMP is divided into an introduction and ten sections: Policy, Aspects and Impacts, Goals and Targets, Responsibility and Accountability, Documents, Document Control and Information Management, Environmental Reporting, Communication regarding environmental matters, Environmental Training to promote sound environmental management, Budget as it relates to environmental programs and Monitoring, Measurement and Corrective Actions. The EMP is an Action Plan for the field station EMS. Other items included in the EMP are Standard Operating Procedures relating to day-to-day operations at the field station, Waste Inventories, Solid Waste Diversion Calculations and Finding sheets related to Environmental Audit that are performed during the field visit and a draft Energy Management Review.



The EMP implementation process usually takes one week for each facility. It includes an in-brief, facility walk-through, interviews, record review and an out-brief. The goal of the implementation process is to leave the facility with a fully finished product that they can review and modify to suit their needs. A six-month review process is established to encourage continuous improvement and a viable EMS. A framed policy statement that is customized for the facility is provided at the out-brief in order that they can display it at an appropriate place to inform visitors and employees about the station's commitment to environmental stewardship.

During FY 2004, the Service implemented EMS at the following facilities:

- Klamath Basin NWRC
- Bosque del Apache NWR
- S.E. Louisiana NWRC
- Imperial NWR
- Neosho NFH
- Okefenokee NWR
- Ohio River Islands NWR
- Crescent Lake/North Platte Complex
- Jordan River NFH
- Yukon Delta, Kenai & Tetlin NWRs
- Desoto NWR
- Alligator River NWR
- Blackwater NWR
- Ft. Niobrara/Valentine Complex
- Eastern Massachusetts NWRC
- Rhode Island NWRC
- Dworshak Fisheries Complex
- Malheur NWR
- Texas Chenier Plain NWRC
- San Francisco Bay NWR
- National Bison Range/Lost Trails
- Creston Fish and Wildlife Center
- Marquette Biological Station

The Service will complete the EMS implementation by December 31, 2005.

Below and on the next two pages are photos of facilities where EMS has been implemented in 2004.



*Billy Umsted at Tetlin NWR - Alaska*



*Okefenokee NWR - Georgia*



*Rhode Island NWRC*



*Texas Chenier NWR*



*VA Sridhar at Dworshak NFH Complex*



*Bison Range NWRC - Texas*



*Okefenokee Swamp NWR - Georgia*



*Jordan River NFH*



*Klamath Basin NWR*





*Kenai NWR - Alaska*



*Dworshak NFH Fish Ponds*



*Alligator River NWR - North Carolina*



*Aircraft Hanger at Yukon Delta NWR - Alaska*



*VA Sridhar and the Project Leader at the Southeast Louisiana NWR*



*Jim Poje conducting an EMS inspection at the Okefenokee NWR - Georgia*

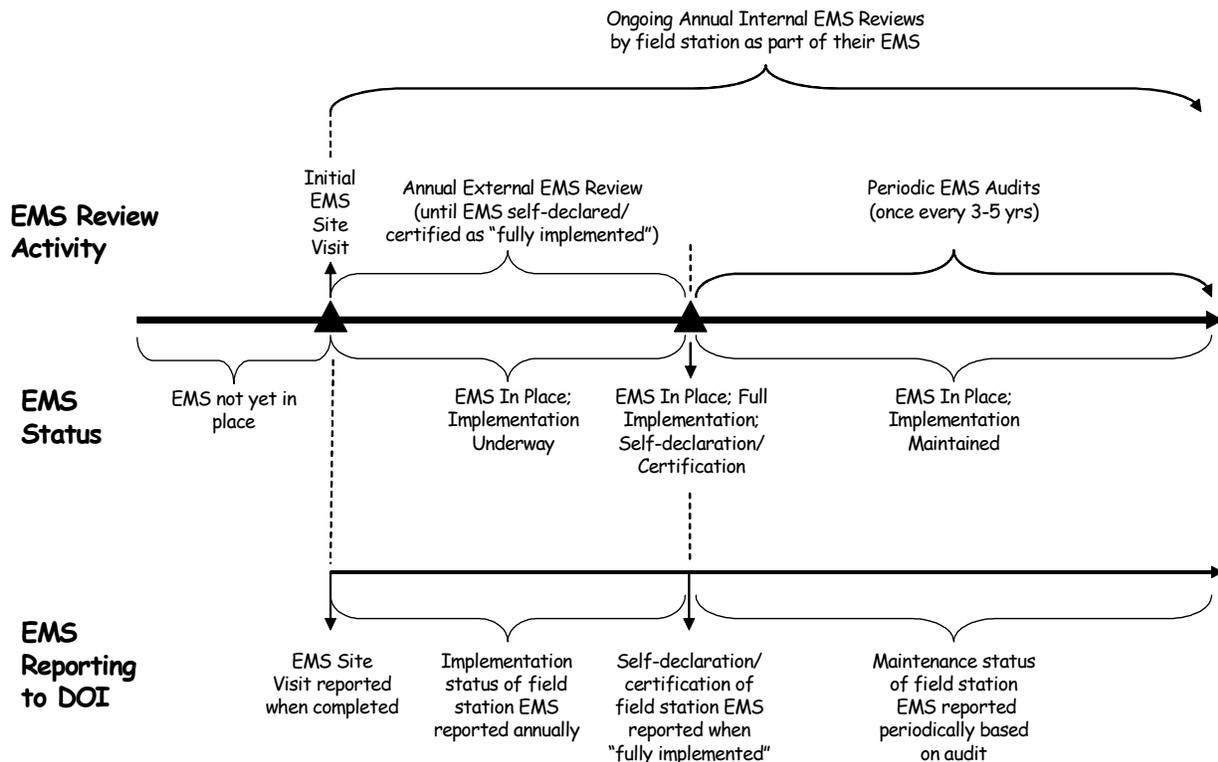
EMS Continued

During 2004 the Department of Interior issued policy Memorandum Number ECM 04-02. This policy was written in response to the office of The Federal Environmental Executive (OFEE) guidance contained a memo of January 27, 2004, Agency EMS Self-Declaration Protocol for appropriate Federal Facilities. Requirements contained in these memoranda include:

- An annual review of EMSs
- An external review of facility EMSs at least once every three years
- Training and qualifications of EMS reviewers
- Bureau-level self-declaration of facilities of EMSs in place and implemented

In compliance with the above requirements, the Service developed an evaluation and self certification protocol for stations implementing EMS. (See Figure 1 and subsequent tables)

**Figure 1**  
**EMS Status Assessment and Self Declaration**  
**Timeline for Field Stations**



This table is a performance measure for independently certifying if an Environmental Management System (EMS) is fully implemented. It is completed by Regional Environmental Compliance Coordinators with assistance from the field stations where EMS has been implemented.

**Table 1**

EMP Element	Rank	Score	Completeness Criteria
1. Environmental Policy - Documenting and communicating senior management approval and support of the EMS.	1	1	Field station-specific policy prepared and signed but not posted.
		2	Field station-specific policy prepared and signed and posted but not communicated to field station personnel.
		3	Field station specific policy prepared, signed, posted, communicated, and reviewed and updated as necessary.
2. Inventory of Environmental Aspects and Impacts - Identifying and ranking field station activities, products and services that impact the environment.	4	1	Field station inventory of environmental aspects has not been reviewed or updated since the EMS Site Visit.
		2	Field station aspects and impacts have been identified and are updated but have not been used to help direct field station activities.
		3	Field Station has developed and updated its environmental aspects and impacts and uses this information when directing field station environmental activities.
3. Goals and Targets - Setting environmental goals to achieve improved environmental performance relative to field station aspects and impacts and defining measurable targets that will contribute to meeting these goals.	5	1	Annual field station environmental goals and targets have not been reviewed or updated since the EMS Site Visit.
		2	Annual field station goals and targets have been reviewed and updated but targets are not measurable, are not appropriate in number or scope given the size and complexity of the field station or are not tied to high ranking field station aspect and impacts.
		3	Annual field station goals and targets are developed, are measurable, appropriate in number and scope and are being used to direct activities.



Table 1 Continued

EMP Element	Rank	Score	Completeness Criteria
4. Roles and Responsibilities - Defining key environmental responsibilities and establishing accountability for these responsibilities.	4	1	Environmental management responsibilities for key field station personnel have not been reviewed or updated since the EMS Site Visit.
		2	Documented environmental management responsibilities for key field station personnel have been reviewed and updated but responsibilities have not been fully communicated to affected personnel and/or performance in these areas is not formally accounted for in annual performance reviews.
		3	Environmental management responsibilities for key field station personnel have been documented reviewed and are up-to-date and performance in these areas is formally accounted for in annual performance reviews.
5. Documentation Control and Information Management - Identifying and maintaining environmental documentation including EMP, environmental plans, standard operating procedures, reports, electronic data such as local area network files and internet information sources and other information.	3	1	Environmental management documents, electronic files and information sources have not been identified or cataloged beyond that completed during the EMS site visit; SOPs have not been reviewed, updated, distributed or implemented.
		2	SOPs have been reviewed, updated, distributed and implemented; inventories for environmental management documents, electronic files and other information sources exist but are not up-to-date and/or procedures established to manage distribution of these materials are not used.
		3	SOPs have been reviewed, updated, distributed and implemented; inventories for environmental management documents, electronic files and other information sources exist and are up-to-date and procedures established to manage distribution of these materials are used.



Table 1 Continued

EMP Element	Rank	Score	Completeness Criteria
6. Reporting - Identifying environmental reporting requirements and ensuring these reports are completed.	3	1	Environmental reporting requirements for the field station have not been reviewed or updated since the EMS Site Visit; reporting responsibilities have not been well defined and/or reports are not consistently completed in a timely manner.
		2	The inventory of environmental reporting requirements for the field station have been reviewed and updated since the EMS Site Visit but is still not current and/or reporting responsibilities have not been well defined and/or reports are not consistently completed in a timely manner.
		3	The inventory of environmental reporting requirements for the field station is current, reporting responsibilities have not been defined and reports are being submitted in a timely manner.
7. Training - Identifying environmental training requirements and ensuring this training is completed.	4	1	Environmental training requirements for field station personnel have not been reviewed or updated since the EMS Site Visit; and/or environmental training records are not maintained and/or key environmental training has not been conducted.
		2	Environmental training requirements for field station personnel are up-to-date but environmental training records are incomplete and/or some key personnel do not have up-to-date training.
		3	Environmental training requirements for field station personnel are defined and are up-to-date; environmental training records are maintained and training is largely up-to-date.



Table 1 Continued

EMP Element	Rank	Score	Completeness Criteria
8. Communication - Determining environmental communication methods and ensuring these communications are occurring.	2	1	Field station-specific environmental communication methods, roles and responsibilities have not been reviewed or updated since the EMS Site Visit.
		2	Environmental communication methods have been defined and are up-to-date but procedures have not been institutionalized.
		3	Communication methods have been defined, are up-to-date and are being consistently employed.
9. Budget - Understanding environmental funding sources and accounting for environmental costs in field station budget decisions.	3	1	Environmental funding sources are not identified and/or understood; environmental costs are not accounted for in field station budgets.
		2	Environmental funding sources are identified and understood; environmental costs are not separately accounted for in field station budgets.
		3	Environmental funding sources are identified and understood; environmental costs are accounted for in field station budgets.
10. Monitoring and Measurement - Operational, environmental performance assessment, management system evaluations.	4	1	The field station has not reviewed and updated as necessary, documented internal monitoring that should be conducted since the EMS Site Visit; the field station has not conducted internal compliance or EMP reviews.
		2	The field station has reviewed and updated documented internal monitoring processes; internal compliance and/or EMP reviews and EMP goal and target reviews have not been fully implemented.
		3	The field station has up-to-date documented monitoring and measurement processes including internal compliance and/or EMP reviews and EMP goal and target reviews; the field station has implemented these monitoring processes.



EMS Protocol Scoring Sheet

FIELD STATION ENVIRONMENTAL MANAGEMENT SYSTEM STATUS RECORD

Field Station: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewer: \_\_\_\_\_

EMP Element	Rank	Score (1 to 3) <sup>1</sup>	Weighted Score (Rank x Score)
1. Environmental Policy	1		
2. Inventory of Environmental Aspects and Impacts	4		
3. Goals and Targets	5		
4. Roles and Responsibilities	4		
5. Documentation Control and Information Management	3		
6. Reporting	3		
7. Training	4		
8. Communication	2		
9. Budget	3		
10. Monitoring and Measurement	4		
<b>EMS Status Score</b> (Sum of Weighted Scores for Each EMP Element) <sup>2</sup>			

- See U.S. Fish and Wildlife Service Environmental Management System Review Protocol Table 1 for Completeness Criteria.
- EMS Status Score (from U.S. Fish and Wildlife Service Environmental Management System Review Protocol Table 2):
 

0	EMS Not Yet Begun
33 - 50	EMS In Place; Implementation Starting
51 - 77	EMS In Place; Partial Implementation
78 - 99	EMS In Place; Full Implementation/Certifiable

This table shows the overall performance score. A field station must attain a score 78-99 to obtain independent certification that an EMS has been implemented.

Table 2

Total Weighted EMS Review Score	Status
0	EMS Not Yet Begun (EMS Site Visit not yet completed; documented EMP/EMP elements not prepared)
33 - 50	EMS In Place; Implementation Starting
51 - 77	EMS In Place; Partial Implementation
78 - 99	EMS In Place; Full Implementation/Certification



V. Training

Environmental Compliance Training

The Service’s environmental compliance training is a proactive approach to achieve the goal of full compliance. 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, multiple 8-hour Hazardous Waste Operations (HAZWOPER) Refreshers have been conducted.



Environmental Compliance Audit Training Attendees in Denver - October, 2004



Environmental Compliance Trainees discuss environmental issues in class in Denver, October 2004

During 2004, training was conducted at 3 field stations, with a total of 70 personnel in attendance. As of December 2004, 66 ECT classes have been conducted to train more than 1320 Service field personnel. Additionally, an Environmental Compliance Audit Training Refresher was conducted for the regional coordinators in October of 2004 in Denver. 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 the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and the Resources Conservation and Recovery Act (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 approximately \$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.

The only active Superfund remediation site on Service lands is the Crab Orchard NWR site. Approximately \$4 million is expensed annually on remediation at Crab Orchard. The Service currently has 93 facilities on the Federal Docket; however, 31 of the facilities are “No Further Remedial Action Planned (NFRAP).”

### Sachuest Point NWR Landfill Remediation

#### Project highlights and benefits:

- Restoration of 15 acres of a former salt-marsh habitat, where previously a town landfill existed;
- Creation of a 15-acre upland, including future planting of native grasses and wildflowers;
- Increased open water habitats for migratory bird use;
- Increased intertidal foraging areas for breeding and migratory shorebirds;
- Controlled invasive Phragmites, increasing biodiversity and promoting establishment of native plant species;
- Practiced cost-effective remediation of 21-acre landfill by partnering with state and town agencies and using recycled dredged sediments from nearby marinas as fill material.

#### Background

From the 1950's until mid 1970's, approximately 21 acres were used as the Middletown landfill, primarily for household waste. In 1973, this land was transferred to the Service and became a part of the Sachuest Point National Wildlife Refuge. When groundwater contamination (caused by land filling activities) became a concern, site remediation was required. With partners, such as the Coastal Resources Management Council (CRMC), habitat restoration became an important part of the site's clean-up activities.

There are two distinct areas of the former landfill, one called the high fill area (about 15 acres), and the other the low fill area (6 acres). Waste has been removed from the low fill area and consolidated on the high fill area.

The low fill area, along with 9 additional acres, was restored to salt marsh habitat, with the help of a new inlet near Third Beach. This tidal inlet is bringing the needed “salt water” to the marsh and keep out the invasive and harmful Phragmites, which grows under brackish water conditions.



## Sachuest Point NWR, Continued

Once the waste was transferred to the high fill area, it was capped with a thick liner, preventing rain from coming in contact with the waste, eliminating any possible contamination. This liner was then covered with soil and will be planted with native grasses and wildflowers, providing habitat for wildlife.

V.A. Sridhar, DEN, Denver, CO is the Project Manager.



*Overall aerial shot of Sachuest Point Refuge Headquarters and cleanup area.*



*Aerial photo of 21 acre capped landfill with liner after remediation*

## VII. Environmental Compliance Policy

- Ozone Depleting Substances Phaseout Plan

Service Manual Chapters and Directors Orders can be found at the following web address:

<http://policy.fws.gov/direct.html>

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

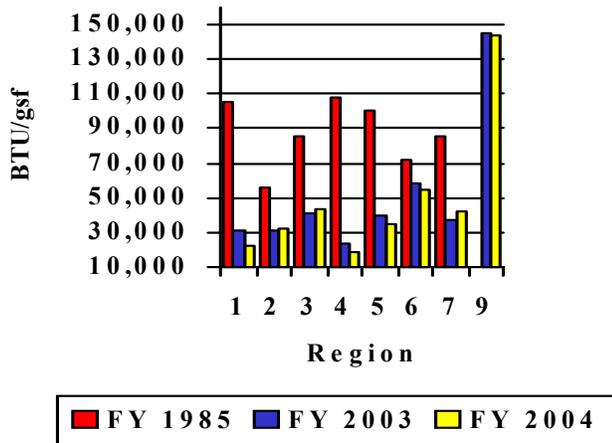
- Policies and Responsibilities
- Pollution Prevention
- Reporting Pollution Incidents
- Inventories
- Hazardous Waste Compliance Docket
- Environmental Compliance Auditing Program
- EPA Enforcement Policy
- Clean Air Act
- Clean Water Act
- Safe Drinking Water Act
- Solid Waste Disposal Act
- RCRA Hazardous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



VIII. Energy Management

The Service applies innovative approaches in energy management and is recognized as a Federal energy leader. It has met the -30 percent building energy reduction goal in FY 2004, one year ahead of schedule.

Energy Use Comparison



Many energy-efficient lighting, fuel switching, and renewable energy projects have proven to be cost effective.

Federal Energy Saver Showcases

Six facilities have been designated as Federal Energy Saver Showcases, which demonstrate cost-effective energy efficiency, water conserving, and renewable energy technologies. Each showcase site prominently displays a plaque notifying visitors that the Government building they are entering uses energy and water, as well as taxpayer dollars, wisely. The Service’s newest showcase is the Visitor Center and Administrative Headquarters at Parker River National Wildlife Refuge (NWR),

Massachusetts, which received a prestigious designation as one of only three showcases identified by the Department of Energy (DOE) in 2004. It is noteworthy that the facility would achieve the equivalent of a Leadership in Energy and Environmental Design (LEED) “Certified” rating.

Energy Efficiency Awards

Teams that implemented a wind energy project at Charles M. Russell NWR, Montana, and a heat exchange project at Garrison Dam National Fish Hatchery, North Dakota, (in conjunction with the Western Area Power Administration), received 2004 Federal Energy and Water Management Award Certificates of Recognition.



Heat Exchanger at Garrison Dam NFH, Montana



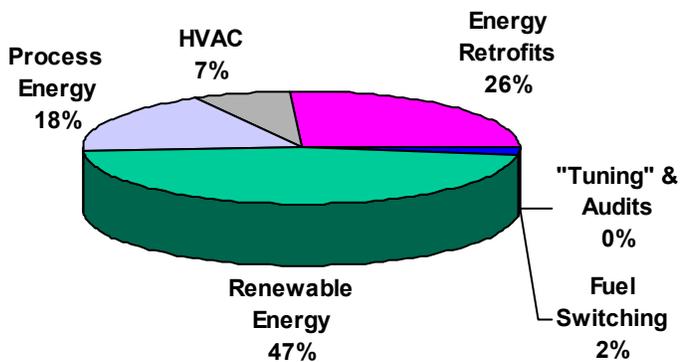
Wind Turbine at Charles M. Russell NWR, Montana

**Spending on Energy Efficiency Projects Increases**

In FY 2004, the Service spent approximately \$11 million for energy and for over 29 million gallons of water from Community Water Systems. Total energy use increased by approximately 4% while energy costs increased 12%.

One of the best ways to reduce energy costs and the over \$27 million energy-related deferred maintenance backlog at our facilities is by implementing energy projects. **In FY 2004, 68 energy projects were attempted, accomplished or implemented at 49 field stations at a total cost of \$3,100,646. This achievement represents a 142 percent increase in energy efficiency investment from FY 2003.**

**Cost Breakdown of FY 2004 Energy Projects**



**Utility Metering**



*National Wildlife Visitor Center, Patuxent NWR, Maryland*

Electric meters were installed or tested at Reelfoot NWR, Tennessee, Roanoke River NWR, North Carolina, and Seatuck NWR, New York. Of special note is an ongoing utility metering project funded by DOE's Federal Energy Management Program at Patuxent Research Refuge, Maryland, with the U.S. Geological Survey (USGS). DOE selected two prototype Interior buildings with the greatest estimated potential benefits from sub-metering — the Service's National Wildlife Visitor Center and USGS's Gabrielson Hall. A consultant installed two new sub-meters, required Verizon telephone lines, and Pepco's CEO-Online energy collection and monitoring program. As of October 29, 2004, Patuxent's building managers are able to determine energy usage and demand trends, and take remedial actions on building occupancy practices and equipment operation to shave peak demand in order to save energy costs.

**Wind Energy**



*Hybrid Wind/Solar Project Eastern Neck NWR*

Central to the “Bay Winds Energy Project” at Eastern Neck NWR, Maryland, the Maryland Energy Administration and DOE conducted a Mid-Atlantic Wind Energy Conference at the Refuge on April 27, 2004. Co-hosted by the States of Maryland, Delaware, and Virginia, the one-day workshop was targeted to industry and conservation stakeholders and to State and Federal legislators.

On May 13, 2003, the Service issued Interim Guidance on “Avoiding and Minimizing Wildlife Impacts from Wind Turbines.” Comments are still being solicited. The Service is working with the wind industry to ensure that wind energy retains its promise of renewable, green energy with minimal impacts.

**Conversion of Wind to Solar Energy**

New Solar PV-Powered Wells at Sevilleta NWR  
Sevilleta NWR, New Mexico, converted two animal stock wells that were powered by non-functioning windmills to photovoltaic (PV) solar electric off-grid water pumping systems, complete with batteries and controls. These wells are important, year-round water sources for wildlife including deer, antelope, coyote, small mammals, and migratory birds, and for fire-fighting activities. The Refuge now has five wells that are powered by solar PV systems. The well towers will be converted to nesting platforms for raptors.



*New Solar PV-Powered Wells at Sevilleta NWR*

**Solar Energy**

The Service has solar energy systems at field stations in many States, remote Pacific Islands, and Puerto Rico (solar cooling). Solar outdoor lighting has proven to be cost effective at a remote boat ramp at Merritt Island NWR, Florida.



The Service’s Southwest Region constructed a new Environmental Education Building in a remote area of Brazoria NWR, Texas, and installed an off-grid, 12.5 kW PV solar electric system to provide 100 percent of the electrical power to the building. The building includes a highly efficient air conditioning system; energy-efficient, low-e windows, and T-8 fluorescent lights with electronic ballasts. The entire construction project, including site work, the building, and the solar PV system cost \$585,000.



*Solar Panels at Brazoria NWR*

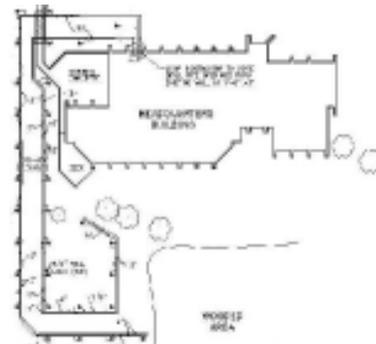
Recently, the Service installed a new 15 kW solar PV system on the auditorium roof at the Herbert H. Bateman Educational and Administrative Center at Chincoteague NWR, Virginia, a 2003 Federal Energy Saver Showcase.



*New Solar PV System at Chincoteague NWR, Virginia*

**Geothermal Energy**

As a Department of the Interior leader in implementing geothermal (geo-exchange) heat pump technology, the Service implemented two additional systems in 2004. A new closed-loop ground-source geothermal heat pump system was integral to the new HVAC renovation in the Headquarters Building at Crab Orchard NWR, Illinois, including an additional energy recovery ventilation system that should reduce energy costs substantially. It was awarded for \$404,750. Although space at the new and remodeled office at Des Lacs NWR, North Dakota, doubled, electricity and propane costs remained nearly constant due to a new multiple unit (three heat pumps) geo-thermal heating/cooling system. The \$79,000 cost included interior piping and a vertical well geo-exchange field.



*Crab Orchard NWR  
Geothermal Heat Pump:  
Plan View*



Seeking Innovative and Alternative Funding



Genoa NFH, Wisconsin

A SAVEnergy Audit at Genoa NFH, Wisconsin, was funded by DOE/FEMP in February 2004. Five other energy audits were either completed or initiated in FY 2004.



The Service attempted a Utility Energy Services Contract with Pepco Energy Services at Patuxent Research Refuge, Maryland, on March 16, 2004. However, after careful review of their options, Pepco Energy Services decided not to pursue this opportunity because they were unable to justify the resources necessary for the potential size of the project, which is the Service's second largest facility (the largest is the National Conservation Training Center, West Virginia).

On July 21, 2004, the Service submitted a Technical Assistance Application to FEMP to conduct renewable energy resource assessments for solar, wind, and geothermal energy at 41 wildlife refuges and 14 fish hatcheries in the Mountain-Prairie Region (eight States). In addition, the Service's Northeast Region submitted to DOE a Request for Technical Assistance for a Wind Power Program on National

Wildlife Refuges in the Northeast, which proposed to install one small (approximately 10 kW) wind turbine at ten NWR's throughout the Region. The Service asked for technical assistance to launch the project by determining which refuges may have the best wind resources.



The Environmental Management System (EMS) and Energy Audits

As part of the EMS required by Executive Order 13148, the Service used a checklist approach that recommended tuning, operation and maintenance, and energy conservation measures at 24 field stations in FY 2004.

On August 13, 2004, the Service's Mountain-Prairie Region completed a successful test of COMcheck-EZ, the model that enables compliance with Federal energy standards for buildings, on the ongoing Bear River Headquarters/Maintenance Building and Education Center, Utah, construction project.



**Energy Efficient Lighting**



*Clark R. Bavin NFW Lab and Facility Manager Roger Smalley installing the new ballasts and lights. Roger said, "Energy conservation is important to government facilities. The conversion from T-12 to T-8, green-tip bulbs and energy efficient ballasts will save energy and costs."*

Many field stations have installed energy-efficient lighting (electronic ballasts and T-8 lamps; ambient and task lighting specified throughout; and clerestory lighting that provides natural light), demonstrating substantial energy savings. Lighting retrofit projects at the Clark R. Bavin National Fish and Wildlife Laboratory, Oregon, Bogue Chitto NWR, Louisiana, Long Island NWR Complex, New York, and the NCTC have resulted in substantial cost savings and approximately one-year simple payback periods.

Although fuel oil consumption increased at the Service's National Conservation Training Center (NCTC) as a result of the opening of the new Murie Lodge, better management of the Campus's Energy Management Control System resulted in no additional energy costs.

**HVAC Retrofits and Window Replacements**

Eleven field stations and quarters either replaced or retrofitted their HVAC systems for energy efficiency, and replaced single-pane windows with energy efficient double pane, low-e or glazed windows with longer-term paybacks.



Purchase of Energy Star appliances (especially microwave ovens and refrigerators) for Service facilities on the GSA schedule through the Javits Wagner O'Day (JWOD) Program has continued to be cost effective.



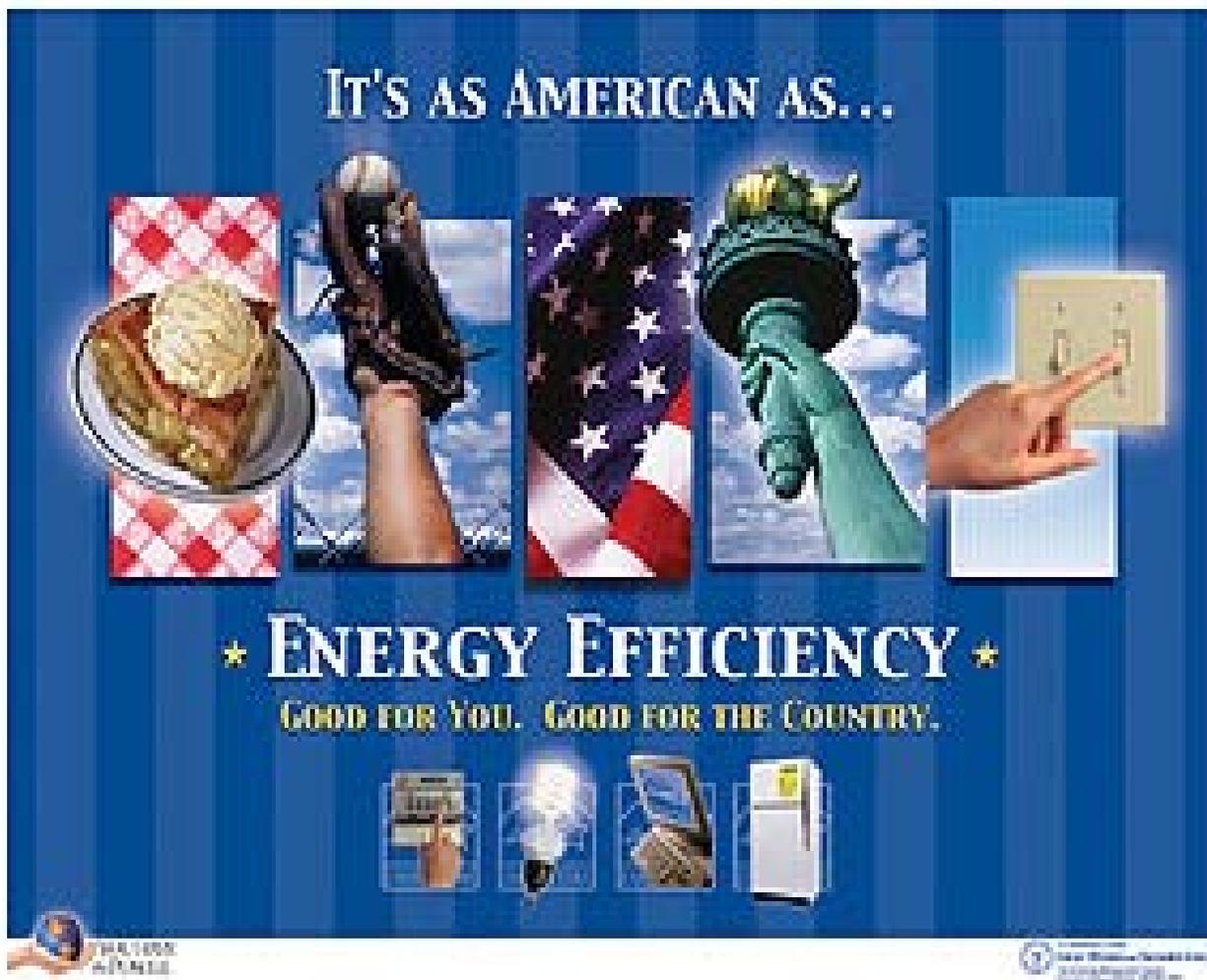
**Water Conservation**



Best Management Practices for water conservation in-place at many facilities, represent a variety of technologies and techniques used to save water and associated energy costs, such as leak detection and repair, water efficient landscaping (also called xeriscaping), low-flow devices (toilets, faucets, urinals, showerheads), and water reuse and recycling.

The J. N. "Ding" Darling NWR, Florida, gets their water from the Island Water Association of the City of Sanibel. Two separate leaks during 1994 caused water to run excessively. The Island Water Association (IWA) negotiated a reduced rate for the Service, and the leaks were repaired, resulting in a substantial cost and water savings with a relatively short payback period.

Energy Efficiency: Good for You. Good for the Country.



With help from Service Energy Managers leading by example, energy efficiency can become as American as apple pie, the flag, and baseball — the message conveyed in a recent Energy Awareness Month campaign. Service employees are helping conserve our national energy supply, reduce air pollution, and improve our Nation’s energy security through energy efficiency.



## IX. Sustainable Design

### LEED Design Requirements

The U.S. Green Building Council has refined its original version of its LEED program into version 2.1. LEED stands for Leadership in Energy and Environmental Design.

This green building design rating system is, indeed, LEEDing the way for the Fish and Wildlife Service. The Service is designing certain new buildings to an equivalent “LEED certified” rating.

LEED standards are currently available for:

- 1) LEED-NC: New construction and major renovation projects
- 2) LEED-EB: Existing building operations (pilot version)
- 3) LEED-CI: Commercial interiors projects (pilot version)

### Green Website

The Fish and Wildlife Service has had its “Green Info” website on line since April of 2003. Service employees can log on to the “Green Info” website at [sii.fws.gov/r9eng](http://sii.fws.gov/r9eng).

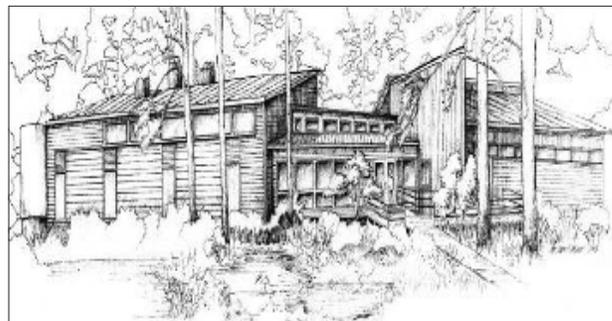
Highlights of this website include:

Green Specification Guidelines - This is a 2-part document about developing green specifications for waste prevention and environmentally preferable products in planning, design, and construction projects. Part 1 gives a general background about *what* and *why* Service project managers should support greening, while Part 2 outlines the specifics about *how* to do it.

Specification Resources - This is a short presentation about environmental specification sources available from area expert sources that can be used without having to “re-invent the wheel.” Topics covered include:

- Division 1
- Construction Waste Management, Recycling
- Site/Landscaping
- Commissioning
- Modular Office Furniture
- Green Projects

### Federal Energy Saver Showcase The Herbert H. Bateman Educational & Administrative Center Chincoteague National Wildlife Refuge Chincoteague, Virginia for 2004



*Herbert H. Bateman Educational  
and Administrative Center*

The Chincoteague National Wildlife Refuge is one of the most visited Service facilities in the Nation. It is geographically positioned to educate millions on the Service’s mission and actively engage visitors to conserve natural resources, such as the endangered Delmarva Peninsula fox squirrel, the threatened piping plover and bald eagle.

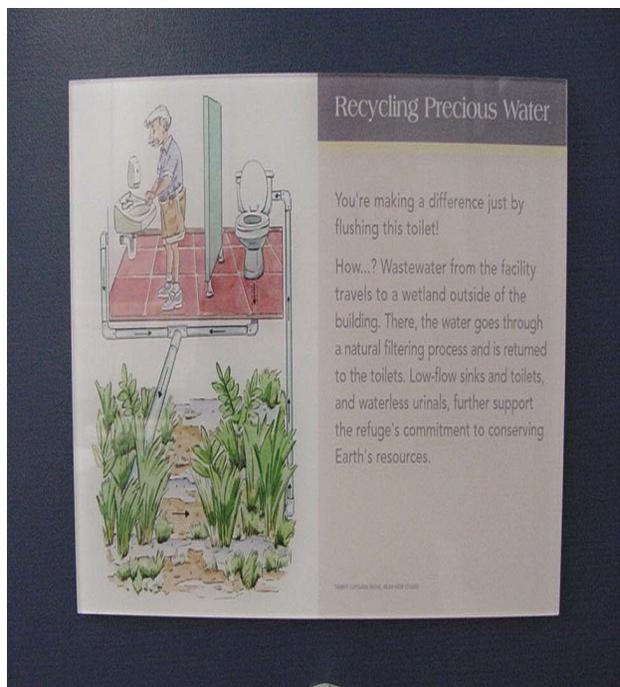
The Herbert H. Bateman Educational and Administrative Center includes the following technologies:

- Reduced site disturbance;
- Zeriscape landscaping;
- Onsite wastewater recycling;
- High-efficiency building envelope;
- Energy-efficient lighting;
- Low-e windows;
- Maximizes daylighting and views;
- Three light tubes for natural lighting of exhibits;
- Passive solar features such as overhangs and sunshades;
- Rapidly renewable materials:
- The entire structure is made from engineered lumber
- Bamboo floors and recycled carpet;
- Recycled rubber flooring;
- Recycled steel in the rebar;
- Wood certified by the Forest Stewardship Council;
- Geothermal heat pumps using deep, vertical wells;
- Non-toxic materials to avoid off-gassing and help indoor air quality.

The site was treated sensitively, with attention to maintaining scenic views, disturbing habitat minimally, and protecting endangered species. The original scope of work for this project required the architectural design team to consider solar shingles and solar photovoltaic panels, but because of the need to preserve the nesting and food habitat for the endangered Delmarva Peninsula fox squirrel, only trees that were in the way of the construction were cut down. The remaining large canopy of trees would not allow sufficient light to penetrate the site to make solar panels effective.



*Herbert H. Bateman Educational & Admin. Center  
Chincoteague National Wildlife Refuge, Virginia*



*An exhibit at the Herbert H. Bateman  
Educational and Administrative Center*

## Water conservation strategies:

Low water usage faucets, showers, and toilets were incorporated into this project. Waterless type urinals were used to save more water. An innovative constructed wetlands wastewater treatment system cleans wastewater from the two buildings. Specifically, wastewater is treated by three (3) treatment elements: a primary clarifier, a subsurface-flow-constructed-wetland with recycle, and a recirculating sand filter.



Effluent from the treatment system is suitable for reuse as grey water and will be used in the buildings for flushing toilets. Any remaining grey water not used for flushing toilets will be used either to recharge the underground water storage tanks that are used to supply the necessary water volume for the sprinkler system or will be discharged to the ground in an environmentally compatible manner. Visitors to the facility will pass by the treatment system, which is interpreted through signs and outside displays. The Service is planning a display inside the Educational Center that shows how the wastewater treatment system works. In addition, there will be signs posted in all restrooms showing how the Center is conserving water.

*Above and below - More exhibits explaining conservation measures*



**Parker River Visitor Center and Administrative Headquarters  
Parker River National Wildlife Refuge**



**Project Description**

The new Parker River Visitor Center and Administrative Headquarters is a collaborative design effort which included community members, State Park staff, community partners, the City of Newburyport, the Service, and a design team led by Cambridge Seven Associates, of Cambridge, Massachusetts. Key input was also given by neighboring organizations such as Massachusetts Audubon Society and the Society for the Preservation of New England Antiquities. The Commonwealth of Massachusetts, through its Department of Parks and Recreation, contributed \$1,000,000 toward the design and construction of the facility.



*The message to “stay on the boardwalks at Parker River NWR” begins at the visitor center entrance.*

The 9,700 sq. ft. visitor center portion of the building includes an exhibit hall; gift shop, office and storage room for the Friends of Parker River NWR; auditorium; large, dividable multipurpose room; and visitor restrooms. Administration components include office space for over 16 staff, conference room, museum properties storage, and lunchroom. Maintenance buildings include a carpentry/storage building, a vehicle maintenance building, and a vehicle storage building, with a hazmat storage container.

**Sustainable Design**

Sustainable architecture inspires, informs, and motivates those who experience it to think differently about the role of people in a society of all living species. Interpretive exhibits explain to visitors the environmental contributions of the facility, and of the National Wildlife Refuge System.

The Parker River facility strives to minimize the negative environmental impacts of construction. Buildings have a tremendous impact on our natural environment, consuming 50% of energy use, 25% of virgin wood, and 16% of water use and filling 25% of landfills. At Parker River, energy use is minimized, resources used efficiently and the site treated sensitively. Energy use reductions were targeted by the use of a well-insulated building envelope, natural day-lighting, energy efficient lighting, and a geothermal heating and cooling system.



The facility minimized impacts on the environment by incorporating sustainable design, site restoration, construction waste recycling, education outreach, environmentally preferable materials, recycled-content materials, energy and water conservation.

Materials were selected with long term savings considerations and by life-cycle costing assessments.



*Exhibits that tell the many stories of Parker River NWR will be installed in the visitor center in FY2005. The exhibits were designed concurrently by the same A&E firm, to work in concert with the lighting, air flow and other architectural features of the building.*

### Education/Outreach

Interpretive exhibits were designed to encourage actions of stewardship of the land. The exhibits themselves focus on the themes of: plants and animals of the barrier islands, management of these natural resources, the National Wildlife Refuge System, and migratory birds. Telescopes and binoculars are provided for viewing wildlife in the adjacent wetlands and across the road in the open, restored salt marsh managed by Massachusetts Audubon Society.

Boardwalks with interpretive panels allow close access to the wetlands and basins, providing education on the benefits of wetlands, wise resource management, and good stewardship.

### Site Restoration/Preservation

The building site was an old submarine demolition yard that was cleaned up by the mid 1990's. The site improvements made afforded an opportunity to return disturbed land to more natural habitats of this coastal area: shallow wetlands, old field, and upland woods, habitats found on the Refuge. Soil excavated from storm run-off cleansing basins was utilized as loam throughout the site.

All plants are native species of trees, shrubs, forbs, and grasses.

Exterior, pressure-treated alkaline copper quaternary (ACQ) wood did not contain arsenic or chromium unlike many other wood preservatives and is not considered hazardous by the Environmental Protection Agency.

### Environmentally Preferable Materials

The design process considered local materials availability, durability, longevity, low maintenance, and recycled content/reuse characteristics.

The building's sizeable columns and roof trusses are composed of engineered wood, eliminating the use of old growth, large timbers for structural elements. Engineered wood is manufactured from younger trees and wood strands. It utilizes wood pieces that are leftovers, cutoffs and from fast growing trees, thus minimizing depletion of forests and using wood scraps efficiently.

Extensive use was made of recycled-content materials for carpet, hard surface (tile) and sheet goods (linoleum) flooring, sheetrock, and exterior decking. Deck piers were made out of dense recycled material containing scrap metals and plastics. Fiberboard panels contain recycled wood fiber. Plastic lumber is used for all site signage.

Materials with low or no volatile organic compounds (VOCs) or hydrochlorofluorocarbons (HCFCs) were selected. VOCs contribute to poor air quality and HCFCs contribute to global warming.

**Construction Recycling**

Construction materials and packaging materials were recycled to minimize impact on landfills. Concrete was recycled during construction, rather than being disposed of in a landfill.

**Energy**

Energy conserving features of the Parker River facility include a southeastern orientation, a well-insulated building envelope, extensive use of natural day-lighting through clerestory windows, a geothermal heating ventilation and air conditioning system, and energy efficient lighting including timers and a light-dimming system controlled by the amount of external daylight.

All rooms have motion-detection devices that shut lights off when the room is no longer occupied.



*Region 5 Biologists meet to discuss Habitat Management Plans in Parker River NWR multipurpose classroom.*

**Water Conservation**

Water conservation and recharge is an important feature of the facility. The project's soils are sandy and permeable due to its location near the coast. Roof runoff is directed to underground, perforated chambers that enable the water to percolate into the soil, rather than the typical practice of directing it into a storm sewer piping and manhole system.

Runoff from road and parking hard surfaces is directed to a series of recharge basins seeded with moisture-loving native plants. Both cleaning and recharge begin as the water moves through several basins sized for a 100-year storm event. Degraded wet meadows on-site will be restored.

**Leadership**

The overall building orientation, as well as the height, ventilation, and geometry of the roof and windows, provide an excellent model of energy efficiency and high building performance.

The building provides visitors with an orientation to energy and water conservation, preservation of diverse habitats, and good stewardship to support wildlife in national wildlife refuges.

Environmentally benign construction practices make the Parker River Visitor Center and Administrative Headquarters an exemplary model of sustainable design. Special care is being taken at the site to restore disturbed land to natural habitats of wetland, field, woods, and coastal areas. Recycled and low-VOC building materials were used throughout, and non-hazardous preservative was applied to exterior wood surfaces. Water conservation technologies include low-flow fixtures and directing roof runoff to groundwater recharge. Passive solar techniques such as southeast building orientation and daylighting, along with super insulation of the building envelope, high-efficiency lighting, and a geothermal heat exchange system, reduce energy use by 41 percent over a traditional office building.

Parker River National Wildlife Refuge  
Plum Island, Newburyport, MA

**YOU HAVE the POWER™**

United States Department of the Interior  
Federal Energy Management Program

For more information on how you can get involved in the You Have the Power campaign, visit the FEMP Web site at [www.eere.energy.gov/femp](http://www.eere.energy.gov/femp).

*2004 Department of Interior Federal Energy Management Program Poster*



## 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

One restoration project conducted under the OPA and one conducted under CERCLA demonstrate how the Service works cooperatively with co-trustees and other interested organizations in restoring injured natural resources.

### Fox River/Green Bay Natural Resource Damage Assessment and Restoration

The lower Fox River in Wisconsin and Green Bay, which borders Wisconsin and Michigan is contaminated with polychlorinated biphenols (PCBs) from the production of carbonless paper. Through time, PCBs have been and continue to be redistributed into the sediments and natural resources of the Lower Fox River and Green Bay. PCBs bioaccumulate in fish and wildlife through the food chain process. Fisheries throughout the Lower

Fox River and Green Bay are injured as a result of the extensive PCB fish consumption advisories established by the states of Michigan and Wisconsin, and by PCB concentrations in fish tissue that exceed the FDA tolerance level. These injuries have occurred from the mid-1970s to the present and cover many different fish species throughout the area. In addition, walleye of the Lower Fox River and Green Bay are injured as a result of higher incidences of liver tumors and pre-tumors associated with PCB exposure than in reference populations. Avian resources have also been injured as a result of exposure to PCBs. Specifically, various fish-eating birds in the area, including Forster's terns, common terns, double-crested cormorants, and bald eagles were injured. The Service is working with our co-trustees, the Bureau of Indian Affairs, National Oceanic and Atmospheric Administration, the state of Wisconsin, the state of Michigan, the Oneida Tribe of Indians of Wisconsin, and the Menominee Indian Tribe of Wisconsin to restore these resources.

Settlement negotiations for the natural resource damage claims are ongoing with several of the paper companies responsible for the releases of PCBs. However, one final settlement and 2 interim settlements have provided funds for restoration activities, which have already commenced based on the restoration categories outlined in the Joint Restoration Plan and Environmental Assessment for the Lower Fox River and Green Bay Area that was finalized and released in June 2003, after undergoing public review.

In 2004, the Trustees, in cooperation with Walleyes For Tomorrow and the South Bay Marina, completed the restoration of approximately 10 acres of fish spawning habitat in conjunction with the construction of a new marina. The installation of structures and various sizes of stone, from boulders as large as pianos to cobble, will provide valuable spawning habitat for walleye and other predator species in the environmentally degraded urban waterfront in the Lower Fox River and southern part of Green Bay.





*Door County Wetland typical of those areas targeted for preservation. Photo: USFWS*

**Reforestation Restoration Project**

The Nature Conservancy spent two weeks planting 39,500 seedlings to reforest about 68 acres in the Mink River watershed in Door County, Wisconsin using restoration settlement funds provided by the Trustees. The seedlings were planted by hand and a machine planter donated by the Door County Soil & Water Conservation Department and pulled with a tractor provided by a local farmer. Wisconsin Department of Natural Resources’ foresters also lent their expertise in the reforestation effort. The growth of the forest in the area will protect water resources by providing for infiltration of water back into the ground rather than eroding the shallow soils directly into the Mink River. Secondary benefits of the restoration project include the filling-in of forest gaps in the landscape providing big blocks of forest habitat for birds that nest deep in the forest and a safe resting area for those bird species that migrate through the area.



*The Nature Conservancy Volunteer Leader and equipment for seedling planting project.*

**Fish Restoration Project**

The Wisconsin Department of Natural Resources was having success with its limited stocking program of the Great Lakes spotted muskellunge (musky) in 2002. The Trustee Council supported the effort by providing funds for a major expansion of the stocking program. Approximately 40,000 small spotted musky were produced and released in October 2003 into the Lower Fox River, Little Lake Butte des Morts, Peshtigo River, Menominee River (near Sturgeon Bay and Little Sturgeon Bay), and in Lake Winnebago. Restoration settlement funds also were provided by the Trustees to the Fish and Wildlife Service Fisheries Program to address critical maintenance needs at federal fish hatcheries that provide lake trout for stocking in the waters of Lake Michigan and northern Green Bay.



*Spotted musky. Photo: Randy Stone, Dept. of Justice*

The Trustees have been working to protect important habitat for migratory birds and fish. Those areas protected include:

- 247 acres in cooperation with The Nature Conservancy to provide habitat for the Hine’s emerald dragonfly (Federally-listed endangered species), shorebirds, bald eagles (Federally-listed threatened species), waterfowl, and game and commercial fish species.
- Nearly 65 acres along the west shore of Little Lake Butte des Morts including, 2,600 feet of lake frontage, that will be held by local municipalities and non-profits to protect some of the last remaining wetlands and wildlife habitat



found along the Lower Fox River. Included among these lands are Stroebe Island and the backwaters, cuts and coves that are used for feeding or resting by ducks and geese and as nurseries for fish such as bluegill, bass, northern pike and walleye.

- 467 acres along the west shore of Green Bay, which provides important spawning and rearing habitat for sport and forage fish. This purchase was made possible by matching restoration settlement funds with state and federal grants.
- Approximately 1,432 acres important for waterfowl nesting, flood absorption, recycling of nutrients along the Wolf River. This purchase was made in cooperation with the Wisconsin Department of Natural Resources and using state stewardship matching funds.
- Approximately 76 acres of forested habitat along the east shore of Green Bay in cooperation with Door County Land Trust. This habitat was preserved to protect several springs that supply water to a large, high quality lowland hardwood forest, reduce erosion of soil and nutrients into the bay and protect the land from development.



*Habitat acquired on Stroebe Island.  
Photo by: Colette Charbonneau, USFWS*

**Chalk Point Oil Spill Restoration Projects**

On April 7, 2000, approximately 126,000 gallons of oil was released from a ruptured pipeline near the Chalk Point Generating Station, Aquasco, Maryland. As a result, Swansons Creek and 17 miles of the Patuxent River were oiled. Injuries resulting from the spill included lost recreational use, wetlands and beach shorelines, birds and waterfowl, fish and shellfish, diamondback terrapins, and benthic communities. A cooperative assessment of natural resource damages was conducted between the Trustees (National Oceanic and Atmospheric Administration, the Service, and the State of Maryland) and the Responsible Parties (Pepco and ST Services). Potential restoration projects were identified and scaled by the Trustees and the responsible parties, with input from the public and the Governor’s Citizens Advisory Committee. The preferred restoration projects were identified and in December 2002, a settlement in the amount of \$2,700,000 was entered into by the Trustees and the responsible parties.

Restoration projects include the ruddy duck restoration project, the marsh/beach creation project, oyster project, and the lost recreational use projects. The ruddy duck restoration project aims to restore the numbers of ruddy ducks lost as a result of this spill. It involves the purchase of easements and the restoration of approximately 1,800 acres of ruddy duck nesting habitat in the Prairie Pothole region of South Dakota. Ruddy ducks breed in wetlands in the Midwest and southern Canada and



*Fishing for walleye in target habitat for restoration.  
Credit: Colette Charbonneau, USFWS*



migrate to the Chesapeake Bay during the winter. Restoring and protecting nesting habitat was determined to be the best way to restore ruddy ducks injured during the spill. In 2003, the first 60 acres of cropland in South Dakota was re-seeded and permanently protected for ruddy ducks. In 2004, 414 additional acres were added. Agreements and easements on these parcels are pending.



*Ruddy Duck Pair*  
*Lower Klamath National Wildlife Refuge*

The marsh/beach creation project will create roughly 6 acres of intertidal marsh wetland adjacent to Washington Creek, a tributary of the Patuxent River. This wetland will be similar to those affected by the spill and provide habitat for juvenile fish, shellfish, birds, and mammals; improve water quality by filtering sediments and other pollutants from the water column; and provide storm surge and flood protection.

The aim of the oyster project is to create a 5 acre oyster reef sanctuary in the Patuxent River to address injuries to fish, shellfish, birds, and benthic communities. Oyster reefs enhance benthic communities; increase aquatic food for fish, birds, and waterfowl; and improve water quality by filtering out sediment column. The oyster bed was seeded this year.

### 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 their natural state. 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.

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

Cultural Resources, consisting of historic, archaeological, sacred, and cultural sites, as well as that the materials recovered from these areas, are considered irreplaceable resources that are protected under numerous federal laws, executive orders, and agency regulations. The most notable of the federal statutes is the National Historic Preservation Act (NHPA) of 1966 (as amended). This law requires that the Service, whose lands contain thousands of these cultural resources, establish a preservation program to identify, evaluate, and protect important archaeological and historic sites that may be affected by mission-related projects undertaken on its lands.

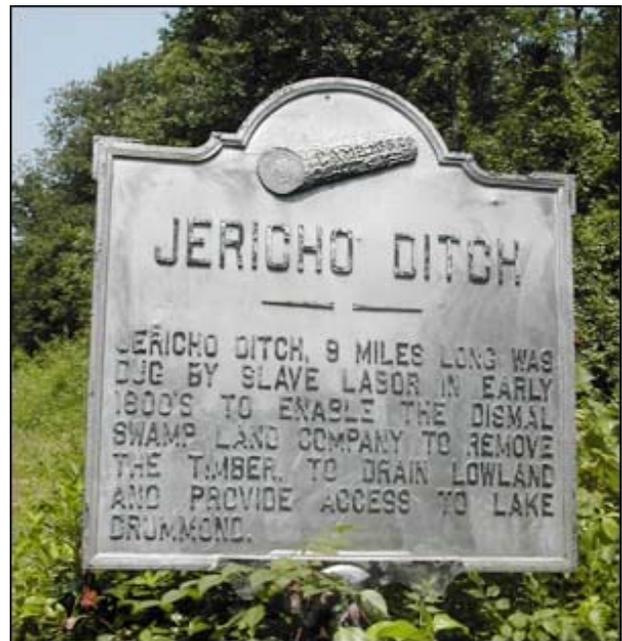
Historic preservation, as called for under NHPA, is not only focused on studying our nation's distant past, although this is certainly a central tenet of the law and an important component in the FWS historic preservation program. Preservation is, more importantly, about bringing our nation's rich history to life and making it relevant to current needs and plans. This kind of preservation can be found in the reuse of historic structures for office space or visitor centers, which is cost effective from both a construction and energy cost standpoint of the designation of historical areas and objects as interpretive centers or educational tools. Under either scenario, the end product is an increased sense of place and character for our lands and communities.

Historic areas, or cultural landscapes as they are also known, are areas that have witnessed great events, either national or local events. While the most recognized examples are considered historic battlefields there are other important events that have taken place in history and many have occurred on lands now administered by the Service.

Great Dismal Swamp National Wildlife Refuge, located in southeastern Virginia and northeastern North Carolina has a history stretching back into prehistoric times, however it was during the 18<sup>th</sup> and 19<sup>th</sup> centuries that the area became part of the fabric of American history.

Recognized for its potential for farming, investors in the area used enslaved people for labor to begin the process of draining the swamp and creating canals that would allow for farming and irrigation of reclaimed land within the swamp. Eventually, the very land they were charged with taming would become a sanctuary to the laborers who would use the dense underbrush of portions of the swamp to elude pursuers and find escape to northern states.

The Great Dismal Swamp, now known for its contribution to wildlife conservation, was nominated and listed as part of the National Park Service's National Underground Railroad Network to Freedom for its contribution and place in American history.



*Jericho Ditch historic marker  
Great Dismal Swamp National Wildlife Refuge*



**Chesser Island Homestead  
A Pioneer Family's Home  
At the Okefenokee National Wildlife Refuge**

An EMS team Visited the Okefenokee NWR in 2004 only to find a national treasure (Chesser Homestead) being preserved by the Refuge. All preservation and maintenance of the historical homestead is accomplished by the Refuge. Daily tours of the facility are conducted by local volunteers.



*Chesser Homestead Historical Landmark*

In the late 1800's W.T. Chesser and his family settled a small island on the eastern edge of the Okefenokee Swamp. The Chessers were a rugged family, carving out a life in the often harsh conditions of the area. Their history is typical of many area settlers; they ate what they could shoot, trap catch and grow on the sandy soil. Cash crops were primarily cane and turpentine. They lived simply, worked hard and played hard, when possible.



*Front View at Homestead Yard*



*Smoke House and storage shed*

Most of the Okefenokee Swamp became a national wildlife refuge in 1937; slowly the Chesser family located to other areas. Tom and Iva were the last family to leave the island, in 1958. Many members of the Chesser family remain in the local area. They are involved in the ongoing maintenance and interpretation of the Chesser Island Homestead; some are employed by the Service in various capacities.



## XII. Green Acquisition

### Regional Greening Coordinators

The Service's Greening Coordinators continue to work closely with the Regional Business and Economic Development Program Managers (BEDP), Program Administrative Officers, Procurement Agents to promote the acquisition of "green products and services." During 2004 the Service's Greening Contractor continued to work closely with the Service's Charge Card Holder Coordinator and Regional Charge Card Holders to increase the acquisition of green products and services.

### Fish and Wildlife Service's Greening Contract

The Service awarded a "greening" contract to a private contractor on July 2, 2002. The contractor is classified as a small business firm located in Gaithersburg, Maryland. The original contract was divided into two phases, Phase 1 & 2. The purpose of Phase 1 was to refine the Contracting and Facilities Management's (CFM) goals and objectives of the Strategic Plan to incorporate greening initiatives included in other Executive Orders (E.O.) related to greening in addition to E.O. 13101, and those other Federal regulations. The Strategic 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 Strategic 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 consists of three tasks to assist in implementing CFM's responsibilities under the refined Action Plan. The contractor developed products identified in the refined Action Plan, draft training materials, and draft models greening specifications for the Fish and Wildlife Service's Construction and Service contracts.

After completing the work under Phases 1 and 2, a third plan was authorized. In phase 3, the contractor will perform a review of the draft Manual, Implementation Strategy, and Roles and Responsibilities Table: CFM will identify key individuals (e.g., procurement and contracting personnel various levels in the organization such as Headquarters, Regions, and Field Stations) to review the contents and resources of the documents and provide technical and practical feedback to revise them.

Planning was accomplished in 2004 to develop and implement two pilot projects for 2005. CFM will designate suitable sites for field testing various aspects of the Greening Program and collect feedback to refine the Program based on what is working and where additional support is necessary.

Planning efforts also included the development implementation tools and methods as outlined in the Program Implementation Strategy: CFM will advise on how to best integrate the necessary tools and materials with existing Service-wide capabilities and mechanisms.

Components of this Program Implementation Strategy include:

- a) **Guidance:** This provides individuals with the necessary resources and understanding on the importance of environmental considerations in acquisition planning and how to implement the Program.
- b) **Training:** Training modules on greening will be developed for incorporation into existing training channels such as the Charge Card Environmental Compliance training.
- c) **Communication:** Communication methods will include recommendations for website architecture for information dissemination.
- d) **Recognition of Accomplishments:** The Environmental Achievement Award, currently exist; the Greening Program needs to promote involvement in these annual environmental achievement awards.

**Phase 3 Expected Deliverables:**

- 1) Final Manual for Service-wide distribution.
- 2) Two pilot projects and revised aspects of the Greening Program.
- 3) Program Implementation materials and tools for guidance, training, communication, and awards compatible with, and taking into account, existing Service-wide mechanisms.
- 4) A measuring and reporting protocol.
- 5) Service-wide Program deployment with anticipate schedule of activities and initial selection of target sites.

As reported to the Office of Management and Budget in Exhibit 55 on September 18, 2004, the Service will spend an estimated \$2.8 million for acquisition of AFV's in Fiscal Year 2005. Some hybrid vehicles will be acquired, although they are not classified as AFV's.

**Purchases:**

The Service continued the practice of purchasing energy-efficient appliances 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 is 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 Fuel Vehicles:**

The Service's CFM division has established a Website for alternative fueling sites and vehicles at: <http://sii.fws.gov/r9cgs/altfuel.htm>. It contains a list of 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).

Currently, the Service uses a total of 135 Alternative Fuel Vehicles, including electric trams for visitor wildlife tours. Several National Wildlife Refuges have purchased biodiesel fuels for their vehicles. Biofuels such as ethanol are made from starch and include ethanol-blended reformulated gasoline, and biodiesel is made from vegetable oil.



*Concept Design for a Biodiesel Truck for the Lewis and Clark Traveling Exhibit*





*First Hybrid Ford Escape SUV - Region 6, Denver*



*Compressed Natural Gas/Gasoline Truck  
Region 6, Denver*

In Fiscal Year 2005, \$493,839 is projected as a line item in the National Wildlife Refuge System's Resource Management Appropriation maintenance budget for an Alternative Fuel Vehicle Fund (in the Equipment Repair and Replace category). Funds will be allocated as all other equipment funding, and may be used to purchase AFV's for field stations.



*First truck to receive Bio Diesel fuel  
at Charles M. Russel National Wildlife Refuge*

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. In addition, a 25 percent improvement Servicewide in vehicle fuel economy was achieved by 1995 (1995 average of 17.8 mpg versus the FY 1991 base year average of 14.2 mpg Servicewide).



### 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 **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. The EMS site visits have confirmed that all of the facilities have either met or exceeded the recycling goals.

The Sachuest NWR landfill project used about 10,000 cubic yards of clean recycled dredged sediments from nearby marinas for portions of the fill requirements. Consolidation of the landfill wastes also provided the opportunity to recycle about 55 tons of tires, steel, stumps and concrete material during the execution of the project.

#### 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.



*Animal proof recycling bins - Okefenokee NWR, Georgia*



*Recycling Light Bulb Tubes - Okefenokee NWR, Georgia*



XIV. Environmental Awards

The Division of Engineering Environmental and Facility Compliance Branch established a Service environmental awards program in FY 2002. 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.

Of all the facilities recommended for Fish and Wildlife Environmental Leadership Awards, only one Refuge or Hatchery is chosen as the “Best of the Best” and they receive this featured traveling trophy. Once a Service facility wins this award, they are eligible to compete for the Department of Interior Environmental Achievement Award and White House Closing the Circle Award.



*Traveling Trophy Received by “Refuge and Hatchery of the Year”*



**2004 Fish and Wildlife Service Environmental Leadership Awards**

**“Hatchery of the Year”  
Quinault National Fish Hatchery  
Category: Environmental Management Systems**

Quinault National Fish Hatchery (QNFH), knowing that an Environmental Management Plan would be a very beneficial tool, requested that their facility be one of the first within Region 1 to have an Environmental Management Review and Plan implementation. The staff and operations of the QNFH have established a feasible, practical, and efficient Environmental Management System and have catapulted the hatchery into the “Green millennium.” Examples of the pro-active “green” advocacy by the QNFH include a recycling program for cardboard, aluminum, glass, batteries and fluorescent bulbs. All “hazardous waste streams” have been eliminated in hatchery facilities. The Quinault NFH is committed to environmental stewardship and supporting a “greening” culture.



*Staff at Quinault NFH - Back Row (L-R) Mark Galloway, Ed Lemieux, Paul Hayduk (Project Leader)  
Front Row (L-R) Herb Lawler, Deb Leavitt, Rich Sivonen, Bob Nash*



**“Refuge of the Year, Co-Winner”  
Chincoteague National Wildlife Refuge  
Category: Sustainable Design/Green Buildings**

Chincoteague National Wildlife Refuge built a green and sustainable educational and administrative center. The Refuge collaborated with partners to design and fund the facility. Sustainable elements included recycled wood, wood from fast growing/renewable resources or sustainably managed forests, and engineered wood. Sustainable wood products included bamboo and cork flooring, cedar siding; framing wood, and acoustic wall and ceiling panels. Project managers selected recycled-content materials including rubber flooring, carpeting and mats, and fiber board panels.



*Refuge Staff at Chincoteague NWR - Back Row: (Left to Right) Kimberly Mills, Dan Stotts, Geralyn Mireles, Jenny Hammond, Erin Kulynycz, Kelly Chase, John Schroer (Project Leader) - Front Row: (Left to Right) Susan Fair, Alison Penn, Amanda Avery, Laurel Faith, Susan Merritt*



**“Refuge of the Year, Co-Winner”  
Parker River National Wildlife Refuge  
Category: Sustainable Design/Green Buildings**

Parker River NWR built a green and sustainable Visitor Center and Administrative Headquarters. The Refuge collaborated with partners to design and fund a 9,700 square-foot building. Sustainable elements included engineered wood columns and roof trusses; low or no Volatile Organic Compounds/hydrochlorofluorocarbons; alkaline copper quaternary (ACQ) preservative for exterior wood; and recycled-content materials including carpet, tile, linoleum flooring, and drywall. The Refuge also chose recycled-material plastics for piers, plastic lumber for signs, and fiberboard panels containing recycled wood fiber.



*Refuge Staff at Parker River NWR*

*Front Row: Nancy Pau, Frank Drauszewski, Gary Burke, Jean Adams*

*Back Row: Janet Kennedy (Project Leader), Jan Wood, Deb Melvin, Bob Springfield, Martha Parmenter*



**Additional Fish & Wildlife Service  
Environmental Leadership Award Recipients**

**Crocodile Lake National Wildlife Refuge**  
*Category: Recycling; Waste/Pollution Prevention*

Three abandoned missile storage buildings, associated concrete launch and parking pads, and a 350 foot high communications tower were deconstructed, demolished, and removed as part of a tropical hardwood forest restoration project. The buildings were all located at the abandoned NIKE missile facility on Crocodile Lake National Wildlife Refuge. Useful, non-hazardous and/or non-regulated building components such as concrete and metal were salvaged and/or recycled. The clean, broken concrete was hauled to the abandoned Carysfort Yacht Club on Dagny Johnson Key Largo Hammock Botanical State Park to be used for a large wetland restoration project. All salvageable steel was taken to a salvage company for future recovery. Approximately 1,503 tons or 94 percent of the total amount of material removed was diverted from a landfill through recycling and reuse. The resulting saving from dumping fees is approximately \$138,276. This demolition project also resulted in the restoration of five acres of tropical hardwood forest and helped to enhance and restore important coastal wetlands on North Key Largo. These two habitats support six federally endangered and threatened species.



*Jon Andrew, Regional Chief of refuges in Atlanta (Left) Presents Steve Klett, Refuge Manager at Crocodile Lakes NWR (Right) award plaque. Photo was taken at refuge headquarters on Big Pine Key.*

**Creston National Fish Hatchery**  
*Category: Recycling*

The Creston National Fish Hatchery staff implemented a comprehensive environmental recycling and cleanup program in 2003. Recycled items include: Aluminum, copper, yellow and red brass, stainless steel, scrap iron, and unburned copper from the buildings and grounds of the hatchery. In addition, the office staff recycles all office paper, newspapers, aluminum cans and plastic bottles. The Hatchery recycled 17,100 pounds of scrap metals, 510 pounds of newspaper/magazines, and 335 pounds of office paper in 2003. Since 1996, an annual Hatchery “Earth Day” cleanup has been conducted by the entire Hatchery staff. During this cleanup, summer flowers are planted, roadside trash is collected, picnic tables are painted, roadways are swept, lawns are raked, shrubs are trimmed, and windows are cleaned. This major environmental-awareness program improves the safety and appearance of the Hatchery grounds, and enhances protection of the surrounding aquatic environment.



*Staff at Creston NFH (Left to Right) Jim Till, Mark Maskill, Gar Holmes, Dave Bermel, Don Edsall, Rox Rogers, Sharon Hooley, Evie Bradley*

**Region 4 - Green Building Committee; Regional Office**

*Category; Recycling*

The Southeast Regional Office created a Green Building Committee in FY2003 to develop more environmentally friendly practices in the Regional Office and demonstrate a stronger commitment to the Department's greening goals. The Committee, consisting of representatives from all the major program areas, developed a strategy that initially focused on increasing recycling and improving green building practices.



*Regional Employee shreds documents to be recycled.*



*Recycling Bins Are Lined Up For Pick-Up By American Office Paper Recycling, Inc.*



*Employees Can Eat Lunch While Enjoying the New Butterfly Bush and Native Plant Garden at the Southeast Regional Office of the U.S. Fish and Wildlife in Atlanta, GA*

**2004 Department of the Interior  
Environmental Achievement Awards**

**Chincoteague National Wildlife Refuge, FWS,**  
*Sustainable Design for the Herbert H. Bateman  
Center*

The Herbert H. Bateman Visitor and Administrative Center at Chincoteague National Wildlife Refuge is an excellent example of how green buildings can help DOI to achieve its mission to conserve our nation's natural resources, and to do so in partnership with local communities. The refuge partnered with a local elementary school, a local middle school, the Town of Chincoteague, Accomack County, and the Commonwealth of Virginia to design the facility and fund its construction. The building boasts aggressive energy and water conservation measures. Most impressive is the constructed wetlands with native species plants that treat wastewater on-site for reuse in flushing toilets.

The building uses many recycled-content materials, including wood, rubber flooring, carpeting, and fiber board panels. Staff will showcase the building in their interpretation programs helping Chincoteague's 1.5 million visitors to learn more about green buildings. The final design of the building is registered with the U.S. Green Building Council for a possible Leadership Energy and Environmental Design (LEED) rating.



*John D. Schroer, Refuge Manager, Chincoteague NWR, Steven Griles, Deputy Secretary, Department of the Interior, Angela V. Tracy, Supervisory Outdoor Recreation Planner, Chincoteague NWR, Matt Hogan, Deputy Director, U.S. Fish & Wildlife Service*

**Parker River National Wildlife Refuge, FWS,**  
*Sustainably Designed Visitor Center*

Parker River National Wildlife Refuge built a 15,945 square-foot sustainable design visitor center and headquarters that has features in all of the Leadership in Energy and Environmental Design (LEED) categories. Sustainable elements include a heating and cooling system that uses the ambient temperature of ground water to regulate the building's temperature; natural ventilation systems; recycled-content wood columns, roof trusses, carpet, linoleum flooring, and drywall; low or no Volatile Organic Compounds and hydrochlorofluorocarbons materials; and no cremated copper arsenate preservatives in exterior wood. The facility boasts excellent water conservation measures including a ground water recharge system. Degraded wet meadows on-site are restored and replanted with native species. A model partnership effort, neighboring organizations such as the Massachusetts Audubon Society and the Society for the Preservation of New England Antiquities provided key input in the building's design and construction. The Commonwealth of Massachusetts' Department of Parks and Recreation contributed \$1,000,000 toward design and construction of the facility. Interpretive exhibits provide education on the benefits of sustainable buildings, wise resource management, and environmental stewardship.



*From left to right: Sue McMahon, Steven Griles, Janet Kennedy, Matt Hogan*



## 2004 White House Closing The Circle Award

### **Chincoteague National Wildlife Refuge** *Going Green Over Buildings at Chincoteague NWR*

This prestigious award recognizes Federal employees and facilities for efforts which resulted in significant contributions to, or have made a significant impact on, the environment in the categories of waste/pollution prevention, recycling, affirmative procurement, environmental preferability, education and outreach, environmental management systems, sustainable design/green buildings, and biobased products. The award recognizes work consistent with the intent of Executive Order 13101 - Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition, and Executive Order 13148 - Greening the Government Through Leadership in Environmental Management.

This Fish and Wildlife Service Award was the only winner in 2004 from the Department of Interior for the White House Closing the circle Award.



*Left to Right: Edwin Pinero, Federal Environmental Executive; Bill Hartwig, Assistant Director National Wildlife Refuge System; Clay Johnson, Deputy Director for Management, OMB; Angela Tracey, Project Manager; John Schroer, Refuge Manager; Craig Manson, DOI Assistant Secretary - Fish and Wildlife and Parks.*



*Sachuest Point NWR Remediation Project - Completed in 2004*