

Environmental Stewardship Initiative Second Annual Report

In an ideal world, regulation is replaced by stewardship; an inherent respect for the environment. In this concept of stewardship, everyone takes responsibility for their actions and the use of resources for the benefit of the community.



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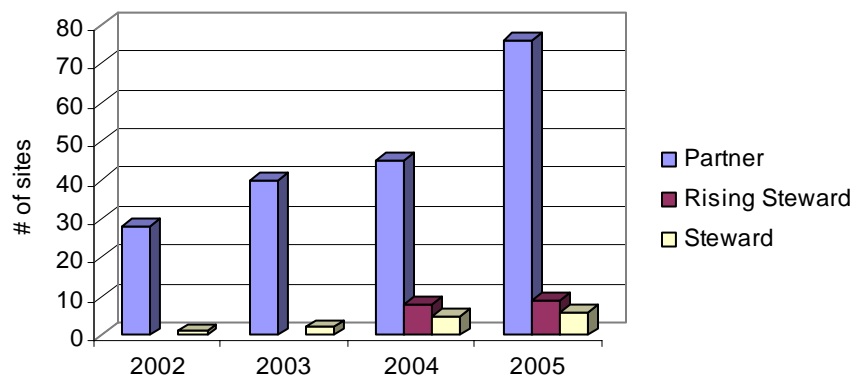
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Executive Summary

The North Carolina Department of Environment and Natural Resources' Environmental Stewardship Initiative is a voluntary program that assists and encourages facilities to use pollution prevention and innovation to meet and go beyond regulatory requirements. The ESI seeks to encourage greater reductions in environmental impacts through the implementation of an environmental management system and the establishment of performance based environmental goals.

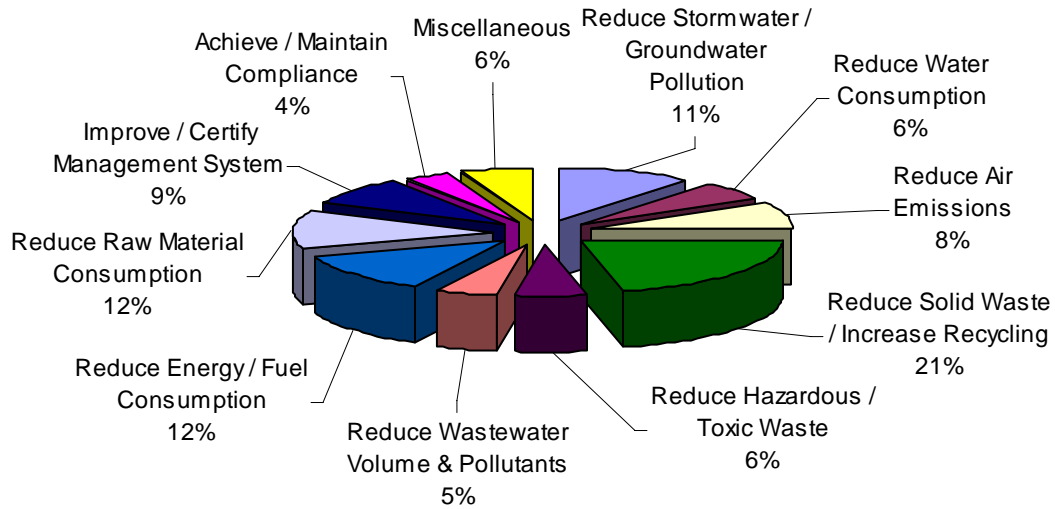
The program has experienced significant growth since its inception in 2002. As of December 2005, there were six Stewards, nine Rising Stewards and 50 Partners representing 76 sites.



This report summarizes information collected in 2005 from organizations that were ESI members as of December 2004.

ESI members are required to report annually on EMS progress, compliance with regulations, progress toward goals and reductions in environmental impacts. Members report on performance toward goals and reductions in environmental impact only after being in the program for one full year. Forty-nine members reported on EMS development, compliance with regulations and established goals and, of those, 34 reported on goal performance and reductions in environmental impacts. Data was self-reported by member facilities and was not verified by DENR.

Forty-nine members reported a total of 221 environmental goals addressing the following issues:



Thirty-four members reported reductions in environmental impact.

Area	Value
Air Emissions	297 Tons
Hazardous Waste	12 Tons
Landfilled Waste	997 Tons
Energy	11,737 MBtus
Water Use	369 Million Gallons
Material Consumption	509 Tons
Wastewater Pollutants	379 Tons
Total Recycled Volume in 2004	10,015 Tons



Second Annual Progress Report

The ESI supports and encourages superior environmental performance by North Carolina's regulated community. Utilizing pollution prevention and other innovative approaches, this voluntary effort offers benefits to members for developing and implementing programs to meet and go beyond regulatory requirements. The ESI seeks to reduce an organization's impacts beyond measures required by any permit or rule to improve the environment, conserve natural resources and gain long-term economic benefits.

Program Structure and Member Status

Any regulated company or organization that operates one or more facilities in the state and whose activities impact the environment is eligible to participate in ESI. This includes but is not limited to manufacturers, businesses, agribusiness, service providers, government agencies, schools and nonprofit agencies.

Program Levels

Members can enter the program at one of three levels¹: Partner, Rising Steward and Steward.

Partner

The "Partner" level is designed for adoption by a broad range of organizations that are interested in beginning the process of developing a systematic approach to improving environmental performance. Partners must demonstrate a commitment to maintain compliance, commit to establishing an environmental management system and set environmental performance goals. [Link to criteria and benefits.](#)

Rising Steward

The "Rising Steward" level is designed for those organizations that have a mature environmental management program. Rising Stewards must demonstrate a mature EMS, set measurable environmental performance goals and demonstrate a commitment to go beyond compliance. [Link to criteria and benefits.](#)

Steward

The "Steward" level is for those organizations that already display a commitment to exemplary environmental performance beyond what is required by law. Stewards must demonstrate a mature EMS, aggressive environmental performance goals, a commitment to meet and go beyond compliance, a process for communicating with the local community about program activities and progress toward performance goals, and that the EMS is integrated into core business functions. [Link to criteria and benefits.](#)

¹ Organizations with multiple sites must have each site apply separately to the program at the Rising Steward and Steward levels.

Membership Status

As of December, 2004, the program had five Stewards, eight Rising Stewards and 45 Partners.

Stewards

ASMO North Carolina Inc., Statesville
City of Gastonia Long Creek Resource Recovery Facility
Corning Inc. - Wilmington Optical Fiber Facility
Naval Air Depot, Cherry Point
Novozymes North America Inc.

Rising Stewards

City of Gastonia Crowders Creek Resource Recovery Facility
City of Gastonia Wastewater Treatment Division Biosolids Program
GKN Driveline - Sanford Facility
GKN Driveline - Roxboro Facility
GKN Driveline - Alamance Facility
GKN Driveline - Sanford Precision Forming Facility
NACCO Materials Handling Group, Greenville
N.C. Zoological Park - Horticulture Section, Asheboro

Partners

American & Efird Inc. – Nelson 02 Plant, Lenoir	General Electric Co. Consumer and Industrial, Mebane
American & Efird Inc. – Rush Plant 03, Mount Holly	Highland Industries Inc. – Kernersville Finishing Plant
American & Efird Inc. – Filament Plant 05, Mount Holly	Hunter Farms Dairy, High Point
American & Efird Inc. – Rush Plant 09, Mount Holly	Lexington Home Brands - Plant 1, Lexington
American & Efird, Inc. - Maiden Plant 11	Lexington Home Brands - Plant 2, Linwood
American & Efird Inc. – Nelson 12 Plant, Lenoir	Lexington Home Brands - Plant 5, Lexington
American & Efird Inc. – Dyeing & Finishing Plant 15, Mt. Holly	Lexington Home Brands - Plant 10, Hildebran
American & Efird Inc. – Gastonia Plant 20, Gastonia	National Institute of Environmental Health Sciences - RTP
American & Efird Inc. – Gastonia Plant 51, Gastonia	N.C. Asahi, Inc. - Greenville
American & Efird Inc. – Gastonia Plant 56, Gastonia	North Carolina Natural Gas Corporation, Raleigh
American & Efird Inc. – Gastonia Plant 01, Gastonia	Premium Standard Farms - Clinton Plant
Baker Furniture – High Point Facility, High Point	Progress Energy - Transmission Dept. - Raleigh
Baker Furniture – Hildebran Facility, Hildebran	Progress Energy - Energy Delivery – Wilmington
Baker Furniture – Mocksville Facility, Mocksville	Progress Energy - Energy Delivery – Raleigh
Hexion Chemical, Morganton	Progress Energy - Energy Delivery – Sanford
Borg Warner Emissions/Thermal Systems, Fletcher	Progress Energy - Energy Delivery – Asheville
BSH Home Appliances Corp., New Bern	Smithfield Kinston Division
Camp Lejeune Marine Corps Base, Camp Lejeune	Smithfield Tar Heel Division
City of Shelby First Broad River WWTP	Smithfield Wilson Division
Duke University, Durham	Stockhausen Inc., Greensboro
Engineered Sintered Components Company, Troutman	U.S. Coast Guard - Support Center, Elizabeth City
Flextronics International NC Inc., Youngsville	Warren Wilson College - Facilities Management and Technical Services, Swannanoa
Fort Bragg – 18th Airborne Corps, Fort Bragg	

Figure 1 shows the distribution of the 2004 ESI members by industry sector and Figure 2 provides member locations throughout North Carolina.

Figure 1: Membership by Industry Sector

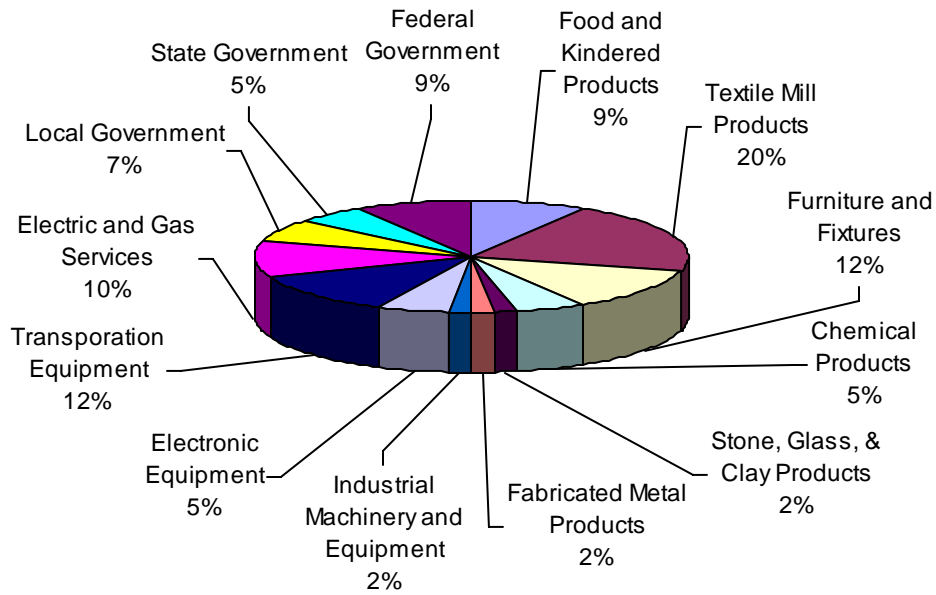
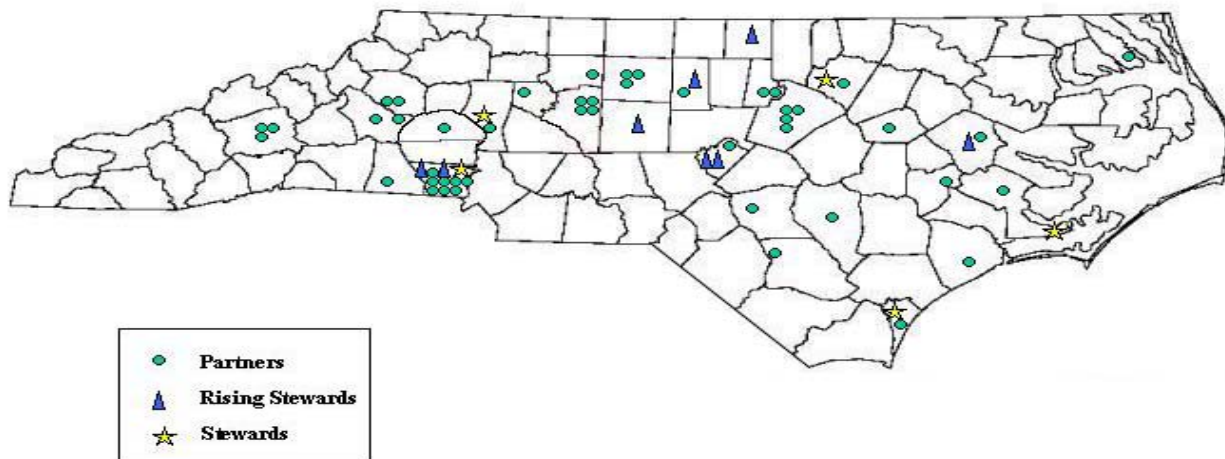


Figure 2: Member Locations



Application and Review Process

Partner applications are accepted year-round and reviewed monthly. Steward and Rising Steward applications are accepted once a year during a two-month period starting in March. The ESI DENR Internal Workgroup completes a compliance check of all applicants and makes recommendations on membership to the Secretary of DENR for new Partners. The Internal Workgroup also provides technical support to the ESI Advisory Workgroup and serves as liaisons with the DENR regulatory programs.

Table 1: 2004 DENR Internal Workgroup

Dale Dusenbury	Radiation Protection
David Vogel	Division of Soil and Water Conservation
Edythe McKinney	Customer Service
James Southerland	Division of Air Quality
Jimmy Carter (Chair)	DENR Asst. Sec. Operations & Development
John Southerland	Division of Water Resources
Linda Culpepper	Division of Waste Management
Sonya Avant	Division of Land Resources
Tom Poe	Division of Water Quality

The Advisory Workgroup reviews Rising Steward and Steward applications and makes recommendations to the DENR Secretary. Steward applicants receive an intensive on-site verification visit to ensure the EMS is functioning and to gather observations supporting the organization's application. The Advisory Workgroup reviews all information obtained through the application, the onsite-verification visit, compliance reviews and comments from regulatory agencies before making their recommendation. [Link to description of application process.](#)

Table 2: 2004 Advisory Workgroup

Alan Briggs	Sustainable North Carolina	Raleigh
Scott Brewer	MCB Camp Lejeune	Camp Lejeune
Dr. Richard Andrews	UNC Chapel Hill	Chapel Hill
Jack Blackmer	Novozymes North America Inc.	Franklinton
Jane Preyer	Environmental Defense	Raleigh
Jimmy Carter (chair)	Dept. of Environment and Natural Resources	Raleigh
Larry Spence	Ready Mixed Concrete	Raleigh
Matt Jordan	City of Gastonia	Gastonia
Mike Nelson	Conservation Council of North Carolina	Raleigh
Preston Howard Jr., P.E.	MCIC	Raleigh

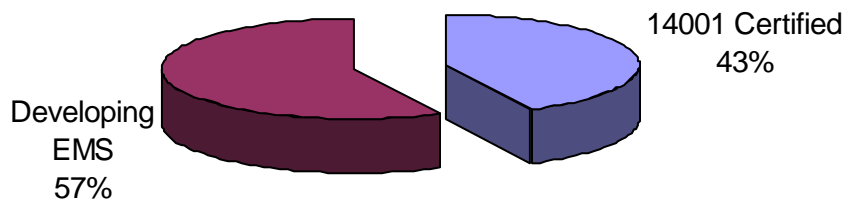
ESI 2004 Member Achievements

The ESI requires members to report on the status of their environmental management system, compliance with environmental regulations and environmental goals as well as reductions in environmental impact for those that have been in the program for one full year. In 2004, ESI had 49 members submit annual reports of which 34 were required to report on progress toward environmental goals and reductions in environmental impacts².

Environmental Management System Development

ESI requires the development of an environmental management system based on ISO 14001 or a functionally equivalent model to drive the development and progress toward performance based environmental goals ([link to functionally equivalent EMS criteria](#)). While Rising Stewards and Stewards must have a certified or functionally equivalent EMS to enter the program, Partners can enter the program without a formal EMS as long as they commit to develop one. Figure 3 provides the percentage of members with a certified EMS or EMS in development. No members reporting had requested a functionally equivalent assessment by DENR.

Figure 3: EMS Development

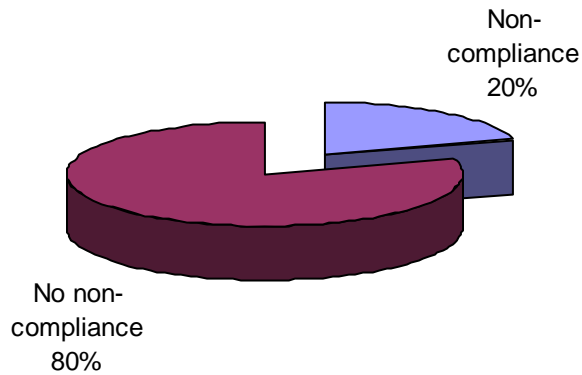


Environmental Compliance

Figure 4 provides the percentage of members who reported having non-compliant events in 2004. These non-compliant events included reporting, hazardous waste management, wastewater discharge and air emissions. While several members had compliance issues none of these events resulted in fines from DENR.

² ESI had 58 members in the program as of Dec. 31, 2004, but nine members dropped or were removed from the program in 2005 and did not submit an annual report.

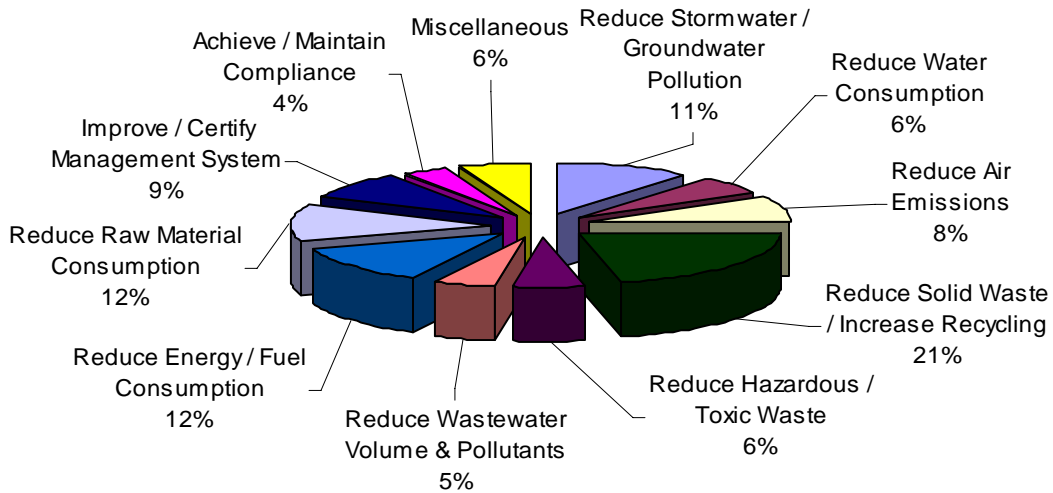
Figure 4: Non-compliance in 2004



Environmental Goals

Forty-nine members, including those who had a certified EMS and those developing their EMS, reported a total of 221 established environmental goals. These environmental goals address the areas shown in Figure 5.

Figure 5: EMS Goals



Reductions in Environmental Impacts

ESI members in the program for one full year are required to report reductions in environmental impact. In 2004, 34 members were required to report on reductions in environmental impacts. Table 3 provides a summary of reduction in various media areas. Collection and analysis of this data allows DENR to track reductions occurring while the organization was a member of the ESI, providing some measure of the effectiveness of EMS implementation and of the overall support and assistance available as a benefit of ESI membership.

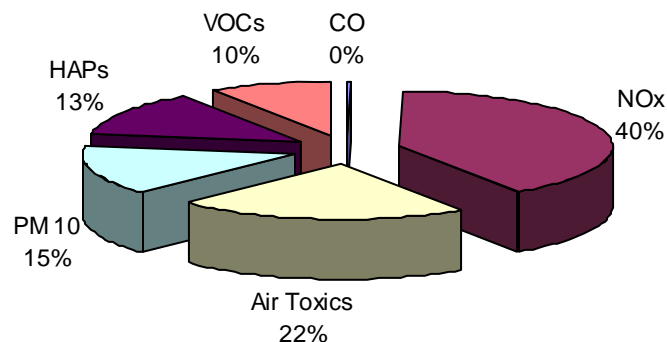
Table 3: Reductions in Environmental Impact

Area	Reduction
Air Emissions	297 Tons
Hazardous waste	12 Tons
Landfilled waste	997 Tons
Energy Use	11,737 Mbtus
Water Use	369 Million Gallons
Material Consumption	509 Tons
Wastewater Pollutants	379 tons
Total Recycled Volume in 2004	10,015 Tons

Air Emissions

Six members reported total air emission reductions of 297 tons. Figure 6 shows the decreases in volatile organic compounds, nitrogen oxides, hazardous air pollutants, toxic air pollutants, carbon monoxide and particulate matter. Examples of activities at facilities used to reduce air emissions include: elimination of #6 fuel oil, elimination of solvent based chemicals in textile bonding, dyeing and finishing operations, and elimination of coating operations by switching to galvanized steel housings.

Figure 6: Reduction in Air Emission Parameters, % of Total



Hazardous Waste

Eight members reported reducing 12 tons of liquid and solid hazardous waste through various techniques including changes to cleaning procedures, non-hazardous chemical substitution, improved spill management practices and replacement of mercury containing devices.

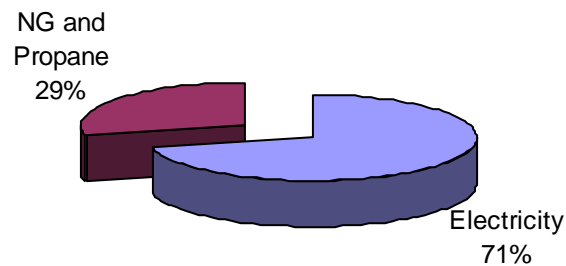
Waste Sent to Landfills

Ten members reported reducing 997 tons of solid waste normally sent to landfills through identifying viable markets for waste streams, reducing raw material consumption and increasing employee awareness of recycling programs.

Energy Reduction

Six members reported reducing consumption of energy (natural gas, propane and electricity) by 11,737 Mbtus. Figure 7 shows the percentage of reduction for natural gas and propane versus electricity. Methods for reduced energy consumption include reducing the frequency of pump start-ups and monitoring propane consumption versus temperature patterns.

Figure 7: Reduction in Energy Source Types, % of Total



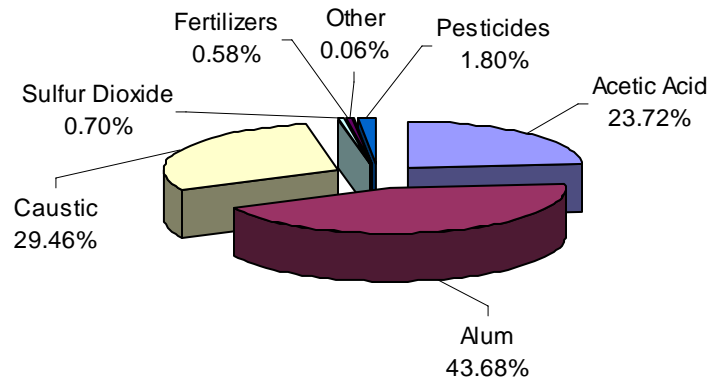
Water Use Reduction

Five members reported reducing consumption of water by 369 million gallons through the use of practices including use of reclaimed water as well as more efficient water use techniques.

Raw Material Reduction

Four members reported reducing raw material consumption by 509 tons through improved application techniques, improved chemical feed systems and automatic control, and elimination of coatings containing priority constituents. Figure 8 provides the types of raw materials that were reduced and the percentage of total reduction.

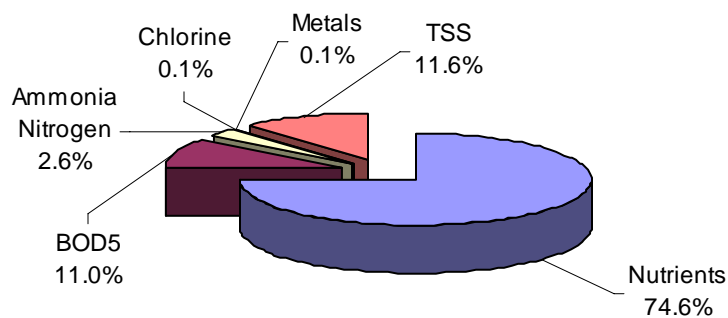
Figure 8: Reduction in Raw Materials by Type, % of Total



Wastewater Pollutants

Five members reported an aggregate decrease in wastewater pollutants by 379 tons through techniques including identification and reduction of wastewater pollutant sources and improved treatment efficiencies. Figure 9 provides the wastewater pollutant parameters that were reduced and the percentage of the total reduction.

Figure 9: Reduction in Wastewater Pollutant Parameters, % of Total



By establishing and maintaining EMSs with performance based environmental goals, ESI members will continue to be successful in meeting and going beyond environmental regulations and reducing impacts on the environment through pollution prevention and innovative practices.