



National Centers for Coastal Ocean Science ENVIRONMENTAL MANAGEMENT SYSTEM INTERNAL AUDIT REPORT

September 10-14, 2007



CCFHR-Beaufort, NC



CCFHR-Kasitsna Bay, AK



CCEHBR-Oxford, MD



SSMC-Silver Spring, MD



Hollings Marine Lab-Charleston, SC



CCEHBR-Charleston, SC

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1 Introduction

1.1 Background

The National Centers for Coastal Ocean Science (NCCOS) conducts and supports research, monitoring, assessments, and technical assistance to meet the National Oceanic and Atmospheric Administration's (NOAA) coastal stewardship and management responsibilities. NCCOS was formed within the National Ocean Service (NOS) in March 1999 as the focal point for coastal ocean science. NCCOS' mission is to provide coastal managers with scientific information and tools needed to balance society's environmental, social, and economic goals.

There are five NCCOS Centers with specific capabilities and research expertise in coastal and ocean issues. Three of the Centers have on-site research facilities, while two Centers conduct research through analyses of field data or sponsored extramural research. The five Centers and location are:

- Center for Coastal Environmental Health and Biomolecular Research (CCEHBR) in Charleston, South Carolina; and the Cooperative Oxford Laboratory in Oxford, Maryland
- Hollings Marine Laboratory (HML) in Charleston, South Carolina
- Center for Sponsored Coastal Ocean Research (CSCOR) in Silver Spring, Maryland
- Center for Coastal Monitoring and Assessment (CCMA) in Silver Spring, Maryland
- Center for Coastal Fisheries and Habitat Research (CCFHR) in Beaufort, North Carolina; and the Kasitsna Bay Laboratory in Seldovia, Alaska

This internal audit focused on the **Center for Coastal Fisheries and Habitat Research (CCFHR)** in Beaufort, NC during the week of September 10, 2007. This facility was deemed representative of NCCOS, and selected by the NCCOS EMS team for the second annual internal audit of the NCCOS Environmental Management System (EMS) since the NCCOS EMS self declaration in December 2005. The Beaufort facility operates as an NCCOS laboratory, and also includes onsite partners of NOAA's National Marine Fisheries Service (NMFS) and the North Carolina National Estuarine Reserve (NERRS). A satellite laboratory located in [Kasitsna Bay](#), AK was audited by phone interview. A third organization, Duke University Marine Laboratory, occupies a portion of Pivers Island where the Beaufort facility is located. The Duke Laboratory is not a direct partner with the NCCOS laboratory. In general, employees and partners all make important contributions to the success of the EMS at these locations.

CCFHR conducts research on the effects of coastal habitat change and restoration on living marine resources such as fish, marine mammals, and protected species. The Center focuses research on injured habitats and communities, and on estimating natural and human induced mortality, growth, and reproduction of living marine resources. These missions support NOAA's broader mission of sustaining healthy coasts.

1.2 Facilities Description

NCCOS' CCFHR Beaufort Laboratory is physically located on Pivers Island, between Beaufort and Morehead City, NC, less than 1 mile from Beaufort Inlet and the Morehead City Seaport. The Center has convenient access to important biogeographical and ecological boundaries such as Cape Hatteras and the

Gulf Stream. The Beaufort Laboratory is within 20 km of the second largest estuarine complex on the east coast (Pamlico/Albemarle Sound). Estuarine and coastal ocean ecosystems are nearby as is the [Rachel Carson component of the North Carolina Estuarine Research Reserve](#). The mission of the CCFHR is to understand and forecast ecological effects of coastal habitat and resource change. At CCFHR's Beaufort Laboratory approximately 40% of the staff is comprised of NOAA's National Marine Fisheries Service (NMFS). They develop the scientific information base required for fishery resource conservation, fishery development and utilization, habitat conservation, and protection of marine mammals and endangered species, the impact analyses and environmental assessments for management plans and/or international negotiations; and pursues research to answer specific needs in the subject areas of population dynamics, fishery economics, fishery engineering, food science, and fishery biology.

The Kasitsna Bay Laboratory is located in Seldovia, AK surrounded by water (Kasitsna Bay) and undeveloped lands. The facility is a cooperative endeavor between NCCOS and the University of Alaska Fairbanks (UAF) with a strong emphasis on educational outreach and community service.

TABLE 1. Facility Information

Total number of employees:	Beaufort - 119 (including partners)
Total number of buildings:	Beaufort - 14
Square footage of facility:	Beaufort - 50,000 sq. ft.
Property acreage:	Beaufort - 11
Site boundaries:	Pivers Island bordered by Duke University Property Line, Shark's Slew and Taylor's Creek
Activities that occur outside site boundaries:	Field (marine and estuarine) sampling of local areas and waterways conducted outside site boundaries.

Total number of employees:	Kasitsna Bay - 2
Total number of buildings:	Kasitsna Bay - 11
Square footage of facility:	Kasitsna Bay - 20,000 sq. ft.
Property acreage:	Kasitsna Bay - 19
Site boundaries:	Kasitsna Bay and undeveloped lands owned by the Seldovia Native Corporation near Jakalof Road
Activities that occur outside site boundaries:	Field (marine and estuarine) sampling of local areas and waterways conducted outside site boundaries.

2 EMS Internal Audit

2.1 Audit Objectives

The objectives of this internal audit were to assure NCCOS conformance to its EMS and help determine the degree to which the:

- EMS conforms to the ISO 14001 standard and NCCOS Environmental Policy.
- EMS has been properly implemented and maintained.
- EMS continues to meet NCCOS needs.
- Necessary documented procedures in existence are practical and satisfy the specified requirements.
- The necessary documented procedures are understood, and are being followed.
- Areas of conformity and non-conformity, with respect to implementation of the EMS, are identified and corrective actions implemented.
- EMS objectives are met and that a basis is created for identifying opportunities and initiating actions to improve the EMS.

2.2 Audit Scope

The internal audit assessed operations at CCFHR presented in the background and facility description (see sections 1.1 and 1.2), as well as all EMS elements established by NCCOS for these operations against the requirements of the ISO 14001 standard, and the requirements of the NCCOS EMS internal audit criteria. Since the EMS includes all of NCCOS, the audit reflects an assessment of the NCCOS-wide system.

For additional details regarding the EMS Internal Audit Program, refer to NOAA EMS Standard EMS.013 Regulatory Compliance and EMS Audits and Self-Assessments Audit Program Chart: International Organization for Standardization. ISO-19011: Guidelines for quality and/or environmental management systems auditing. ISO/FBIS 19011:202(E).

2.3 Audit Team

The NCCOS EMS Management Representative selected the individuals listed in Table 2 to serve on the EMS internal audit team. All team members have received internal EMS auditor training, and were deemed competent to have the level of expertise necessary to participate in the conduct of the of the NCCOS EMS audit. In addition, two team members are certified to serve as EMS Lead Auditors.

TABLE 2. AUDITOR INFORMATION.

Role	Name	Affiliation	Contact
Lead Auditor	Jay Lewis	NCCOS CCEHBR-COL	(410) 226-5193 ext. 119 Jay.Lewis@noaa.gov
NOS Oversight Auditor	Jean Durosco	NOS HQ	(301) 713-3050 ext. 165 Jean.Durosco@noaa.gov
Auditor	Bernie Gottholm	NCCOS CCMA	(301) 713-3028 B.William.Gottholm@noaa.gov
Auditor	Rick Meitzler	NCCOS CCEHBR-Charleston	(843) 762-8842 Rick.Meitzler@noaa.gov
Auditor	Raluca Semeniuc	NCCOS CCEHBR-Charleston	(843) 762-8870 Raluca.Semeniuc@noaa.gov
Auditor	Harold Stanford	NCCOS HQ	(301) 713-3020 Hal.Stanford@noaa.gov

2.4 Audit Plan

An audit memo for the Beaufort, NC and Kasitsna Bay, AK facilities was developed and approved by Dr. Gary Matlock, Director, NCCOS, on February 16, 2007. August 20-24, 2007 was originally selected as a date for the internal audit, but was subsequently changed to September 10-14, 2007, at the request of Dr. David Johnson, Director CCFHR. An NCCOS EMS team session, held in Beaufort, NC during the week of April 15-20, 2007, produced a plan for the EMS internal audit covering the following areas:

- Audit scope and objectives
- Audit team
- Coordination with auditees
- Audit dates, times, and other logistics
- Review of profiles, and descriptions
- Responsibilities for the audit report

2.5 Opening Meeting

A brief audit opening session was conducted by the lead auditor on September 11, 2007 at CCFHR. The meeting consisted of introductions of the audit team, re-confirmation of the scope of the audit and audit itinerary, the methods and audit criteria to be used, and the audit report process. In addition to the auditors, the following Beaufort staff and partners participated in the meeting:

Name	Organization	Contact Information
Dr. Jeff Govoni	CCFHR Deputy Director, Beaufort	(252) 728-8727 Jeff.Govoni@noaa.gov
Dr. John Burke	CCFHR Branch Chief (substitute), Beaufort	(252) 728-8602 John.Burke@noaa.gov
Dr. Larry Hansen	NMFS, Acting Director Beaufort	(252) 728-8725 Larry.Hansen@noaa.gov
Dr. Pat Tester	CCFHR Branch Chief, Beaufort	(252) 728-8792 Pat.Tester@noaa.gov
Mr. Joseph Bizzell	CCFHR EH&S, Beaufort	(252) 728-8718; (252) 723-7107 (Cell) Joseph.Bizzell@noaa.gov

2.6 On-site Audit Process

- The onsite EMS internal audit was conducted September 11-13, 2007 at CCFHR. Pre-audit and post-audit activities were completed on September 10 and 14.
- The EMS internal audit was conducted through interviews with facility management and staff, and through reviews of EMS documentation and records to assess and record the suitability, adequacy, and effectiveness of elements of the NCCOS EMS. Audit of the Kasitsna Bay facility was conducted by phone interview.
- Prior to beginning the audit, audit team members conducted a review of EMS documentation (e.g., standards, Environmental Management Programs (EMPs) and Improvement Plans, etc.) available on the NCCOS EMS website and, where appropriate, assessed other data and documents that provided information on the functionality of the EMS. Additional electronic and hard copy facility documentation was provided at the time of the audit for verification purposes.
- Auditors conducted an on-site review of EMS documentation, and other data and documents (e.g., EH&S Budget and Expenditures, Emergency Preparedness Plan, Chemical Hygiene Plan, Waste Management Procedures, Job Hazard Analysis forms, employee training records, etc.).
- All audit team members participated in conducting interviews with CCFHR management.

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- The audit team conducted interviews with individuals within each branch of NOS and NMFS having a variety of roles relating to the EMS, from general employees to those whose work activities interact with or produce significant environmental aspects. The interviews were usually conducted by the auditors in pairs. Including federal and contract employees, partners, interns, and volunteers, 58% of the CCFHR staff was interviewed. With the exception of the NERRS partners, this represented 100% of those available at the time of the audit.
 - The audit team conducted a pre-audit walk-through of all facilities to observe operations and activities, and to visually assess implementation of standards, programs, and controls applied to various EMS activities.
 - The audit team has provided information that documents findings and opportunities for improvement. Responsibility for corrective actions will be identified during the corrective action process, and will be incorporated into corrective action requests.
 - This audit report will be used as input to the 2007 NCCOS EMS Management Review.

2.7 EMS Audit Schedule - September 10-14, 2007

The onsite audit took place Tuesday September 11 through Thursday September 13, 2007. However, preaudit functions such as document review and audit setup were completed by some of the audit team on Monday September 10, 2007.

CCFHR members were reviewed under the following groupings:

Senior Management - including all Branch Chiefs;

NOS Branches – Resource Coordination and Administrative Support, Applied Ecology and Restoration Resource, Coastal Processes and Resources, Sub-Artic Ecosystem Change;

NMFS Branches – Sustainable Fisheries, Fisheries Ecosystems, and Protected Resources.

Pre-audit Activities

Monday, September 10, 2007

8:00-4:30 Pre-audit Preparation and complete EMS documentation review (website and onsite documents) – Jay Lewis, Bernie Gottholm, Rick Meitzler, and Raluca Semeniuc

Travel Day for remaining EMS Audit Team Members

Onsite Audit Activities
Tuesday, September 11, 2007

8:00 – 9:55	EMS Audit Team setup and preparation
10:00-10:55	Opening EMS internal audit meeting, orientation, review schedule, describe goals and objectives with CCFHR management and on-site Environmental Health and Safety/EMS team person, assignment of liaison(s) for audit team, and review of any special considerations or restrictions. NOS and NMFS leadership attendance determined by NOS Director.
11:00 – 11:55	CCFHR Director - Govoni (substitute)
12:00 – 12:55	Lunch
1:00 – 3:25	Resource Coordination & Admin. Support Branch (24)
3:30 – 4:30	Daily wrap up, discussion, and report notes

Wednesday, September 12 - CCFHR

8:00 – 8:25	Audit Team setup, preparation, and discussion
8:30 – 10:25	Coastal Processes Branch – Tester (14)
10:30 – 11:55	Ecology & Restoration Branch – Fonseca (17)
12:00 – 12:55	Lunch
1:00 – 2:25	Kasitsna Bay Conference Call and Interviews
2:30 – 2:55	NMFS Director – Larry Hansen (substitute)
3:00 – 3:25	Ecology & Restoration Branch – Fonseca
3:30 – 4:30	Daily wrap up, discussion, and report notes

Thursday, September 13 - CCFHR

8:00 – 8:25	Audit Team setup, preparation, and discussion
8:30 – 9:55	NMFS – Hansen Branch (15)
10:00 – 11:55	NMFS – Williams Branch (11)
12:00 – 12:55	Lunch
1:00 – 2:55	NMFS – Martin Branch (8)
3:00 – 4:30	Closing Meeting - Director & Branch Chief Reps.

Post-audit Activities**Friday, September 14, 2007**

8:00 – 3:00 Assemble and complete documentation, begin draft report from audit team notes, and revisit onsite issues that need resolution prior to departure – Jay Lewis, Bernie Gottholm, and Hal Stanford.

Travel Day for other EMS Team Members

2.8 Closing Meeting

A brief closing session was conducted by the EMS lead auditor on September 13, 2007 at CCFHR. The meeting consisted of a general overview of: results of the audit process, positive findings, non-conformities, concerns found during the audit, and a question and answer period. A summary of the closing meeting was also provided to Dr. Govoni and Dr. Johnson because they were unable to attend the closing meeting. In addition to the auditors, the following Beaufort staff and partners participated in the meeting:

Name	Organization	Contact Information
Dr. John Burke	CCFHR Branch Chief (substitute), Beaufort	(252) 728-8602 John.Burke@noaa.gov
Dr. David Evans	CCFHR Branch Chief (substitute), Beaufort	(252) 728-8752 David.W.Evans@noaa.gov
Dr. Mark Fonseca	CCRHR, Branch Chief, Beaufort	(252) 728-8729 Mark.Fonseca@noaa.gov
Dr. Larry Hansen	NMFS, Acting Director Beaufort	(252) 728-8725 Larry.Hansen@noaa.gov
Dr. Pat Tester	CCFHR Branch Chief, Beaufort	(252) 728-8792 Pat.Tester@noaa.gov
Mr. Joseph Bizzell	CCFHR EH&S, Beaufort	(252) 728-8718; (252) 723-7107 (Cell) Joseph.Bizzell@noaa.gov

3 Audit Findings

The auditors identified **14 findings of non-conformance** with established ISO 14001 and NOAA EMS audit criteria. In addition, the auditors identified **12 opportunities for improvement** of the EMS. A summary of general observations, audit findings, and opportunities noted during the audit that may serve to enhance the NCCOS EMS is presented below.

3.1 General Observations

The audit team found many positive examples of environmental stewardship during the current audit and employees conveyed a high level of personal environmental awareness. However, there was some lack of employee awareness and participation in the NCCOS EMS and its operating requirements. Positive observations of environmental stewardship found during the Beaufort audit include:

- The overall environmental “consciousness” of the staff is very high.
- Most people interviewed were very complimentary about the leadership and involvement of the Center Director, Dr. David Johnson, in EMS-related matters and community outreach. A more active involvement in day-to-day oversight of EMS matters by the Deputy Director would likely enhance the overall program.
- Interviews with both management and staff at CCFHR facilities indicated that there are a range of measures which contribute to the mitigation of potentially negative environmental impacts of the operations at the Beaufort and Kasitsna Bay facilities. Examples are listed below by their application to NCCOS Significant Environmental Aspects. Positive EMS measures include:
 1. Natural Resources –
 - BEAUFORT, NC
 - Switched to the use of biodiesel in laboratory research vessel R/V Hildebrand
 - Establishment of a NC certified Clean Marinas program (See attachment C for further information)
 - Awareness of energy and water conservation
 - Implemented paper recycling. Expansion of the program is planned in FY08 by contracting with a waste vendor to recycle all materials from unsorted trash
 - Purchased one hybrid vehicle during vehicle replacement cycle. Plan to purchase more hybrid vehicles as replacement cycles occur. However, current hybrids are not conducive to work that requires heavy hauling, towing, and the transport of large numbers of people
 - Replacement of old 2-stroke outboards engines with new fuel-efficient and environmentally-friendly 4-stroke engines. New outboards burn 30-40% less fuel
 - Plan to design new buildings to meet LEED Green Building Standards (See attachment C)
 - Encourage the use of on-line journals and supply catalogs
 - Purchase of a large screen monitor to showcase facility accomplishments by PowerPoint presentation instead of printed posters costing \$100 each
 - Striving to reduce freshwater and saltwater usage
 - KASITSNA BAY, AK
 - Installation of thermal sensors on heat tapes to shut off energy when not needed
 - Installation of motion sensors on lights in dorms and wet labs to reduce energy use
 - Replacement of old 2-stroke outboards engines with new fuel-efficient and environmentally-friendly 4-stroke engines. New outboards burn 30-40% less fuel

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- Thermostats are turned down and refrigerators and freezers are unplugged in dorms when not in use to reduce energy consumption
 - University of Alaska Fairbanks partner has leased a 12-passenger van to reduce trips by 50% or more for facility visitors
 - Some heating systems have been converted to a more environmentally friendly propane gas
2. Hazardous Materials – Beaufort
- Some chemical substitutions have been achieved. Investigators have limited the use of or made a total switch from formaldehyde to ethanol as a preservative
 - Elimination of nuclear source and stock pile of nuclear materials
 - Use of Epaint, an environmentally friendly antifouling coating, on the R/V Hildebrand and some laboratory YSI equipment (See attachment C)
 - Reduced chemical inventory to minimum amounts scientists need to operate
 - Eliminated friable asbestos (See attachment C)
3. Land – Beaufort
- Researchers are engaged in storm water runoff issues and desire to maximize environmentally friendly opportunities into new building plans. Have entered into discussion about building saltwater marshes to handle storm water runoff. Replaced salt marsh lost by bridge replacement as required in the bridge permit
 - Facility utilizes only native vegetation in landscaping
 - Has developed a storm-water runoff plan
4. Waste Water – Beaufort
- Facility switched from well and septic to use of city utilities
 - Where possible, flow-through water systems have been converted to closed/recycled systems and updated with energy efficient pumps on timers to reduce the use of energy and natural resources
 - Received NC State permit from for waste water discharge
5. Other – Beaufort
- Routine emergency evacuation drills conducted (during which alternate evacuation sites are reviewed)

3.2 Non-conformities

The following non-conformities were identified and will require corrective actions to be completed by NCCOS. Some of these findings were also noted in previous audits of the NCCOS EMS. Although these were addressed, further improvement is necessary.

#	Classification	Description of Non-Conformity	EMS Elements	Status
1	Minor	NCCOS staff and partners demonstrated an awareness of the NCCOS EMS Policy, but not a strong awareness of the overall EMS. Auditors noted that there was no apparent display of the NCCOS EMS Policy memo, dated 8-8-2007. It was also noted that there was no documentation of the NCCOS EMS policy having been communicated to visitors or vendors upon sign in. Attention needs to be directed to informing on-site contractors about the NCCOS EMS at CCFHR, and what is expected by all site personnel and visitors.	ISO 14001, 4.2 Environmental Policy; NOAA EMS 001 Policy and Leadership	
2	Minor	Throughout NCCOS, EMS remains dependent on a few critical EMS team members. Absence of any of these individuals could result and has resulted in significant adverse impacts to the EMS. The recent departure of the Beaufort EH&S/EMS representative required that the NCCOS EMS Representative provide specialized training to prepare CCFHR staff for the EMS internal audit. When an EMS is fully functional, the system should continue to function in the absence of key employees. Senior NCCOS management and Center Facility Teams need to be more proactive in creating and sustaining an EMS culture.	NOAA EMS 002 Roles and Responsibilities	
3	Minor	All employees were knowledgeable of how their jobs could impact the local environment, but few had knowledge of the NCCOS Significant Environmental Aspects, Objectives, or Targets.	ISO 14001, 4.3.1 – 4.3.3 Environmental Aspects, Objectives; NOAA EMS 004 Environmental Impact Identification	
4	Minor	The Kasitsna Bay lab needs to improve documentation of environmental processes and determine if there is a legal requirement to apply for an EPA hazardous waste generator permit. Specific attention needs to be paid to the Spill Prevention Control and Countermeasure (SPCC) and Emergency Response Plans. Other environmental documents need to be formalized as applicable. Beaufort documentation needs to include Kasitsna Bay.	ISO 14001, 4.3.2 Legal and Other Requirements; NOAA EMS 005 Environmental Laws, Regulations and Other Requirements	

#	Classification	Description of Non-Conformity	EMS Elements	Status
5	Minor	In portions of NCCOS, there is a lack of EMS or environmental performance standards being formally included in employee performance plans (NOAA IT and safety performance statements provide examples of existing job performance standards). Employees can not dedicate adequate time to roles or collateral duties not specified and appropriately weighted in their employee performance plan. This is especially true for the NCCOS EMS and local facility team members.	ISO 14001, 4.4 Implementation And Operation; NOAA EMS 003 Personnel Performance Standards	
6	Minor	While Environmental Improvement Activities have been developed through Environmental Management Plans and purchasing training, there is no clear-cut method of tracking costs associated with environmental improvements NCCOS-wide, as required by EMS standards. More effective and trackable methods of environmental performance measurement need be established. Senior NOAA management (facilities and procurement staff) is not engaged in EMS and their decisions are often contradictory to and adversely affect the NCCOS EMS. NOAA contracts managed from Kansas City are not integrated into the site-specific EMS. Contractors and suppliers are not aware of site-specific environmental issues.	ISO 14001, 4.4.1 Resources, Roles, Responsibility And Authority; NOAA EMS 006 Environmental Improvement Activities	
7	Minor	Environmental training requirements of specific job functions, roles and responsibilities are not defined. In some cases there is confusion among staff between “safety” and “environmental compliance”, and “environmental management.” The “Training Matrix” initially developed by the EMS team in FY06 needs to be further developed and implemented to identify environmental requirements of specific job functions and roles.	ISO 14001, 4.4.2 Competence, training and awareness; NOAA EMS 007 Environmental Awareness and Training	
8	Minor	Many employees were not aware of written Work Instructions or SOPs. Those that have developed Work Instructions have not fully integrated environmental components into the day-to-day activities or plans. Education of employees and an emphasis on documenting, using, and improving work instructions is required.	ISO 14001, 4.4.2 Competence, training and awareness; NOAA EMS 008 Environmental Operational Controls	

#	Classification	Description of Non-Conformity	EMS Elements	Status
9	Minor	Not all partners are trained and/or full participants in the NCCOS EMS. NMFS partners have taken awareness training, but are not functionally implemented into the system; NC NEERS partners and cleaning contractors have not been included in any component of the EMS to date. There was no documentation of EMS awareness being provided to visitors. The level of EMS education for partners, visitors, and temporary persons needs to be improved. At the Kasitsna Bay facility, University of Alaska partners need to be made aware of the NCCOS EMS and have an appropriate degree of training and participation.	ISO 14001, 4.4.2 Competence, training and awareness; NOAA EMS 008 Environmental Operational Controls	
10	Minor	Employee perception of the degree of commitment by management to the EMS needs improvement. Many employees expressed the desire for upper management (NCCOS, Center Directors, and partners) to take a more active role in endorsing EMS. There is an apparent misperception by some employees that management only pays lip service to EMS that must be changed and better communicated. Scheduling of quarterly all hands meetings to discuss EMS issues would be an opportunity for improvement.	ISO 14001, 4.4.3 Communication; NOAA EMS 009 Internal Communications	
11	Minor	Review of the NCCOS webpage revealed broken links, missing headers, missing footers, and dates. The present NOAA-SECO management, maintenance, and update of the NCCOS EMS website need to be reviewed in its entirety. The website also needs to be made more useful and user-friendly. NCCOS management should consider involving the headquarters IT staff in the maintenance and updating of the NCCOS EMS website.	ISO 14001, 4.4.3 Communication; NOAA EMS 009 Internal Communications	
12	Minor	Local facility teams within the centers have been established, but some staff members are not aware of the local committee and their responsibilities relative to the Safety Committee. Minutes of local EMS team meetings are not regularly posted on the NCCOS EMS website. Facility teams need representation from each branch and job category and positive feedback to employees should occur from senior management through the Branch Chiefs.	ISO 14001, 4.4.3 Communication; NOAA EMS 009 Internal Communications	

#	Classification	Description of Non-Conformity	EMS Elements	Status
13	Minor	EMS documents are stored and managed via the NCCOS EMS website, and the NCCOS facility-specific intranet. It is important that the NCCOS EMS website be the sole source of EMS program materials. In some cases, hardcopy versions of environmental documents such as plans, reports, permits, radiation safety plan, etc. were different than those on websites. Therefore, it was not clear which documents are current and which are obsolete. It is critical that an NCCOS wide Document Control System is developed and implemented to meet the document management demands of NCCOS. Local facility intranet postings should not be used in lieu of the official NCCOS EMS website.	ISO 14001, 4.4.5 Control of documents; NOAA EMS 011 Documentation and Control of EMS Documents and Records	
14	Minor	No documented feedback exists from senior NCCOS management on management reviews, actions and follow-up to be taken as a result of the review, and status of outstanding NCCOS non conformities.	ISO 14001, 4.6 Management Review; NOAA EMS 015 Management Review	

3.3 Opportunities for Improvement

During the EMS internal audit the following opportunities for improvement were identified.

#	Opportunity for Improvement	EMS Element	Action Taken
1	Newly hired EH&S officer at CCFHR should receive required initial training, for example a one-week EMS course, EMS auditor course, and a DOT/IATA course for shipping hazardous waste, in the immediate future. Annual EH&S refresher training is also required.	ISO 14001, 4.3.2 Legal and Other Requirements; NOAA EMS 005 Environmental Laws, Regulations and Other Requirements	
2	Facility policies on the disposal of used batteries and computers (and parts thereof) are needed. A facility-wide approach to replace light bulbs with those that are “green” should be implemented.	ISO 14001, 4.3.2 Legal and Other Requirements; NOAA EMS 005 Environmental Laws, Regulations and Other Requirements	
3	A large portion of interviewees expressed the desire for formal feed-back from top management regarding EMS/Safety suggestions. A line of communication on how issues were resolved or why not resolved should be implemented.	ISO 14001, 4.4.3 Communication; NOAA EMS 009 Internal Communications	
4	Interviewees suggested NCCOS EMS website be improved by including ways for the NCCOS Centers to reduce their “environmental footprint.” Special topics could include mold abatement, energy use, job specific EMS information, helpful EMS tips/hints chemical substitutions, success videos, online forms, training, more links for EMS issues, and better information on “Green purchasing.” Each facility should improve their postings on the NCCOS EMS website.	ISO 14001, 4.4.3 Communication; NOAA EMS 009 Internal Communications	
5	Management might consider placing signs next to occupant names outside the offices of EMS Committee members to assist facility staff in determining where to bring environmental concerns.	ISO 14001, 4.4.3 Communication; NOAA EMS 009 Internal Communications	

#	Opportunity for Improvement	EMS Element	Action Taken
6	NCCOS should entertain the idea of initiating “Outstanding Environmental Steward” awards to recognize special EMS accomplishments of staff members.	Executive Order 13423	
7	Management should formally document and review employee and local citizen concerns of <ul style="list-style-type: none"> a. light pollution (new parking lots) b. security issue (gate access) c. fire truck access over the bridge d. drinking water issues e. better managed A/C usage 	ISO 14001, 4.4.3 Communication; NOAA EMS 009 and 010 Internal and External Communications	
8	Install walkways or boardwalks along roads and to the Duke cafeteria to minimize the impact on marsh vegetation and landscaping and to improve safety.	ISO 14001,4.3.1 Environmental aspects; EMS 004 Environmental Impact Identification	
9	Consider development and implementation of water and energy conservation plans including the use of low-flow aerators, waterless urinals, low-flow toilets, alternate energy sources, more efficient energy policies for heating and air conditioning, etc. Where possible implement NCCOS-wide.	ISO 14001,4.3.1 Environmental aspects; EMS 004 Environmental Impact Identification	
10	Discuss with Duke partners the possibility of improved recycling efforts and the potential addition of a recycling site for lab and public use in partnership with county government.	ISO 14001,4.3.1 Environmental aspects; EMS 004 Environmental Impact Identification	
11	Publicize NCCOS EMS accomplishments.	ISO 14001, 4.4.3 Communication; NOAA EMS 010 External Communications	
12	CCFHR participation in the NCCOS Hazardous Waste Management BPA for chemical and biological disposal.	NOAA EMS 006 Environmental Improvement Activities	

4. Summary

The audit team determined that the NCCOS EMS continues to conform to the ISO 14001 and NOAA EMS Standards and demonstrates continual improvement. Beaufort employees had a high degree of personal environmental awareness and lead a personal environmental friendly lifestyle which is reflected in the improvements they've made at the Laboratory. This is typical across NCCOS. However, it's apparent that they are not fully aware of the overall NCCOS EMS Objectives and Targets. Currently, environmental improvements are made more on an individual office basis and do not take into consideration goals of the NCCOS EMS. The NCCOS EMS Objectives and Targets need to be uniformly communicated, implemented and improved so that they can be accomplished efficiently and by the efforts of all NCCOS employees and partners in addition to local facility objectives.

However, numerous current findings and findings that due to the length of time to resolve them, and the repeat nature of some findings, need to be addressed quickly to prevent the EMS from slipping to a non-conforming status. Disregard of a timely correction of these nonconformities may preclude NCCOS passing an upcoming external EMS review and moving to the next level of sustainability. There is a consensus of opinion from certified auditors and EH&S professionals that have provided training to the NCCOS EMS team members, that most non conformities should be corrected within 30-90 days of issuance of a final audit report, depending upon complexity, or within the year for those that require more extensive personnel and monetary commitments.

At the onset of developing the NCCOS EMS, core team members of each facility met quarterly and participated in frequent conference calls to develop and implement the EMS. This practice has been impacted due to personnel time commitments and budget issues. In addition, the core team has lost momentum and core knowledge by losing 2 of its 6 members since the last external audit. To prevent further erosion of the EMS and to prepare for the upcoming DOC required external audit, special attention will again be required. The NCCOS core and facility team members will need to dedicate considerable time to prepare for this audit. Also, more needs to be accomplished with regard to budgeting for EMS, incorporating EMS into planning, and tracking associated costs. While employees are generally supportive of the NCCOS EMS, time commitments and focus will remain minimal without EMS being incorporated into all employee job performance standards and EH&S/EMS being funded and tracked as required by EMS standards.

ATTACHMENT A – EMS Audit Plan Memorandum



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
National Centers for Coastal Ocean Science
Silver Spring, Maryland 20910

February 6th, 2007

MEMORANDUM FOR: Gary C. Matlock, Ph.D.
Director, NCCOS

FROM: Richard A. Meitzler *Richard A. Meitzler*
NCCOS Environmental Management Representative

SUBJECT: NCCOS FY07 EMS Audit Plan

In accordance with the NCCOS Environmental Management System (EMS) Audit Procedures, the NCCOS Environmental Management System (EMS) Working Team, which includes the NCCOS Center/Laboratory EMS Representatives, proposes the following plan for NCCOS EMS Audits in FY07:

Internal NCCOS EMS Audits. (ISO mandate to meet program sustainability requirements)

- o **Center for Coastal Fisheries and Habitat Research (CCFHR).**
 - * The entire facility at Beaufort, North Carolina.
 - * On-site audit performed by: Rick Meitzler, Jay Lewis, Raluca Semeniuc, Bernie Gottholm, and Hal Stanford, with the assistance of Matt Metcalfe (Booz Allen Hamilton), if he is able to participate.
 - * Lead Auditor: Jay Lewis.
 - * Audit Dates: **August 20 through 24.** These dates have been communicated through the NCCOS EMS Working Team and coordinated with David Johnson, Director of CCFHR as his best available time.
 - * Audit Report: To be sent to Gary Matlock (with copy to Alicia Jarboe), through David Johnson, no later than 45 days after completion of the audit.
- o **Kasitsna Bay Laboratory (KBL).**
 - * To be conducted by the NCCOS EMS Audit Team through phone interviews with Kris Holdereid (Acting Director) and Mike Geagel (Site Manager) at KBL, during the Internal EMS Audit at CCFHR.
 - * Lead Auditor: Jay Lewis.
 - * Audit Report: To be included as a separate section in the CCFHR EMS Audit Report.

Note: The NCCOS EMS Working Team contemplates that the FY 08 EMS Internal Audit will be set for Oxford and HQ.

Approve: gm Disapprove: _____ Date: 2/16/07

Cc: Alicia Jarboe



Rick Meitzler wrote:

6/13/2007 11:35 AM

To: Gary Matlock

Good morning,

The center director of CCFHR, David Johnson, has requested a schedule change for the EMS Internal Audit, previously scheduled for the week of 20-24 August 07. The new requested dates are for the week of September 10-14, 2007. The EMS Team has discussed the issue and will follow the recommendation of Dr. Johnson, with the new schedule of the EMS Internal Audit being set for the week of September 10-14, 2007.

Please confirm your concurrence/ non-concurrence with the proposed schedule. The only potential conflicts are: 1) Submittal of the Audit Report within 45 days would extend to the report being due 29th October, 2007, 2 weeks later than originally proposed. 2) Possible restrictions of travel funds due to the September budget close-out.

We appreciate your feed-back regarding the above changes. I also attached the original MEMO (of Feb. 2007) concerning the EMS Audit Plan FY07 signed by you, for your reference.

Thank you,
Rick Meitzler- NCCOS EMS Coordinator

6/13/2007 4:18 PM

The schedule change is okay with me.

Dr. Gary C. Matlock <gary.c.matlock@noaa.gov>

Director

National Centers for Coastal Ocean Science

National Ocean Service

ATTACHMENT B – Internal Audit Criteria Report



National Centers for Coastal Ocean Science Environmental Management System Internal Audit Criteria

Background to NCCOS EMS Audit Criteria

The National Centers for Coastal Ocean Science (NCCOS) is committed to establishing and maintaining robust environmental management systems (EMS) that support operations and enable the NCCOS to meet their mission efficiently.

In an effort to promote the continual improvement of the NCCOS EMS, organizations designated as "appropriate facilities" conduct internal audits to identify those EMS elements that warrant the focus of efforts for improvement. These audits help organizations understand their current status and map a performance improvement pathway for the future.

The attached audit criteria are designed to assist organizations assess their EMS's, determine conformance with ISO 14001, and meet the NOAA requirements.

Conducting the Internal EMS Audit

Internal EMS audits are conducted annually by individuals who have received internal auditor training or are experienced in audit-related matters, and are employees of the organization that is being audited.

The purpose of the internal audit is to provide information on the system for its continual

improvement. Such an audit normally results in the listing of findings and presentation of opportunities for improvements, even for mature systems.

EMS Audit Criteria

The EMS Audit Criteria are established:
To assist NCCOS appropriate facilities in identifying the strong and weak elements of their EMSs.
To enable NCCOS to identify those areas of environmental management across the organization that should be the focus of improvement actions.
To provide a streamlined approach for verifying EMS implementation, and determining environmental performance status.
To support NCCOS meeting report requirements, and implementing the annual Management Review.

**Section 1:
Environmental Policy**

The organization's environmental policy provides an overarching vision for the management of environmental issues and a framework for setting objectives and targets.

Environmental Policy

The environmental policy is well recognized by both employees and senior staff, and is used to drive the Environmental Management System.

- | | | |
|---|--|--|
| <p>1. Does the environmental policy include a commitment to:</p> | <p>Compliance
Continual Improvement
Pollution Prevention</p> | <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> |
| <p>2. Is the environmental policy:</p> | <p>Available to the public
Available to all employees
Used to drive Objectives</p> | <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> |
| <p>3. What % of employees interviewed knew the content of the environmental policy?</p> | | 85% |

Notes

Environmental Awareness was extremely high. Knowledge of the existence and location of the Environmental Policy was high. General understanding of the policy and its content was considerably lower.

1.2.1 Section 2:

Planning

The planning phase of the EMS reviews and assesses potential environmental risks, to, and from operations, allowing the organization to determine where its objectives and resources should be focused.

Environmental Aspects

A robust process exists for identifying the significant environmental risks, to, and from operations.

- | | | |
|--|---|---|
| <p>1. A procedure for identifying environmental aspects:</p> | <p>Exists and is documented
Is followed by employees
Was used to review aspects this year</p> | <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p> |
|--|---|---|

- | | | |
|---|---|--|
| <p>2. Criteria used to determine which environmental aspects are significant:</p> | <p>Legal and other requirements
Risks
Stewardship and Operations
Pollution Prevention Opportunity</p> | <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> |
|---|---|--|

3. Out of ten employees interviewed what were the three most commonly identified significant environmental aspects?

Aspect: Natural Resources (recycling, energy use)
 Aspect: Hazardous Materials
 Aspect: Hazardous Waste

4. Out of three senior employees interviewed what were the three most commonly identified significant environmental aspects?

Aspect: Natural Resources (recycling, energy use)
 Aspect: Hazardous Materials
 Aspect: Hazardous Waste

5. Were the organization's primary processes/operations assessed for their environmental aspects? Yes No

Legal and Other Requirements

A strong formal process exists to ensure the awareness of appropriate individuals to current regulatory and NCCOS requirements.

- | | | |
|---|--|---|
| <p>1. A procedure for identifying legal and other requirements:</p> | <p>Exists and is documented
Is followed by employees
Was used to review requirements this year</p> | <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p> |
| <p>2. What % of employees interviewed whose job function has legal and/or other environmental requirements:</p> | | <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <ul style="list-style-type: none"> ▪ Could articulate the requirements? 90% ▪ Knew how to locate the requirement in the EMS? (i.e., have access to it) 85% |

3. Is the organization aware of its environmental requirements? (legal or otherwise)

Not Aware Very Aware

Notes

Note: Most staff members live an environmentally friendly life style, but are less aware of requirements to do so within the requirements of the EMS. Most individuals feel more can and should be done at CCFHR.

Recommendation: Encourage and look for ways to get employees engaged in resolution of facility environmental issues (i.e. walkways, recycling, improved potable water quality, parking lot lighting, and non permeable surfaces). Encourage the use of the MSDS online resource.

Objectives and Targets

Measurable objectives and targets enable the organization to drive performance improvement.

1. Do objectives address:

Significant Aspects Legal and other requirements Cost Pollution Prevention

2. How many objectives are established?

3. Are objectives achieved on time?

None All

4. To what degree have targets been achieved in the last Fiscal Year?

5. How many of the EMS targets metrics are:

Quantitative Qualitative

Notes

Management Programs

Clear plans assign responsibility, and provide a schedule and process to achieve objectives and targets.

Time frame for achieving the objective An individual designated as responsible Funding allocated by management Implementation Plan to achieve objectives Operational Controls Performance Indicators

1. Management programs include:

2. Which significant aspects are not covered by a management program, and do these have operational controls?

Controls in Place

Aspect: Air emissions

Aspect: Land (control access)

Aspect: Cultural resources (control access)

Aspect: Noise (verbal procedure to inform community)

Aspect: Waste Water (lab procedures)

Aspect: Water Quality (lab procedures)

3. On average, how often are EMPs updated?

1 Month 3 Months 6 Months 1 Year or More never

Section 3: Implementation and Operation

The implementation phase of the EMS allows the organization to use standardized processes for training, communication, and document management to ensure that objectives are achieved and operations carried out in accordance with established controls (i.e., work instructions, SOPs, plans, etc...).

Resources, Roles, Responsibility and Authority

Senior managers commitment to environmental performance, and environmental roles and responsibilities are of some concern.

1. What are the total resources currently provided for environmental management/compliance?

Financial - No accounting possible at this time.

Human Resources - Joseph Bizell (part time contractor for EH&S/EMS) and Mark Fonseca (local EMS team lead) provide environmental management support. No other staff members are assigned responsibilities for EMS/environmental management.

Other - None

2. Has environmental management (not just EMS) received more or less funding this Fiscal Year than last?

More Less Same

3. What percentage of requested funding was provided? NA

4. Does management believe that funding levels are sufficient for managing all environmental issues? Yes No

5. What is the position of the management representative? Staff Middle Management Upper Management

6. How many individuals are there on the NCCOS EMS Team? 10

Rick Meitzler	HML/CCEHBR-EH&S
Joseph Bizzell	CCFHR/Kasitsna Bay-EH&S
Hal Stanford	NCCOS HQ-Senior Mgmt. Rep.
Jay Lewis	CCEHBR-COL Research
Raluca Semeniuc	HML-EH&S/CCEHBR-EH&S
Mark Mohs	NCCOS-IT
Mia Robinson	NCCOS-Finance & Purchasing
Tim Dortch	NCCOS-Outreach
Jean Durosko	NOS-NOS-Mgmt. Rep.
Bernie Gottholm	NCCOS-CCMA Consultant

7. Which of the following functions are included on the NCCOS EMS team?

- Environmental Compliance
- Safety
- Human Resources
- Science/Research Divisions
- Facility Operation and Maintenance
- Senior Manager
- Information Technology
- Purchasing

8. What % of individuals with specific environmental responsibilities interviewed, could clearly describe their responsibilities?

90%

Notes

Recommendation: An environmental management responsibility statement (similar to the IT and Safety statements) should be included in personnel performance plans for all employees, contractors, and partners. Annual web refresher training should be implemented. Overall there is a concern in the level of commitment of NOAA management. EMS aspects and costs should be identified in the budget planning process as they relate to specific budget items.

Competence, Training, and Awareness

A robust process exists for ensuring that staff with environmental responsibilities receive appropriate and adequate environmental training.

1. Have the job functions related to operations with significant aspects been identified and documented? Yes No

2. Have the training requirements of job functions related to operations with significant environmental aspects been identified and documented? Yes No

3. What % of individuals whose job functions relate to operations with significant environmental aspects, how many were declared to be competent to execute their roles and responsibilities?

All employees are hired for their competency and mentored on arrival at the laboratory that they will be working until they have become competent in performing laboratory activities. At such time they are given approval to work on their own. This process is consistently applied throughout facilities by verbal communication or documented in SOPs.

4. How many employees have had environmental training specific to their job:

All employees have documented training related to their job. Training records are maintained in a central location (Larry Dunn, Joseph Bizzell, both in electronic format and paper certificates documenting course completion are maintained in file folders. Management and supervisors have access to this information.

5. What percentage of staff have received environmental awareness training? 100%

6. Out of 10 individuals interviewed how many:

- Could summarize the environmental policy? 8
- Knew the potential environmental impacts of their job? 10
- Knew the organization's primary environmental aspects? 3
- Know who to contact regarding environmental issues? 8
- Knew who the EMS representative is? 9

- numbers are an average based on each auditor's interviews

Notes

Recommendation: Involve all partners in EMS and look for ways to establish EMS activities with Duke Marine Lab to reduce total environmental footprint on Pivers Island. Standardize the employee EH&S/EMS orientation package content among all partners.

Communication

A robust communication procedure provides well defined lines of communication to employees, managers, and stakeholders.

1. Does a procedure for internal and external communication exist, and is it documented? Yes No

2. Does the procedure for communication provide for:
- How environmental information is communicated to senior managers
 - How environmental information is communicated to laboratory staff
 - How environmental information is communicated to headquarters staff
 - How inquiries from external sources are routed, handled and documented
 - Whether significant environmental aspects should be communicated externally

3. On average how do employees rate environmental communications?

- Average rating
Weak \leftarrow \rightarrow Very Strong
- Two senior managers
 - Ten scientists
 - Five general employees
 - Five EMS Team members

4. How do employees rate the commitment to environmental management of senior managers?

- a. CCFHR & NMFS
- Two senior managers
 - Ten scientists
 - Five general employees
 - Two EMS Team members

Notes

Recommendation: Management should make a point of better communicating environmental information and the NCCOS EMS at regular (quarterly) all hands staff meetings and discuss their relevance to CCFHR.

Documentation

Critical environmental programs, processes, controls and procedures exist as formal documents, allowing for process standardization and repeatability.

1. Are the following documents available:

- Environmental Policy
- Objectives and Targets
- Description of EMS Scope
- Management Programs
- Work Instructions
- Guidelines/Handbooks
- Orders

2. How many employees could describe what environmental documents were relevant to them?

- Average rating
Weak \leftarrow \rightarrow Very Strong
- Two senior managers
 - Ten scientists
 - Five general employees
 - Facilities
 - Procurement
 - Five EMS Team members

Control of Documents

A robust procedure ensures that critical environmental documents are maintained in an appropriate manner and, when necessary, are readily available to all applicable individuals.

- Exists and is formally documented
- Describes the approval process
- Describes requirements for review
- Describes version control requirements

1. A procedure for document control:

2. How many obsolete or out of date EMS documents were found?

3

3. What percentage of employees knew how to locate environmental documents relevant to them?

- | | | |
|-------------------------------------|------------|-----|
| ▪ Senior managers (ask at least 2) | Percentage | 70% |
| ▪ EMS Team members (ask at least 5) | | 80% |
| ▪ Scientists (ask at least 10) | | 80% |

4. Is an electronic system used to manage environmental documents?

Yes No

5. Is there a list of controlled documents?

Yes No

Notes

Recommendation: Develop a document control system taking advantage of existing systems where possible. This should enable NCCOS to control key documents related to environmental management. **Original Target date: End of FY07.**

Operational Control

All operations that have the potential for significant environmental impacts are controlled.

1. What percentage of activities with the potential for significant environmental impacts have operational controls?

2. To date, how many operational controls have been developed?

3. Out of 5 employees required to use established operational controls, how many are able to accurately describe the control requirements?

- 1 2 3 4 5

4. How many non-conformities of operational controls have occurred over the past FY?

Don't Know More than 5 More than 10

Notes

NCCOS has one operational control. Each facility has additional operational controls.

Emergency Preparedness and Response

Impacts to the environment are considered in emergency preparedness and response programs.

1. Emergency response plans/procedures are:

- Available
- Inclusive of environmental impacts
- Reviewed once a year by an environmental professional
- Periodically tested
- Kept updated

Notes

Recommendation:

Section 4: Checking

The checking phase of the EMS allows the organization to monitor the performance of significant environmental risk operations, and evaluate their environmental objectives and targets (i.e. regulatory compliance etc...)

Monitoring and Measurement

Monitoring programs ensure that effectiveness of the EMS in reducing environmental risks and improving environmental performance tracked and reported.

1. What metrics are used to measure progress toward objectives and targets?

- Metric OMB scorecard
- Metric Monthly Supervisor Inspections
- Metric Periodic NECSAS Inspections

2. Does each objective and target have a performance metric? Yes No

3. Does each operational control have a performance indicator? Yes No

4. If any instruments are used to measure performance are they calibrated? Yes No

5. On average, how frequently is the performance of operational controls reviewed?

1 month 3 months 6 months 1 year more

6. Out of 5 interviewed employees who are required to follow operational controls, when, on average, was their conformity to the requirements of the operational control last reviewed?

1 month 3 months 6 months 1 year more

Notes

Monthly supervisor inspections are an effective method of assessing the ongoing environmental (and safety) performance and also increasing the awareness of staff of environmental requirements. This time could also be used to discuss and educate staff on the organization's environmental aspects and impacts.

Poor for improvement Adequate Strong Very Strong

Notes

Communication between Management and those responsible for Safety, Environment and Health appears to be strong. More formal and detailed communication between Management and staff is strongly encouraged.

Non-conformity, Corrective and Preventative Action

Non-conformities with regulation, operational controls, or procedures are quickly corrected and the root cause addressed to prevent future recurrences.

Evaluation of Compliance

The organization is in compliance with all applicable environmental regulations and strong programs are in place to ensure that this continues.

1. How many environmental Notices of Violation has occurred this fiscal year?

2. How many environmental fines have occurred this fiscal year?

3. How many inquiries from the general public regarding environmental compliance/requirement have been received this year? Two inquiries regarding parking lot lighting were received.

4. How many environmental compliance issues have been identified from internal inspections or reviews?

5. When was the last internal compliance/legal inspection or review?
 Never <3 months <6 months <1 year >1 year

6. What is management's perception of the level of environmental compliance

Poor Some opportunity for improvement Adequate Strong Very Strong

7. What is the EMS Team's perception of the level of environmental compliance?

Some opportunity

Exist and is it formally documented Is followed by employees Meets ISO 14001 requirements

1. A procedure for correcting non-conformities:

2. How many findings were identified in the last internal audit/SD Audit?

3. How long, on average, did it take to correct findings from the last internal audit?
 1 month 3 months 6 months 1 year more

4. How many non-conformities have been identified since the last internal audit? (e.g., EMPs, operational controls, etc.)

5. For what % of non-conformities were preventative actions developed?

Notes

In general, non-conformities at local facilities are able to be addressed in a more timely fashion than NCCOS-wide issues.

Control of Records

Records necessary to verify that required actions have been executed, are well managed, protected, easily

accessible and timed for retention.

- | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| | Exists and is formally documented | Is followed by employees | Meets ISO 14001 requirements |
| 1. A procedure for controlling records: | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Were the following records available: | | | |
| ▪ EMS Team Meeting Minutes | | | <input checked="" type="checkbox"/> |
| ▪ Past two EMS Audits | | | <input checked="" type="checkbox"/> |
| ▪ Past two EMS Management Reviews | | | <input checked="" type="checkbox"/> |
| ▪ Monitoring and Measurement Data | | | <input checked="" type="checkbox"/> |
| ▪ Operational Control Monitoring Results | | | <input type="checkbox"/> |
| ▪ Compliance Review Inspection Results | | | <input checked="" type="checkbox"/> |
| ▪ EMS Procedures Results | | | <input checked="" type="checkbox"/> |

Notes

Some of the above records are available on the NCCOS EMS website. A procedure for controlling records does exist but will be enhanced with the eventual introduction of a comprehensive document control system.

Internal Audit

Internal audits have been conducted appropriately so as to ensure the EMS is operating as efficiently and effectively as possible.

- | | | | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| | Exists and is it documented | Is used by EMS Auditors | Meets ISO 14001 requirements |
| 1. A procedure for internal audits: | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Does the procedure for internal audits include: | | | |
| ▪ Scope of the audit | | | <input checked="" type="checkbox"/> |
| ▪ Audit Plan | | | <input checked="" type="checkbox"/> |
| ▪ This audit criteria | | | <input checked="" type="checkbox"/> |
| ▪ Provisions for corrective actions | | | <input checked="" type="checkbox"/> |
| 3. Did this audit follow the internal audit procedure? | Yes | No | |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

4. How many internal audits have been completed to date? 3

5. Is there an Audit Program? Y

Notes

The internal audit procedure adopted for conducting periodic audits of the NCCOS EMS to determine continued conformance with ISO 14001 and NOAA EMS Standards, as well as to determine that the EMS is properly maintained and documented, is strong.

Section 5: Management Review

The management review phase of the EMS enables top managers to review the system in order to ensure that it adequately supports the organization.

Management Review

Senior management reviews help to calibrate the direction of the EMS in support of the organization's mission and ensure that priority items are understood and that sufficient resource are provided to address them.

1. When was the last management review conducted?

1 month 3 months 6 months 1 year more

2. Did the input to the last management review meet the requirements of ISO 14001? Yes No

3. How many actions did management request the EMS team to take? 0

4. What was management's assessment of the current level of resources assigned to manage all environmental issues?

More Needed Adequate Not Assessed

5. What are the top three areas that management believes the EMS should focus on?

Priority: Audit Protocol & Reporting

Priority: New Executive Order 13423

Priority: ISO 14001 Certification & OSHA Voluntary Protection Program

Did management recommend any changes to the following:

- Environmental Policy
- Objectives
- Targets
- Other: _____

6. What was the position of the two most senior managers in attendance (in person) during the management review?

Position: NCCOS Director

Position: NCCOS Deputy Director

Notes

NCCOS management makes a point of setting aside time during each of the scheduled Directors meetings for EMS Management Reviews. Management has added staff from the HQ level to represent areas identified by the EMS Team such as IT, budget, and Outreach. However, some of these team members do not regularly participate.

**Section 6:
Other EMS Information**

This section gathers other information that is pertinent to the EMS.

1. What benefits have been observed through implementation of the EMS?

- EMS has led to gains in efficiency and allowed NCCOS to demonstrate corporate environmental citizenship by adopting a recognized international standard as the basis of its environmental program.
- At the outset of EMS implementation there were significant concerns regarding additional costs. Interviews of this audit indicated that due to associated costs, less has been accomplished in an environmentally friendly manner than planned. There has been some cost savings generated by limited chemical substitutions and facility improvements.
- Improved environmental awareness ensures that staff takes more care with environmental requirements and are more aware of enhancement opportunities.
- Management's encouragement of staff and improved communication on environmental issues would better empower employees to act.

- Improved recycling (e.g. cardboard, cans, plastic, etc.) and awareness of proactive waste management efforts. Continue to develop a possible link with Duke or Carteret county.
- Established formal support for existing stewardship efforts, e.g., environmental preferable purchasing, IT efforts for energy efficiency, paper reduction etc.
- Increased awareness chemical substitution goals which frequently support safety goals.
- EMS has increased the visibility of NCCOS's position on environmental management/stewardship and empowered staff to promote environmental stewardship.
- Organization has become a much better environmental steward.
- Monthly supervisor inspections have identified higher numbers of findings that had been going unobserved. These findings can now be better managed and through improved awareness of employees avoided in the future.

**Section 7:
Audit Background**

The following information provides background on the audit, auditors and auditees.

1. Date of Audit: September 10 -14, 2007

2. Audit Number: 4

3. Auditor(s):

Received Auditor Training

Name: <u>Jay Lewis</u>	Position: <u>Lead Auditor</u>	<input checked="" type="checkbox"/>
Name: <u>Bernard Gottholm</u>	Position: <u>CCMA</u>	<input checked="" type="checkbox"/>
Name: <u>Hal Stanford</u>	Position: <u>NCCOS HQ</u>	<input checked="" type="checkbox"/>
Name: <u>Jean Durosko</u>	Position: <u>NOS</u>	<input checked="" type="checkbox"/>
Name: <u>Rick Meitzler</u>	Position: <u>CCEHBR/HML</u>	<input checked="" type="checkbox"/>
Name: <u>Raluca Semeniuc</u>	Position: <u>CCEHBR/HML</u>	<input checked="" type="checkbox"/>

4. Name and Position of Individuals Interviewed

Senior Managers:

Name: <u>David Johnson</u>	Position: <u>Director, CCFHR</u>	<input checked="" type="checkbox"/>
Name: <u>Jeff Govoni</u>	Position: <u>Dep. Dir., CCFHR</u>	<input checked="" type="checkbox"/>
Name: <u>Larry Hansen</u>	Position: <u>Acting Dir., NMFS</u>	<input checked="" type="checkbox"/>
Name: <u>Kris Holderied</u>	Position: <u>Dir., Kasitsna Bay</u>	<input checked="" type="checkbox"/>

EMS Team Members:

Name: Joseph Bizzell Position: CCFHR

Employees:

Of the combined staff at CCFHR, 69 of 119 people (58%) were interviewed during this audit. This represented 100% of employees available at that time.

ATTACHMENT C – Definitions and Explanation of Report Terms

Clean Marinas Program – The Clean Marina Initiative is a voluntary, incentive-based program promoted by NOAA and others that encourages marina operators and recreational boaters to protect coastal water quality by engaging in environmentally sound operating and maintenance procedures. While Clean Marina Programs vary from state to state, all programs offer information, guidance, and technical assistance to marina operators, local governments, and recreational boaters on Best Management Practices (BMPs) that can be used to prevent or reduce pollution. Marinas that participate in the Clean Marina Program are recognized for their environmental stewardship. Additional information on the North Carolina and Beaufort Lab Clean Marina Program can be found at [NC Clean Marinas](#).

Epaint – *Epaint* products contain no tin or copper. Instead of following the age-old method of leaching toxicants that persist in the environment, *Epaint* products employ a novel mechanism to control the attachment of fouling organisms. The use of peroxides control fouling organisms, but do not persist in the environment because they quickly decompose into oxygen and water by natural ions dissolved in the water.

Friable asbestos is a term used to describe asbestos-containing material that when dry, can be easily crumbled or pulverized to powder by hand. Material that contains more than just 1% asbestos and is friable is considered to be Regulated Asbestos-Containing Material (RACM). Common examples of friable asbestos are acoustic ceilings and tiles, many types of plasters, wallboard, joint compound or "mud" and thermal insulation for water heaters and pipes. Although use of asbestos in these products was banned by 1978, those already in the marketplace remained on the shelves and were used in construction for many years. These products may be found in buildings today. Non-friable asbestos-containing material (ACM) is not regulated because it contains a binder or hardening agent such as cement, asphalt or vinyl. Examples of ACM are asphalt roofing shingles, vinyl asbestos floor tiles and transite siding made with cement. ACM products are still being manufactured today. The danger with this type of material is that it can pose the same hazard as friable asbestos during remodeling, repairs or other construction. Burning ACM also creates friable asbestos. When asbestos is crushed it disperses a dusting of microscopic fibers in the air that can remain for very long periods of time. These fibers can be unknowingly inhaled and permanently lodged in lung and other body tissues, yet symptoms might not appear for 20 years or more. Inhalation of the fibers has been linked to cancer and asbestosis. Unfortunately there is no known safe level of exposure, which is why asbestos remains a concern today.

LEED – The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. LEED provides a roadmap for measuring and documenting success for every building type and phase of a building lifecycle.

ATTACHMENT D – Outstanding Non-Conformities of Previous Audits

#	Description of Non-Conformity	Corrective Action Planned	Target Date
1	NOAA contracts managed from Kansas City are not integrated into the site-specific EMS. Contractors and suppliers are not aware of site-specific environmental issues.	<p>Communicate, to facility managers, the importance of discussing environmental requirements of construction or renovation with contracting officials.</p> <p>Include a local EHS representative in the pre-construction planning process.</p>	Scheduled for 06/10/06
2	There is a lack of evidence of EMS or environmental performance standards being formally included in employee or EMS Team member performance plans.	<p>NCCOS needs to include evidence of EMS or environmental performance standards in employee or EMS Team member performance plans.</p> <p>Review of performance standards will take place during FY 2007 transition to DEMO system and then elements included in FY 2008 performance plans.</p>	Scheduled for 11/01/07
3	While Environmental Improvement Activities have been developed through Environmental Management Plans, there is no clear-cut method of tracking costs associated with environmental improvements. In general, more effective and informative methods of environmental performance measurement should be established.	Annually do a quality control review of costs under the Facility Costs Accounting Codes versus activities at the Facilities	Scheduled for end of Fiscal Year 2007
4	Although EMS Work instructions are available on the NCCOS EMS website, (some facility-specific instructions are on the intranet), the majority of employees interviewed were not aware of them. Those that were aware of the Work Instructions had not integrated them into day-to-day activities.	Further education of employees and emphasis on improving work instructions is required.	Scheduled for 09/07/07

#	Description of Non-Conformity	Corrective Action Planned	Target Date
5	Environmental training requirements of specific job functions, roles and responsibilities are not always clearly defined. In some cases there is confusion among staff between “safety” and “environmental compliance”, and “environmental management”.	<p>The “Training Matrix” should be enhanced to more effectively identify the environmental requirements of specific job functions and roles.</p> <p>EMS Team will identify and enhance job function/ Categories.</p> <p>EMS Team Representatives met with the SECO Training Team for guidance and assistance on 4/30/07</p>	Scheduled for 11/01/07
6	The perception by employees of the degree of commitment by management to the EMS needs improvement. Many employees expressed the desire for upper management to take a more active and visible role in endorsing EMS. Aside from the federal component, employees lack an understanding of the management structure of HML (the role and responsibilities of the Director and Science Board) and, to a lesser degree CCEHBR, and an understanding of the role of NCCOS.	Enhance upper management active/ visible role in endorsing EMS through staff meetings and emails.	Scheduled for 09/07/07