

**DENR Environmental Sustainability
Departmental Update**

**DENR Sustainability Team
April, 2000**

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Introduction

In February 1998, the Governor held an Emerging Issues Forum which focused on sustainable development issues concerning the state. This conference inspired the Governor to address sustainability in state government. In August 1998, the Governor hosted a follow-up conference of state agencies to kick off a state government sustainability initiative. As part of this initiative each state agency, including DENR, developed departmental sustainability plans in the first quarter of 1999. In April 1999, the Governor's office worked with DENR's Division of Pollution Prevention and Environmental Assistance to develop a State Government Environmental Sustainability Plan.

In order to facilitate the implementation of the DENR plan, a Departmental Sustainability Team was created under the leadership of Deputy Secretary Michael Williamson. Through a series of meetings held since the first meeting on July 21, 1999, the Sustainability Team has finalized and mailed letters from Secretary Holman to Division Directors and from Michael Williamson to all DENR employees. Both of these letters announced the formation of the Sustainability Team. The team has also drafted and mailed "DENR Division Reports on Sustainability Initiatives" to Division Directors, finalized its charter, compiled the reports submitted by Division Directors, set up and managed an email address to receive employee suggestions and will submit a list to the Department for further recommendations to promote environmental sustainability. This Departmental Update is an effort to inform the Department and other agencies about some of the unique sustainability initiatives being implemented by DENR Divisions and by DENR employees. The report includes information on the success of Department-wide initiatives and on Divisions' future plans for sustainability efforts.

Department Implemented Initiatives

DENR has prescribed seven core initiatives to be implemented throughout the Department. These initiatives have been reported by 16 of the 22 Divisions as a result of the initial Sustainability Team efforts to organize and solicit a DENR-wide response.

The seven items and their accompanying statistics are outlined in the table below:

Description of DENR Initiative	# of Divisions Reporting Yes	As Percentage of the 16 Who Reported	As Percentage of All Divisions (22)
1) Organization of "to work & at-office" carpooling programs	11	69	50
2) Waste assessment annually	8	50	36
3 Eliminate virgin paper purchases	14	88	64
4 Mandatory double side copying	14	88	64
5 2-Sided printers required	13	81	59
6 Only Energy Star certifications	13	81	59
7 Requirements on outside submittals	4	25	18

These simple statistics clearly demonstrate serious efforts within the Department to achieve these initiatives. The right-hand column, though probably unfair, would give a “worst case” situation if it were assumed that all non-respondents replied no to each initiative. The statistics also clearly show that those items which are included in the bigger picture of Departmental and statewide requirements are most likely to succeed. Items 3 through 5 are included in contract language by the Division of Purchase and Contracts and are thus likely to be successful.

Assessment of Departmental Initiatives:

- 1) Carpooling efforts are beginning to be implemented. The Divisions seem to be feeling their way through a process of trying ways to make it work. A clear process does not now exist but seems to be developing.
- 2) Waste assessments appeared to be viewed as a formal matter. It also appears from comments that a uniform set of rules and specifications is needed which will more clearly identify what it is that people must do to be able to say yes to this initiative/goal. *Perhaps this could be an action item for our Division of Pollution Prevention associates to provide a description of a process to accomplish such an assessment in an acceptable, simplified and uniform manner.*
- 3) Elimination of virgin paper purchases is in the category of most success. Since this is required for state contracts, only those specialty requirements seem to be the possible cause for the remaining holdouts reporting.
- 4) Institution of mandatory double-sided copying is in the same category as the previous item (3) as it is a requirement of new copiers purchased. However, it is quite difficult to make the use of these machines in the double-side mode mandatory as the machines are in a single side default when at rest. Many people do their own copying and do not stop to think before pushing the buttons. *Perhaps it would be possible for the machines to always be in the double side mode until reset by people needing specifically to make a single side copy for a legitimate purpose.*
- 5) Requiring all printers to be able to print two-sided is in the state purchasing requirements and thus is a beacon for success. However, we must point out that the ability to two-side print is controlled by the print set-up and default settings, and training is continuously needed to keep this goal in true sight.
- 6) Energy Star certification is now an industry standard and thus is an easy goal to a high degree of success. As equipment turns over and is replaced, the entire department should become compliant to this goal.
- 7) Encouraging all permits, forms, studies, grant applications, etc. to be on two-sided recycled paper is fairly easy. However, several Divisions indicated that it was impossible to require many of these submittals to be submitted in this manner. *This goal should probably be reviewed and restated in a more realistic manner or elevated to the highest levels to get changes incorporated into law and rule to make these “requirements” a reality.*

Most of the reporting divisions are making substantial efforts and progress toward the departmental-wide goals. Several possible actions need to be reviewed and pursued to ensure that the intent and implementation of these initiatives are achieved.

List of Shared and Common Initiatives for the Divisions of DENR

1. Use of Alternative Fuel Vehicles. Air Quality’s main office is using a natural gas and an electric vehicle. The Raleigh Regional Office has two ethanol vehicles. Parks and Recreation has an electric vehicle. Laird Davidson, of Purchasing and Services, stated that an alternative vehicle workshop has been set up for all divisions that have their own alternative fuel vehicles. This

workshop needs to be advertised from the Departmental level down and alternative vehicular use made a priority.

2. Use of e-mail versus memorandums. Many divisions reported the decrease in paper work due to the use of email. This new technology speaks for itself.
3. Recycling of paper, aluminum cans and toner cartridges. This is the largest common initiative for all divisions.
4. Flex-time and 4-Day work week options. Several divisions including the Division of Air Quality provide a 4-day work week option during the summer ozone season.
5. Telecommuting Pilot. Results from Division of Air Quality and the Division of Waste Management telecommuting pilot need to be analyzed to determine if telecommuting projects should be expanded to other DENR Divisions.

Sustainability Services Provided by DENR Divisions

Division of Water Resources

- Can provide leak detection, water audits, and water use management
- Provide a sustainable model and support for outdoor water use for divisions with external facilities such as gardens and landscaping.

Office of Environmental Education

- Provides monthly Environmental Education workshops to DENR employees.
- Can provide Environmental Education training for all DENR employees with a focus on environmental sustainability.
- The DENR Library under the Office of Environmental Education has a repository of information on environmental education.

Purchasing and Services

- Assist other divisions with waste assessments.
- Locate recycled commodities on state contracts.
- Develop specifications for environmentally friendly products.
- Support the purchase of alternative fuel vehicles.
- Assist with leases, repairs/renovations, and surplus in keeping with environmental sustainability.

North Carolina Zoological Park

- Has conducted waste, energy, and water assessments and produced several environmental education programs and guides and is willing to act as a resource for other divisions.

North Carolina Museum of Natural Sciences

- Can provide space and support for programs, exhibits, and displays that focus on environmental sustainability.

Forest Resources

- Provide management, protection, and technical assistance with trees and forestland

Individual Sustainability Initiatives

There are a variety of individual sustainability initiatives that have been implemented throughout DENR, both at employee work sites and at their homes. These include recycling of paper, newspapers, plastic, glass, aluminum and metal cans, cardboard (both corrugated and thin) junk mail, magazines, and envelopes. Employees are composting at some work sites and at many homes. Efforts are being made to reduce waste by buying things with the least packaging, purchasing in bulk and reusing plastic and paper bags, containers and jars. Some employees are walking and biking to work and otherwise, whenever possible, carpooling. Lunches are being brought from home and are being ordered by groups for delivery to work sites, especially on ozone code red days. Others are walking to nearby restaurants for lunch. Reusable plates, cups and flatware are replacing styrofoam, plastic and paper products for meetings and meals at work or when picnicking, etc. Some employees have actually relocated closer to be able to walk to work. Some employees participated in the DAQ Ozone Action Days Telework Project. To conserve electricity, employees are making conscious efforts to acclimate to seasonal changes and use fans instead of AC and extra clothing instead of heat as much as possible at home and at work where possible. Some employees are being very creative both at work and at home by "recycling" unwanted gifts through silent auctions to raise money for charities and by "recycling" seafood confiscated during a seizure. If the seafood doesn't have to be sold, it is taken to local food banks, soup kitchens or churches to feed needy people.

DENR Sustainability Team Recommendations

Team Process Recommendations:

1. Schedule a conference or meeting between Division sustainability liaisons possibly in conjunction with the NC Project Green sustainability event on April 28, 2000.
2. Create team Web site
3. Create committee of DENR sustainability liaisons
4. Renew tenure for DENR Sustainability Team

Action Item Recommendations:

Environmental Education

1. Work with the Office of Environmental Education to provide monthly Environmental Education training for all DENR employees emphasizing environmental sustainability.
Benefits and savings: Increase employee awareness and understanding of environmental education concepts. Improve employee awareness and support for environmental sustainability.
2. Encourage and offer incentives for State Government employees to receive Environmental Education Certification.
Benefits and savings: Provide employees with the knowledge to make their constituents aware of environmental education resources in the Department. Ensure that employees adopt a sense of stewardship and a conservation ethic that is expected of this Department.

Paper reduction

1. Provide electronic copy of UpClose (DENR Newsletter), DENR Weekly Vacancy Report, and other departmental communications for employees who would prefer electronic copy. Also, encourage divisions and division support groups to adopt electronic communications with interested parties. (For some remote DENR locations, a printed copy may be necessary.)
Benefits and savings: Reduce copy time, paper use, and distribution expenses.
2. Adopt a policy for DENR and State Government electronic forms and paperwork.
Benefits and savings: Reduce paper consumption and waste, cost savings in decreased paper purchases.
3. Put DENR letterhead in an electronic format so that it can be printed on a per-use basis. When names change, update letterhead electronically
Benefits and savings: Reduce paper consumption and waste, cost savings in decreased paper purchases and eliminate need for stockpiled letterhead.
4. Reduce the margins in letters and use smaller letterhead (including DENR letterhead)
Benefits and savings: Reduce paper consumption and waste, cost savings in decreased paper purchases.
5. Support the use of telephone books on CD.
Benefits and savings: Reduce paper consumption and waste through phone books that are not recycled.
6. Rethink the state initiative requiring forms from outside vendors to be printed double-sided and on recycled paper. Perhaps “request” instead of “require”.
Benefits and savings: Improve compliance with initiative

Recycling

7. Install a recycling center in Archdale, Parker Lincoln and other remote sites with colorful and new/larger recycling bins (in addition to existing recycling bins on individual floors and spaces)
Benefits and savings: Improve use of recycling facilities, less waste disposal, facilitate recycling pick-up.
8. Expand recycling capabilities to include diverse items such as solvents and scrap materials
Benefits and savings: Reduce waste disposal and improve recycling.
9. Coordinate Raleigh/Wake County recycling effort and composting (possibly in collaboration with the Department of Administration’s Services to the Blind). Widely publicize where recycling sites exist and the type of items they accept by county.
Benefits and savings: Reduce waste disposal and improve recycling.
10. Implement coordinated recycling programs for regional offices that extend beyond a single Division’s offices.
Benefits and savings: Reduce waste disposal and improve recycling.

11. Purchase recycled construction supplies for new construction projects and for building improvements and upgrades. (Utilize the Environmental Protection Agency's RTP site as guide/model.)
12. Encourage the reuse of office materials such as envelopes and folders.
Benefits and Savings: Reduce waste and expenses for purchasing new materials.
13. Organize a universal collection for materials that can be returned to their source for recycling or reuse.
Benefits and Savings: Reduce waste.
14. Construct environmentally sustainable buildings for State Government.
Benefits and Savings: Energy and water conservation, reduction of waste.

Traffic reduction and air pollution decreases

15. Purchase more alternative fuel vehicles.
Benefits and savings: Decrease air pollution, increase market of alternative fuel vehicles and their support services in North Carolina.
16. Install State Employees' Credit Union ATM and snack bars in Archdale, the Parker Lincoln Building, and other remote sites.
Benefits and savings: Decrease driving, increase productivity as periodic work absence would decrease.
17. Investigate mileage requirement for cars. Some divisions have a minimum mileage requirement for their vehicles and they must meet the requirement in order to maintain possession of the vehicles. In some instances, this requirement has led to those divisions unnecessarily driving the vehicles in an effort to meet the requirement.
Benefits and savings: Reduce cost and use of fuel, decreased air pollution, reduce loss of employee productivity as a result of less time dedicated to driving vehicles.
18. Implement a 4-day week or 9-80 work plan.
Benefits and savings: Reduce air pollution as a result of decreased vehicles on the roads. Can reduce workplace absence as a result of employees using off-days for personal business rather than taking time away from work.
19. Build on existing telecommuting/teleworking pilot and expand pilot to other DENR Divisions.
Benefits and savings: Reduce air pollution as a result of decreased vehicles on the roads. Can reduce loss in productivity as a result of occasional employee need to stay at home for personal reasons.
20. Create a system for teleconferencing
Benefits and savings: Reduce air pollution as a result of decreased vehicles on the roads.
21. Create a carpool web site for meeting coordination
Benefits and savings: Reduces use of state vehicles, fuel costs, and air pollution.
22. Create a carpool/vanpool web site for employee travel to and from work.

Benefits and savings: Reduces air pollution and employee expenditures associated with travel and parking.

23. Designate a Motor Fleet Vehicle for those employees who carpool or vanpool to work and which can be used to run personal errands.

Benefits and savings: Encourages participation in carpool opportunities.

24. Implement remote training (outside Raleigh) for Divisions with field offices.

Benefits and savings: Reduces use of state vehicles, fuel costs, and air pollution.

Materials reuse and reduction

25. Develop system for communication and/or web site for materials prior to placing on state surplus.

Benefits and savings: Increase usability of materials and reduces waste.

26. Create a cost-structure with the snack bars to allow for reusable mugs and wares.

Benefits and savings: Reduces waste, decreases costs for purchasing disposable wares.

27. Implement policy of eliminating box lunches and recovering food from meetings, conferences, and award ceremonies for homeless shelter, etc.

Benefits and savings: Reduces waste

Other

28. Create departmental sustainability coordinator position.

Benefits and savings: Facilitate implementation of improved sustainability in DENR divisions.

29. Produce periodic news releases for sustainability initiatives/make Public Affairs campaign a priority.

Benefits and savings: Promote State and DENR's efforts to become more environmentally sustainable, will encourage support for sustainability.

30. Have Division of Pollution Prevention conduct waste assessments on each Division

Benefits and savings: Improve implementation of state initiative for waste assessments, potential for decreased waste, energy and water use as a result of assessments.

31. Create a cost-saving reward program or add environmental sustainability as a category in the existing reward program.

Benefits and savings: Create an incentive for employees to promote sustainability, reduce costs through those measures that provide a reduction in expenses upon implementation.

32. Initiate a mandatory employee environmental sustainability training program.

Benefits and savings: Improves compliance with sustainability initiatives and improves employee awareness.

33. Encourage cross-departmental collaboration.

Benefits and savings: Facilitate implementation of sustainability as benefits would be spread throughout departments. Depending upon specific action undertaken, costs could be reduced dramatically.

34. Use small engine equipment that is high in energy efficiency.
Benefits and savings: Energy conservation.
35. Install water saving devices
Benefits and savings: Savings in water usage and associated expenses.
36. Install timing devices for lighting and climate control and purchase and recycle energy conserving bulbs.
Benefits and savings: Reduces energy consumption when buildings and rooms are empty and decreases energy costs for normal building usage.
37. Work with the Division of Water Resources to implement xeriscaping (water efficient landscaping) in the Environmental Education Garden to use as a model for the eventual replacement of the existing irrigation system with drip irrigation for all State Government landscaping. Work with Water Resources to insure more efficient managing of the all of downtown state landscape irrigation.
Benefits and savings: Savings in water usage and associated expenses.

What the Department Can Do to Assist and Support Divisions or Employees

- Encourage and support Environmental Education programs and efforts throughout the Department.
- Increase awareness of the types of activities that an individual can do to promote environmental sustainability.
- Feature Departmental initiatives in the UpClose newsletter including a short section from the Secretary encouraging employees to follow these initiatives.
- A publicized and continuously updated list of opportunities to support sustainability initiatives.
- DENR can support the Division of Water Resources in its effort to have all of state government landscape irrigation, including the Capital grounds, managed in an effort to conserve water. Raleigh in particular does not enact water restrictions, but State Government should be an example to all.
- Encourage other divisions to recycle creatively and, if they receive monetary compensation, to donate it to charities.
- Provide support in efforts to coordinate with the State Construction Office to create standards for sustainable construction.
- Provide a clearinghouse of information and ideas. Recognize that there may be sustainability initiatives applicable department-wide that have not been included in the original list of suggested initiatives.
- Continue support and publicity of sustainability efforts. Help develop processes and procedures to follow to insure that the Departmental objectives can be successfully implemented. Provide assessment sheets to format how the process can be evaluated in a standardized manner.
- Promote and publicize the Air Awareness Program.

Summaries of Division Sustainability Initiatives

Division of Water Resources

The entire staff of the Division of Water Resources (DWR) participates in the Archdale Building Recycling Program. In addition, Water Resources' New Bern office has implemented its own recycling program in coordination with the city of New Bern's recycling activities. The DWR buys recycled products and requires the EPA Energy Star certification on new equipment. New copiers are required to print two-sided and there is a concerted effort amongst the DWR staff to reduce paper use by making two-sided copies.

The DWR uses its web site and electronic mailing to reduce the amount of paper waste generated by the Division. The DWR plans to continue increasing their use of email vs. paper mail. The DWR has an active liaison on the DENR Sustainability Team.

Several of the DWR's programs are specifically related to environmental sustainability. The DWR Water Conservation Plan is geared to water suppliers, parts of which can easily be implemented within Divisions, including leak detection, water audits, water use management and outdoor water use. The DWR is home to Project WET. This curriculum includes many activities on water conservation. In addition, the water conservation program of the DWR incorporates The Water Sourcebook, a curriculum associated with the EPA.

The DWR's Capacity Use Permitting program is aimed at monitoring water use and consumption so that we can better manage underground water resources in the defined area. This program has includes public meetings to educate and answer questions, and will likely incorporate more public education in the future. The DWR is responsible for addressing a community's water supply needs and use. Through these efforts, workshops ranging from water use planning to drought management to water conservation have and continue to be conducted.

"Stream Watch" is another program housed in DWR. Local groups adopt streams in their neighborhoods and participate in activities with DWR staff to learn about and take care of their stream.

The staff of DWR is regularly updated on sustainability initiatives. In addition, staff members regularly inform the Division as a whole of upcoming events.

DWR's future plans for sustainability projects include working with the Office of Environmental Education to make the Archdale Environmental Education Garden more of a water conserving landscape, and coordinating with state government in Raleigh to incorporate water conservation strategies into the landscaping and irrigating of the buildings.

The DWR's Capacity Use Permitting program is aimed at monitoring water use and consumption so that we can better manage underground water resources in the defined area. This program includes public meetings to educate and answer questions and will likely incorporate more public education in the future.

Division of Coastal Management

Sustainability initiatives presently being practiced in the Division of Coastal Management (DCM) include carpooling, double-sided copying, bringing lunch to work or walking to work, practicing energy conservation, and recycling of office materials such as plastic bottles, cans, newspapers, and copy paper.

The DCM plans to begin several initiatives suggested by its employees including the following: increase consistency and use of double-sided copying, purchase recycled paper only, buy only U.S. made office supplies, investigate a vanpool including the Parker-Lincoln building in its route, put departmental forms on-line and accept paperwork in electronic format, continue to encourage reuse of notebook binders and other office supplies, coordinate with other divisions in Parker-Lincoln for pick-up and delivery trips to the Archdale building, encourage restaurants near Parker Lincoln to provide a discount on Red Ozone Days for employees who walk to their establishment.

The DCM includes sustainability in their education programs through the NC Coastal Reserve. The NC Coastal Reserve Staff members conduct educational workshops/tours and provide the public with information that includes environmental sustainability in reference to the coast. The NC Coastal Reserve is an effort of sustainability through its preservation and protection of tracts of land from development. The NC Coastal Reserve is an important sustainability initiative which promotes its efforts through research, education and public use of the reserve.

The use of flyers reporting information about Environmental Education programs allows DCM employees to have the opportunity to attend. Electronic mail is also used to advertise environmental education workshops and opportunities.

The DCM is very conscious of its part in assisting environmental sustainability. Employees talk amongst themselves about their personal efforts, and announcements of individual efforts can be made using electronic mail or during staff meetings and may lead to others adopting similar practices.

The DCM plans to continue its efforts to become more environmentally sustainable and environmentally aware. The Division is interested in any new sustainability efforts that can reduce cost to the Division, reduce waste, encourage conservation of resources, and/or promote environmental sustainability.

The DCM would like to see DENR's *Upclose* newsletter feature a list of Wake (and other county) recycling sites, including the types of materials that are accepted for recycling.

The Division of Waste Management

The Division of Waste Management has not begun any specific division initiatives or a strategic plan at this point.

Controller's Office

The Controller's Office has begun converting forms to electronic version as opposed to paper. The Division has vanpool/carpool information posted for employees. Each office has a receptacle for recycling paper, and there are containers for recycling other products throughout its floor.

The Division plans to continue purchasing new printers with double-sided printing capabilities. The Controller's office utilizes meetings, email, and information posted in common areas to raise its employees' awareness of environmental education opportunities.

Information Technology Services

Information Technology Services (ITS) has begun several sustainability initiatives in its Division including using recycled paper, mandating double-sided copying, printing double-sided, encouraging two-sided documents from outside entities, and requiring office equipment to carry EPA Energy Star certification.

ITS plans to begin conducting waste assessments and plans to organize carpool information for employees. ITS also plans to implement any upcoming departmental initiatives.

North Carolina Aquariums

The North Carolina Aquariums have long-standing recycling and composting projects at each Aquarium. Reduction in waste is the predominant benefit.

The NC Aquarium at Pine Knoll Shores is seeking CWMTF grant funds to construct a wastewater reuse system. With this system 80% less domestic water use is expected along with significant cost savings. The NC Aquariums plan to hire new Conservation and Research Coordinators at each NC Aquarium and these Coordinators will form the sustainability team for the Aquariums.

Sustainability has been integrated into the aquatic education programs offered at all three NC Aquariums.

The Division of Marine Fisheries

The Division of Marine Fisheries (DMF) has implemented several sustainability initiatives. For instance, for the last several years the DMF has operated its own recycling program and within the past couple of years a coordinator has been designated and accurate records have been kept. DMF's recycling program includes white paper, aluminum cans, batteries and oil. The coordinator maintains weekly records of all items recycled and prepares an annual waste assessment report each year for the North Carolina Department of Environment and Natural Resources. The benefits of this program include energy savings, waste reduction, and preservation of resources and saving valuable landfill space.

The DMF buys recycled products and requires that all equipment bought must carry the EPA Energy Star certification. Recycled items include, but are not limited to, paper and toner cartridges. As old equipment is replaced, new equipment must bear the certification before being approved for purchase. All new copiers are required to print two-sided. The purchasing officer for the DMF handles all large purchases and verifies qualifications for purchase. The benefits of this effort include less air pollution in the manufacturing of recycled paper, as well as saving trees, which protect habitat. Buying energy efficient equipment saves energy.

The DMF has also cut down on paper, mailing costs and staff hours through the use of their popular web site which contains current and valuable information for the public such as fishing regulations, news releases, proclamations, and the stock status report.

The DMF's Artificial Reef Section uses concrete rubble and barges that were donated or purchased at reduced cost as artificial reefs. The Artificial Reef Coordinator maintains records showing what has been donated and purchased and the location of new reefs. The benefits of this program include enhanced habitat and protection for marine species. Fishermen also benefit from this program through the attraction of certain species around artificial reefs.

The DMF uses community services workers throughout the year to help with the daily maintenance in the DMF building and grounds in Morehead City. Community service workers also assist other sections within the DMF as needed. As of November 15, 1999, the DMF had used 89 community service workers with a total of 2,077 completed hours of work. Records on the program are kept by the Community Service Coordinator in Beaufort. This program provides free labor while allowing DMF facility and maintenance staff to focus on other projects.

The DMF participates in a surplus program that allows other state agencies first chance at old equipment that will be sold as surplus. The DMF's Facility Maintenance Chief facilitates the exchange of equipment to other agencies and also negotiates sale prices for outside agencies. The Section Chief also keeps surplus records. This effort saves the state money through the reuse of office equipment and the reduction of new purchases.

In the next year the DMF plans to begin recycling newspapers and will begin placing news tips in its internal newsletter, *Inside Waters*. The Division also plans to begin emailing its news releases to media contacts and interested parties and to internally promote the use of email versus hard copy to save paper. Sustainability is incorporated in DMF's educational programs.

The DMF's employees are involved in a recycling program. The money generated from recycled cans is then used at Christmas to provide gifts for children in need. Through another recycling program in the Fisheries Management Section, seafood caught or bought for their programs is donated to local food banks, soup kitchens and churches for people in need. The Marine Patrol Section also donates seafood that has been confiscated during a seizure to those in need.

The Division of Purchase and Services

The Division of Purchase and Services has attended a waste assessment training workshop and has approached the Museum of Natural Sciences "Green Team" about serving as a pilot for a waste assessment. The Division is currently installing a duplex printer on the internet so that all division staff will have access to it. Staff who purchase equipment are educating agencies on the availability of printers that can duplex and on office equipment that is Energy Star certified. There is language in all of the Division's service contracts requiring contractors to use paper and duplex where appropriate. The Division set up an alternative fuels workshop for all Divisions who have their own or who have Department of Administration vehicles. The Division has reviewed and supports the use of telephone white pages on CD so we can eliminate volumes of phone books used throughout the Department and the waste generated by phone books that are not recycled at the appropriate time.

The Division of Purchase and Services plans to begin assisting divisions in obtaining gas/ethanol fueled vehicles from DOA. The Division also plans to partnership with its oversight agencies such as the State Construction Office, State Property Office and Purchase and Contracts to promote building, leasing and buying "green".

The Division plans to establish a three person team including the Division Director, the recycling coordinator, and the sustainability officer.

In order to raise its employees' awareness of sustainability initiatives, the Division's sustainability officer has posted signs on copiers emphasizing the need to double-side copies. Staff members who are responsible for core processes in buying, leasing and new construction will continue to be coached on opportunities to promote sustainability in their respective areas.

Future plans include working on a sub-team of the Waste Wise Team that is focusing on excess property and a method for advertising items to all state agencies before being placed on the public surplus bid list. This will increase the exchange of items between agencies while reducing costs for state government. The Division of Purchase and Services would like to encourage all Divisions to buy, build, and lease "green" and will continue to promote this practice.

Division of Water Quality

The Division of Water Quality (DWQ) has begun recycling and plans to increase its recycling and double-sided coping over the next year. The DWQ also plans to incorporate sustainability into more of its existing programs.

Information about environmental education opportunities is communicated to employees through the staff training coordinator, email notification and staff meetings.

The Museum of Natural Sciences

The Museum of Natural Sciences has begun an employee awareness program to increase its staff's knowledge of sustainability and of practices that individuals can adopt to better protect the environment. The Museum uses staff meetings and emailed "tips" to inform employees, and these efforts have received tremendous support and constructive feedback from employees.

The Museum has begun a waste assessment and is especially interested in reducing waste generated as it moves into new facilities. Efforts are being made to improve recycling facilities by recycling as many different kinds of materials as possible and facilitating recycling by both the public and staff throughout the building. Key Museum staff are working with the Recycling Coordinator from the Department of Administration's Facility Management Division to coordinate recycling services. The recycling and disposal results will be measured upon the completion of the Museum's waste assessment. The Museum is researching computer programs that will be beneficial in implementing a carpool system and are meeting with area experts on carpooling and alternative forms of transportation.

Over the next year the Museum plans to begin several initiatives including composting and the purchase of alternative fuel vehicles. The Museum would like to further improve its recycling services and have a measurable reduction in waste.

The Museum has a sustainability team consisting of 13 individuals representing all sections within the Museum. The team is co-chaired by Ray Boylston, the Director of Administration and Cheryl Braunstein.

The Museum is trying to reduce waste at its events and programs by providing reusable plates and cups, asking attendees to bring their own cups, and using recyclable materials. Many educators also incorporate an environmental sustainability lesson in their programs.

Many of the Museum's educators are involved with various organizations which include environmental education programs. The School and Public Program staff regularly attend or present workshops which focus on environmental education.

The Museum uses a tip program where semi-weekly messages are sent to the staff alerting them of things they can do to improve sustainability. It has also added sustainability lessons to staff meetings and has asked staff to bring their own cups to meetings.

In the future the Museum would like to reduce water use and improve energy conservation. The Museum has also discussed developing an exhibit on trash that will educate the public about what happens to garbage after it is disposed. The Museum plans to construct a "green" residential facility at its Reedy Creek research lab which will utilize natural and reusable sources of energy as well as recycled building materials and furniture. The Reedy Creek lab will also have an environmental education garden, and composting will be a component of the garden.

Division of Parks and Recreation

The Division of Parks and Recreation has implemented several sustainability initiatives. A three-year grant from the Division of Air Quality has funded the lease and maintenance of an electric truck from CP&L for Park staff to use while performing routine maintenance. The use of the truck will decrease emissions and noise.

In June 1999, the Division issued a staff directive establishing a policy for the use of electronic correspondence within the Division of Parks and Recreation in order to reduce the amount of paper used for routine reports and memos.

A staff directive establishing a procedure for tracking carpooling statistics was issued in August 1999. The procedure will allow the Division to measure the benefits of the Department's carpooling initiative.

A staff directive establishing the requirement for all field staff (rangers and superintendents) to become Certified Environmental Educators was issued in June 1999. Certified Environmental Educators will in turn train additional staff, educators, school groups and park visitors.

The Division has increased the number of workshops related to recycling and environmental sustainability activities. The availability of these workshops will increase participation by Division staff, educators and the public.

The Division is currently using several conservation measures when doing new construction including low-volume flush toilets, low-e glass for windows, extra insulation in exterior walls, insulated hot water lines, and high-efficiency HVAC systems. These new construction specifications will increase energy efficiency by helping to reduce heating, cooling, and lighting costs, and lower water usage levels.

In the next year the Division will begin to look at ways that both existing and proposed park facilities can be more energy efficient, and incorporate more recycled materials into renovation, repair, and construction work. The Division also plans to look at ways to reduce emissions from small engine equipment (i.e., push mowers, riding mowers, weed whackers, leaf blowers, compressors, etc.).

The Division established an Environmental Sustainability Committee in July 1999 which meets every other month.

Environmental sustainability has been incorporated into almost all of the Division's Environmental Education Learning Experiences (EELEs) offered at the State Parks as either the primary theme or as a related theme. There has been an increase in the number and frequency of workshops related to environmental sustainability issues (i.e., "Waste in Place") presented in the parks.

Through the Environmental Sustainability Committee the Division raises its employees awareness of sustainability initiatives and solicits input from Division employees on sustainability initiatives. The Division also stresses the importance of environmental education by recognizing employees who have achieved environmental education certification, providing funding for field staff to attend environmental education certification workshops and training, and featuring articles and information relating to environmental education and environmental sustainability in the Division's monthly newsletter, *The Steward*.

In the future the Division plans to create a list of specifications for small equipment (i.e., push mowers, riding mowers, weed whackers, leaf blowers, compressors, etc.) that are high in energy efficiency. New and replacement equipment will be ordered using the specifications from this list. The Division plans to invite vendors to discuss and demonstrate these products at the next Superintendents Conference. Construction technicians from the Division plan to work with the representatives from the State Construction Office to create standards for sustainable construction. The Division will study the installation of energy-efficient fluorescent bulbs and ballasts in existing and proposed park facilities. If the savings appear to justify the cost of the installation, a pilot program to convert to energy-efficient fluorescent bulbs and ballasts will be proposed for Jordan Lake State Recreation Area.

Division of Soil and Water Conservation

The Division of Soil and Water Conservation's Division Director and Sustainability Representative have met to consider developing an education/survey instrument to be distributed to the staff. The purpose of this tool would be twofold; first, to educate the staff as to the Department's sustainability initiatives and goals and second, to determine "where we currently are" with regard to personal commitment, interest, and enthusiasm for the initiatives.

In the next year the Division plans to develop a carpool information system and begin conducting annual waste assessments. The Division is already purchasing recycled paper, but plans to evaluate current copying practices and make conscious choices in the future when ordering equipment. The Division also plans to create a sustainability team using the survey to identify staff members who have a passion for the sustainability objectives.

The Division of Soil and Water is a partner with the US Department of Agriculture's Natural Resource Conservation Program, the Soil and Water Conservation Districts, and county governments and provides a variety of environmental education programs and opportunities across the state. The primary emphasis of these programs is conservation of our natural resources. There are unlimited ways in which sustainability might be included. The Division also sponsors the Food, Land and People project, which may well be another program where sustainability initiatives would be most appropriate.

The Division stresses the importance of environmental education and all staff members are involved in one form or another with environmental education, many of them educators themselves. The staff as a whole is so immersed in delivering the conservation message that many sustainability goals are a "way of life" for most of the Division's staff. The Division hopes that its survey will help identify additional educational needs.

The Division will base future plans for sustainability initiatives on its survey results, the formation of a sustainability team and its recommendations, and perhaps suggestions from the Department's team. The Division would like to put a hot key linking to a DENR Sustainability web site include success stories to share with other Divisions.

Division of Air Quality

The Division of Air Quality has implemented several successful sustainability initiatives. The Division has promoted the use of alternate fuel vehicles and has purchased and used a CNG vehicle for almost one year. Recently the DAQ has purchased and put into service an electric pick-up truck, and all other vehicles permanently assigned to the Division are capable of utilizing alternate fuels (alcohol-enhanced, etc.).

The DAQ is also responsible for implementing an innovated lighting system in newly acquired space at the Parker-Lincoln Building. All new offices were designed with energy saving light actuators that control the lights automatically using motion sensors. The Division plans to track the new system for economic and energy conservation benefits.

Another DAQ initiative is a pilot program for disposal of fluorescent tubes. The DAQ laboratory on Reedy Creek Road in Raleigh has initiated a pilot program for recycling the mercury and glass in these tubes through an outside contractor. This program may be viable for expansion throughout the Department and even statewide. A suggestion has been submitted to the DENR Sustainability Team for consideration by the Toxics Protection Branch of DAQ, Technical Services Section.

The Division has initiated a required dry cleaning survey and an "every third year" required inventory of small category emitters via a machine-readable form. This is somewhat experimental, but is expected to save considerable time and paper and allow direct entry into the databases where this information is stored. The results are expected to be of higher quality than if entered by conventional data entry processes used in the past.

Over the past several months, the Division has stressed the opportunities and merits of employee carpools. Maps have been posted to help identify people who are interested and who live near each other. The Division has promoted carpooling opportunities through email notices to increase employee awareness and to encourage carpooling. The Division has established six carpool-parking spaces at the Parker Lincoln Building to further encourage and reward car-poolers.

The DAQ has created a statewide Air Awareness Program that they are promoting throughout DENR. Employees at the Parker Lincoln Building have been organized as part of the Air Awareness effort. The purpose of this program is to help educate staff and the public regarding ozone conditions and to advise them on steps to be taken to reduce exposure as well as the degree of the problem itself. Several of the steps include carpooling, refraining from driving at lunch, home maintenance habits, refueling modifications, etc. The program also extends to a host of participants throughout the state who have been organized to do similarly at their businesses and organizations (both private and public sectors). There has been a high level of publicity and success attributed to the program.

The DAQ has successfully embarked on a pilot telecommuting/teleworking program. The program allows one day per week of work at home and is strictly overseen by supervisors. There are currently 19 employees participating in the program. This program benefits the environment by greatly reducing employee drive time especially during high ozone days.

As a complimentary program to the teleworking pilot, the DAQ Ozone Action Days Telework Project for 1999 was a similar effort used during Ozone Action Days. Several additional employees utilized this option during the 1999 ozone season.

In the next year the DAQ plans to emphasize carpooling within the Division. The Division hopes to successfully demonstrate how carpooling and promotion of personal car/van pooling can save energy and pollutant emissions within the DAQ before promote carpooling among other state employees and in the public sector. Plans are to be developed and evaluated over the next several months to bring this about.

The DAQ plans to continue expansion of its electronic data submittal capabilities. Currently the Division's data entry process is mainly paper-based. The Division has already implemented an initial improvement of the process for machine-readable capability and plans to incorporate this improvement into major updates and redesigns of the entire data system now in use.

The Division plans to continue expansion of programs already underway including the Air Awareness program, carpooling, and the telecommuting program.

The DAQ hopes to organize a sustainability team in the next quarter. Two representatives from the DAQ currently serve on the departmental sustainability team.

Office of Environmental Education

The Office of Environmental Education has worked in partnership with several agencies to implement sustainability initiatives. During the 1998 Environmental Education Conference at the Sheraton Imperial at Research Triangle Park, the Office of Environmental Education worked with the manager of the Sheraton and the Division of Pollution Prevention and Environmental Assistance (DPPEA) to make the hotel more environmentally sustainable. Efforts included instituting a program that gave guests the option of reusing bed linens rather than having the hotel automatically wash bed sheets every night. The hotel eliminated box lunches and used minimal packaging such as buffet or non-disposable serving dishware and added additional attractive and accessible recycling bins. The hotel also began participating in a food recovery program that provides unused food to local homeless shelters. The manager of the hotel asked to speak to over

1200 conference attendees about the difference environmental awareness had made in improving his business. The manager of the hotel has since become a spokesperson for environmental awareness and the positive impact it can have on business.

The manager of the Archdale Snack Bar began a partnership with the Office of Environmental Education, the Environmental Education Fund, a non-profit organization, and the DPPEA to increase environmental sustainability in the Archdale Snack Bar. The Office of Environmental Education worked with the Archdale Snack Bar to begin sustainable practices such as providing non-disposable drink mugs and participating in a waste reduction program. The Office of Environmental Education helped to create an educational campaign to inform employees that they have choices as consumers. This initiative resulted in an increased awareness among DENR employees and in a reduction of styrofoam cups, plates, and hot dog containers used in the Archdale Snack Bar. This effort was measured by employee feedback and through the reduction in styrofoam use in the snack bar.

The Office of Environmental Education has also begun working with the DPPEA and the manager of the Archdale Snack Bar to compost organic wastes from the snack bar for use in the Environmental Education Garden. In conjunction with this initiative, one of the Office of Environmental Education's workshops for employees focused on composting and was given by a representative from the DPPEA. The major benefit of this project is that it provided DENR employees with information on how they can use composting to become more environmentally sustainable at work and at home. The results are being measured both by feedback from employees and by the amount of waste the Archdale Snack Bar reduces through composting for the Environmental Education Garden.

In order to reduce the amount of paper waste generated in the office, mailing lists are being converted to electronic (email) lists. The office gives its constituents the choice of receiving the monthly newsletters through email rather than paper copy. The office's publications are available on the web site and can be downloaded. These efforts have reduced the amount of paper the office uses and the costs generated from mailing costs.

For the bi-monthly Environmental Education Advisory Council meetings, the office only contracts with caterers who use minimal packaging practices. The office has eliminated box lunches for events such as its awards ceremonies and conferences and participates in a food-recovery program for these events. These practices have reduced the amount of food and paper waste the office generates and also conveys to guests and participants that the Office of Environmental Education has adopted a conservation ethic.

In the next year the office plans to continue the Environmental Education Workshops in the DENR Library that increase employee awareness of environmental sustainability and that provide resources for learning more about environmental education programs in DENR. The office will continue to promote environmental education opportunities throughout DENR and will also work with Divisions that offer environmental education programs to incorporate environmental sustainability into existing programs. Current public education programs in the Office of Environmental Education will also incorporate environmental sustainability.

The office will also continue to expand current initiatives such as increasing the transfer of mailings from paper to electronics formats. We also will encourage our constituents to use the office e-mail, web site and the listserv to communicate with our office.

Currently, Lisa Tolley in the Office of Environmental Education is Chair of the DENR Sustainability Team. The office will continue to have a sustainability liaison.

As a clearinghouse for Environmental Education programs and resources, the Office can encourage existing environmental education programs to incorporate environmental sustainability components.

The Office of Environmental Education has an environmental education listserv with over 200 subscribers and promotes environmental education opportunities on the listserv. The office also promotes environmental education opportunities through a monthly newsletter, News Tips, that reaches over 500 organizations including schools, public libraries, Environmental Education Centers, business and industry, non-profit organizations and the media.

Sustainability initiatives are frequently placed on the agenda of the Office of Environmental Education staff meetings. Environmental sustainability is also an agenda item on the bi-monthly EEAC meetings hosted across the state.

The Office will continue to incorporate environmental sustainability into the Environmental Education Workshops offered to DENR employees. The office will also continue to use the Environmental Education Garden as a tool for educating DENR employees and will continue to incorporate environmental sustainability into existing programs, publications and newsletters. The office plans to expand and build on current sustainability initiatives.

Division of Forest Resources

The Division of Forest Resources (DFR) has incorporated several sustainability initiatives into its current operations. All DFR offices are now electronically networked in order to reduce paper use, and some offices offer interactive training via Internet and CD and dispersed training to reduce travel. The Division plans to continue adopting electronic programs for business forms such as requisitions and timesheets in order to reduce paper waste. Conference calls are used when appropriate to reduce the need for meetings and travel. The Division is utilizing organic wastes as soil supplement at the Claridge Nursery and has installed a more efficient irrigation system at Claridge Nursery. The DFR encourages re-use of used paper with one clean side for internal use (informal memos, office file copies of items such as accounting code sheets, etc.) to reduce paper waste. In order to reduce energy consumption, the DFR is integrating use of radiant heat in field office workshops over time. The DFR currently recycles oil, batteries, tires and has a contract for a dumpster to recycle cardboard at the Hickory airport facility.

As part of more recent program initiatives, the NC Forestry Incentives Workgroup appointed by the Division Director has issued a report on recommendations, including funding mechanisms, to make forestry more sustainable (increase reforestation, increase timber productivity, enhance multiple use and environmental benefits, and increase forestland retention).

The Prescribed Burning Act passed in 1999 promotes use of prescribed fire for forest management which, among other things, will help sustain fire-dependent ecosystems, improve wildlife habitat, reduce loss from wildfires, and help increase reforestation acreage.

The Utilizing Urban and Community Forestry Grant Program encourages better community planning and increases planting, retention and maintenance of trees in our urban areas.

The Division is using the Fran Restoration and Rehabilitation Program to reforest and to protect from wildfire the forestland damaged by hurricanes Fran and Bertha in 1996.

The DFR will continue to use the Southern Center for Sustainable Forests (Coalition between NC State University's College of Forest Resources, Duke University's Nicholas School of the Environment, and the NC Division of Forest Resources) to educate the citizens of NC on difficult forestry, ecological and environmental issues and to promote/facilitate research on such issues.

NC is entering the federal Forest Legacy Program which is a volunteer land conservation program that buys easements from landowners interested in maintaining their forestland as a working forest.

The DFR will implement the federal Conservation Education Program in the Division's educational forests to educate the public on conservation of natural resources.

The Division also plans to implement the federal Forest Fire Prevention Teams Program which, during severe fire weather, brings in specialized teams to locales highly vulnerable to wildfire occurrence to educate landowners on forest fire prevention.

In the next year the DFR plans to conduct annual waste assessments in DFR facilities, to test biodegradable gear oil in motor vehicles and to improve recycling of cardboard in the Central Office. The Division plans to create a sustainability team in the next year.

The Division's next sustainability plans include revitalizing the county forestry associations in five selected counties to promote interaction among forest landowners so that more forestland will come under sustained management. The DFR also plans to Assist US Forest Service in (1) completing periodic forest survey currently underway and (2) initiating annual survey in the near future to ascertain the status of the state's forest resources.

Division of Radiation Protection

The Division of Radiation Protection has begun to recycle paper, cans, plastic and cardboard whenever possible. The Division is currently examining a "Greenlights" program for use in one of the Division's leased buildings. In the next year the Division plans to convert to more electronic communication in order to reduce paper waste. The Division also plans to create a sustainability team.

North Carolina Zoological Park

The North Carolina Zoological Park's efforts in reducing, reusing, and recycling materials began in 1989 with a conservation audit of the Zoo's operations. Being a conservation organization, it was important to make sure that daily operations were carried out in a conservation-minded manner. As a result of the audit, several conservation measures were instituted in 1990 including plans to expand the compost operation, obtaining a trailer to recycle office paper and corrugated cardboard, providing and maintaining a recycling drop-off site for the Randolph County Recycling Program, establishing a policy to reduce and reuse paper, and collecting maps and brochures at Zoo exits for reuse.

In 1994 conservation efforts were renewed with an employee awareness program. This sparked an interest in forming a group of employees to monitor Zoo operations on an ongoing basis and to operate in a more conservation-minded manner. To accomplish this, the Conservation Captains were created to identify, evaluate, and recommend conservation-minded ways to reduce, reuse, and recycle materials used at the Zoo. The group is composed of employees representing all levels, locations, and work units at the Zoo. Each year the group develops a work plan and uses committees and monthly meetings to accomplish its goals.

The Zoo uses a large volume (62 million gallons a year) of water for exhibit tanks, irrigation, and cleaning animal areas. Water meters have been installed at all the exhibits with large water usage including Rocky Coast (polar bears, seals/sea lions, and sea birds), Aviary, African Pavilion, greenhouses, irrigation pumps, and the Africa Entrance. The meters have been used to detect major leaks in the large exhibit tanks and pools as well as to assess usage levels for cleaning. In 1995, the Division of Pollution Prevention and Environmental Assistance conducted a water use study and identified ways to reduce water use. As a result, the use of high pressure/ low volume nozzles and dry versus full cleaning of animal holding areas have increased. Also with technical assistance from the study, an aquatic pool/wetland was constructed as a wetland demonstration in the Touch and Learn Center. Upgrades in 1998 and 1999 to the aquatic filtration systems have resulted in less frequent turnover in backwater, saving over 100,000 gallons a year in Rocky Coast and 40,000 in Streamside. Additional upgrades at Rocky Coast will result in less frequent drain and fill of exhibit water and more recirculation of water, saving 200,000 gallons per year. These upgrades alone will save \$2,400 per year. In addition, some wastewater at Rocky Coast is treated for reuse or release to a lake to decrease the volume of wastewater. Most water used for irrigation of the plant collection is nonpotable water taken from two lakes on site which reduces potable water usage.

Given a site of over 500 acres, it was difficult to reduce the number of vehicles so the Zoo began using bicycles to reduce vehicle use. The Rangers were first to use bicycles and were so successful that the Design, Animal, Vet, and Horticulture sections have been added. The two bicycles in the Ranger unit save 1000 miles a year, each resulting in a savings of \$620 a year. The Zoo investigated using natural gas powered vehicles which produce much less air pollutants. However, it is not feasible until natural gas can be extended to the Zoo, which according to a recent study is cost prohibitive.

The Zoo has cut down on paper by making two-sided copies, using email, and reducing margins to fit more text on a page. The Zoo has cut its copying by 110,000 copies per year saving \$2,200. Also, the Zoo keys its invoices for payment instead of making copies and sending hundreds of them a week to DENR for keying, and it keys purchase order requests. Keying invoices alone saves 78,000 copies per year resulting in savings of \$7,000 in paper, copying, postage and labor. In addition, items such as cleaners, drugs, and electrolyte drinks are purchased in bulk to reduce numbers of containers. A "serviceware" study was conducted to reduce the amount of food service paper and plastic waste by using washable ware. The result was that any reduction was offset by an increase in water use and wastewater.

As of 1998 all Zoo buildings have computerized energy management systems. Temperatures are set and maintained at recommended settings by a computer monitoring system. As a result, electricity use has been reduced significantly. For example, the Education Center's electricity use was reduced by 40%. This alone saves 336,000 kWh per year and \$23,700. In addition, energy usage was

dramatically reduced at the Sonora Desert where the air is cooled to reduce the humidity and then heated to 80 degrees. This was accomplished by experimenting with the use of cold outside air in the winter.

The Zoo recycles office paper, corrugated cardboard, used motor oil, oil filters, tires, batteries, antifreeze, wooden pallets, cooking grease, wood and plastic six pack rings. In conjunction with the Randolph County Drop-Off Site, the Zoo recycles mixed paper, newspaper, aluminum and steel cans, three types of glass, and three types of plastic bottles. Marriott provides containers throughout the Zoo for aluminum cans and plastic bottles recycling. Drink machines in the Zoo are decorated with art from the ZooLINC schools and encourage visitors to recycle. All the Zoo's recycling saves about 176,800 lbs. and \$4,400 in hauling and tipping fees per year. The Zoo reuses file folders and envelopes, brochures/maps, spray bottles and other containers. Also, scrap paper is used for notes and memos.

In 1999 the Zoo composted 1569 tons of animal manures, plant material and food scraps at an annual savings of \$86,000 in waste disposal and \$2,500 in soil supplement costs. The new Compost Center completed in 1998 is paved with donated power plant flyash and has increased the types of manures that can be composted. The Zoo has a demonstration backyard compost exhibit in the Touch and Learn Center to inform visitors about how to get started.

The Conservation Captains present an annual Employee Awareness Program with meetings explaining plans, goals and accomplishments in a fun and informative format. They have provided graphics promoting water conservation, paper towel use reduction, can recycling, and electricity use reduction in clever ways throughout the Zoo and a conservation tip in the Zoo's monthly newsletter. Earth Day has been celebrated each year. 1999 featured aluminum can recycling in exchange for a Zoo reusable cup supplied by Marriott and a giveaway of 400 hardwood seedlings by the Zoo's 4-H Club to caring families/groups staffed by the Zoo's 4-H Club. The Conservation Captains also hold a Use Less Stuff Sale in November when people are buying and using more items in anticipation of the holiday season. The Sale is designed to recycle unwanted gifts from the past with the proceeds going to a local charity. In addition every employee receives a brochure on how to reduce, reuse and recycle at the Zoo.

The Zoo buys goods made from recycled materials whenever possible. It purchases recycled paper including copy paper, toilet paper and paper towels. It also furnished a picnic area with tables made out of recycled plastic.

The Zoo's Conservation Captains plan to continue several sustainability initiatives next year including their "Use Less Stuff" activities, the employee awareness meetings, and an Earth Day celebration.

The ZooLINC student conservation art placed on drink machines in the Park is so popular, plans are to find funding for more. Also, plans are to place signage describing the Zoo's conservation efforts along walkways in the Park.

The Conservation Captains also plan to continue water management efforts. Their plans include using information from new water to provide water usage by area by month, continuing to reduce the water usage in high volume area such as the Rocky Coast and irrigation, increasing the use of high pressure nozzles, and increasing dry versus full cleaning of animal holding areas.

Continued recycling efforts include plans to provide more containers for recycling cans and bottles throughout the Zoo, increase the use of green materials in construction and renovation, increase the recycling of corrugated cardboard, aluminum cans, steel cans, plastic bottles, glass, office paper, batteries, and other recyclable items, and increase the reuse of office paper, containers, and other reusable items.

As part of the Earth Day celebration, a new activity "Adopt-A-Highway" was added in 1999. Plans are to continue sponsoring the cleanup of the segment of Zoo Parkway near the Zoo's Entrance two (April and October) of the four times per year. The Zoo's 4-H Club and the EAC will accomplish the other two cleanups.

The Zoo is planning an "Ozone Awareness Day Picnic" for the summer of 2000. The idea is to sponsor an indoor picnic on a day when the ozone level is likely to be high to encourage employees to stay at the Zoo for lunch. Driving to town contributes to the ozone level especially on hot days. Sodexo-Marriott will offer a lunch special and beverages will be provided.

The Zoo has included sustainability in several existing environmental education programs and resources including "Smart Cart" presentations in the Park, materials and presentations to the six ZooLINC schools across the state, "Touch and Learn Center" presentations in the Park including compost demonstrations, natural dyes, and a water basin address, special events such as Earth Day, Heritage Festival, and Herbs at the Zoo, the Zoo's three web sites (Zoo, Elephants of Cameroon, and Red Wolf), and ZooLOGICS and other teacher training.

The Zoo uses Lunch Encounter presentations, such as reports on the Zoo's programs and other conservation field programs, to raise its employees' personal awareness of environmental education opportunities. The Zoo also uses special speakers on conservation topics and Conservation Captain programs for employees such as Earth Day, Use Less Stuff, Recycling at the Zoo Cards, and Employee Awareness Meetings.

Division of Pollution Prevention and Environmental Assistance

In addition to the actions identified as departmental initiatives, DPPEA has undertaken the following environmental sustainability activities: the reuse of single-sided paper (one side blank) in printers and photocopiers for drafts and internal documents; the reuse of office supplies, e.g., kraft envelopes, file folders, pens, binders, name badges, etc.; Online publishing for Division documents and fact sheets to reduce numbers of printed hard copies published and discarded; Distribution of all internal communication via email; Conversion to electronic White Pages Directory and elimination of individual paper copies; Purchase of recycled-content and less wasteful office supplies whenever possible, including: all paper and paper products, acetate transparencies, laser toner cartridges, and computer diskettes. The Division also recycles used videotapes, CD-Rom disks, computer diskettes, and acetate film. DPPEA has acquired both a leased, remanufactured photocopier and a natural gas vehicle for staff travel. Staff of DPPEA turn off lights in conference rooms, offices, and hallways when not occupied to conserve energy and continuously evaluate opportunities to reduce waste at the source. The Division also participates annually in the Raleigh Adopt-a-Stream Program.

Since DPPEA regularly serves industry and government clients, the Division feels that it is especially important to model the principles and practices that it advocates to the public. Reuse and source reduction of supplies purchased has positively impacted the Division's budget. The Division's office

manager is keeping track of expenditures for paper and other supplies and is able to tell employees how many recycled products they are purchasing and how much money they are saving. Ultimately, the Division has found that participation in these initiatives boosts morale.

In 2000, DPPEA plans to expand and implement several environmental sustainability initiatives. The Division plans to further efforts to publish documents directly to the Internet to reduce waste of printed copies. DPPEA also plans to implement a paperless office environment by increasing the use of electronic document publishing and distribution and by reducing the generation of hard copies. The Division will encourage telecommuting whenever possible and has plans to acquire two vans with dual-fuel (gas and ethanol) capability.

DPPEA maintains an on-line clearinghouse of thousands of documents on waste reduction that can be downloaded directly from the Division's web page. The Division also provides technical expertise to Divisions and facilities wanting to conduct waste assessments.

DPPEA is in the preliminary stages of creating a sustainability team and in addition to making its own operations more sustainable, DPPEA is working with other state agencies to develop their sustainability efforts. DPPEA staff already serve as liaisons with other state agencies and DENR in the area of environmental purchasing and sustainability in state government (NC Project Green).

Conclusion

The Department of Environment and Natural Resources (DENR) is committed to becoming a leader in the state's effort to become more responsible environmental stewards. The success of DENR's efforts will depend on the ability of DENR leadership to encourage individual Divisions to implement sustainability initiatives and to instill in their employees a conservation ethic. Many DENR Divisions have made significant strides over the last year to implement their own sustainability projects and to make sure that employees have access to environmental education resources and materials. As this report indicates, DENR is positioned to become a role model and resource for statewide environmental sustainability efforts in the year 2000. The Department plans to continue to promote Division and individual employee sustainability achievements and to support statewide environmental education efforts to raise employee awareness of the consequences of our actions as State Government employees and as citizens of North Carolina.

Appendix A

DENR Sustainability Team Members

Ben Barnes
Division of Waste Management

Cheryl Braunstein
North Carolina Museum of Natural Sciences

JoAnne Keith
Division of Purchase and Services

Hoke Kimball
Raleigh Regional Office, Division of Air Quality

John Seymour
Division of Pollution Prevention and Environmental Assistance

Lucy Smith
Asheville Regional Office, Administration

Jim Southerland
Division of Air Quality

Susan Tillotson
Division of Parks and Recreation

Lisa Tolley
Office of Environmental Education

Aisha Lau (Facilitator)
Division of Water Quality

Appendix B

DENR SUSTAINABILITY TEAM

MISSION

To raise employee awareness of the consequences of our actions and make DENR a model of sustainability by promoting the implementation of positive environmental stewardship initiatives in the Department and by encouraging employee involvement and recognition consistent with the State Government Sustainability Plan.

GOALS

- Create and manage a system for Division Directors to submit their initiatives with measures to the Sustainability Team. Divisions will be responsible for monitoring their own initiatives and will provide quarterly updates to the Sustainability Team.
- Establish a relationship with sustainability representatives from each Division. Division Directors will designate a sustainability representative for their Division to serve as a liaison between the Division and the Sustainability Team. Liaisons will be responsible for meeting with the Sustainability Team and reporting on their Division's progress. The Division Director will make sure the entire Division is represented including staff in the regional offices.
- Compile quarterly reports to the Secretary from Division Directors for consolidation into a Departmental Summary by the Sustainability Team.
- Integrate a "sustainability component" into the existing employee recognition program to reward employees and Divisions who begin and carry through with special environmental sustainability projects.
- Serve as a catalyst and advisory board for employees and Divisions in the implementation of environmental sustainability projects.
- Develop a system for managing suggestions from DENR employees on sustainability actions to promote individual initiatives.
- Prioritize employee sustainability suggestions and make formal recommendations to DENR Administration for department-wide initiatives.
- Develop an adult education awareness program for DENR employees that would focus on understanding the environmental consequences of our actions and that would provide the knowledge, awareness, understanding and skills necessary for constructive action and environmental stewardship.

Appendix C

List of Division Sustainability Liaisons

Rhett White	Aquariums
Lisa Tolley	Environmental Education
Warren Boyette	Forest Resources
Kelly Odom	Marine Fisheries
Cheryl Braunstein	Museum of Natural Sciences
Susan Tillotson	Parks and Recreation
Debbie Mouberry	Soil and Water Conservation
Mary Jo Pugh	Zoological Park
Brock Nicholson	Air Quality
Kelly Rudd	Coastal Management
Linda Sewall	Environmental Health
Charles Gardner	Land Resources
John Seymour	Pollution Prevention and Environmental Assistance
Mel Fry	Radiation Protection
Ben Barnes	Waste Management
Sheri Clark	Water Quality
Patrick Beggs	Water Resources
Jo Anne Pearson	Budget, Planning and Analysis
Rod Davis	Controller
Charles Malone	Human Resources
Brenda Bowers	Information Technology Services
Jo Anne Keith	Purchase and Services

Appendix D

RECYCLING COORDINATORS

Water Quality	Hazel Strickland	733-5083 x211	Archdale	Hazel.Strickland@ncmail.net
Air Quality	Janet Wall	715-2445	Parker Lincoln	Janet.Wall@ncmail.net
Land Resources	Bobbie Jo Moore	733-3833	Archdale	Bobbie.Moore@ncmail.net
Water Resources	Nat Wilson	733-4064	Archdale	Nat.wilson@ncmail.net
Solid Waste Mgt	Paul Crissman	733-0692 x254	401 Oberlin	Paul.Crissman@ncmail.net
Coastal Management	Julie McCray	733-2293	Parker Lincoln	DCMFrontdesk@ncmail.net
DEM-Groudwater	Alice Nicholson	715-6418	Parker Lincoln	Alice.Nicholson@ncmail.net
DEM-Construction Grants	Ryan Scruggs	715-6209	Parker Lincoln	Ryan.Scruggs@ncmail.net
DEM-Water Quality Lab	Mark Vanderborgh	733-9960	Reedy Creek	Mark.Vanderborgh@ncmail.net
DEM-Air Quality Lab	Kim Gold	733-9777	Reedy Creek	Kim.Gold@ncmail.net
DEM-Chemistry	Jeanne Carter	733-3908 x206	Reedy Creek	Jeanne.Carter@ncmail.net
Land Resources-Geo Sur	Bobbie Jo Moore	733-3833	Reedy Creek	Bobbie.Moore@ncmail.net
Radiation Protection	Wanda Shackleford	571-4141 x230	Barrett	Wanda.Shackleford@ncmail.net
Public Affairs	Denise Smith	715-4119	Archdale	Denise.Smith@ncmail.net
Computer Systems	Brenda Bowers	715-0327	Archdale	Brenda.Bowers@ncmail.net
Controller Office	Rod Davis	733-4166	Archdale	Rod.Davis@ncmail.net
Personnel	Toula Capetanos	733-4672	Archdale	Toula.Capetanos@ncmail.net
Budget Planning	Tammy Hackler	733-8800	Archdale	Tammy.Hackler@ncmail.net
Raleigh Reg. Office	Nancy Pate	571-4700 x203	Barrett	Nancy.Pate@ncmail.net
Asheville Reg. Office	Pat Crawford	828-251-6208	#12-59-08	Pat.Crawford@ncmail.net
Fayetteville Reg. Office	Martha Anderson	910-486-1541	#14-56-25	Martha.Anderson@ncmail.net
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