

University of Washington
Environmental Stewardship Advisory Committee

Annual Report
December 2004 – June 2005

Submitted to:

Phyllis Wise, Provost

And

Weldon Ihrig, Executive Vice President

**Environmental Stewardship Advisory Committee –
Member List - 2004/2005**

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Executive Summary

The Environmental Stewardship Advisory Committee (ESAC) was created in December 2004 and charged by the Provost and Executive Vice President to advise them on policy and implementation strategies needed to achieve successful implementation of the University of Washington Environmental Stewardship Policy (Attachment A) which was adopted in August 2004. ESAC is required to submit a report on its activities and recommended actions to the Provost and Executive Vice President on an annual basis. This is the first report encompassing the formative first six months of the Committee's efforts (A meeting schedule is provided in Attachment B).

ESAC's initial effort focused on establishing its objectives and operational procedures (ESAC's Ground Rules of Operations and Costs are provided in Attachment C and Attachment D, respectively) and on gathering information to gain a greater understanding of the University's progress in meeting its environmental stewardship goals. ESAC focused initially on Capital Projects, Facilities Services, and Environmental Health and Safety to learn about current efforts to incorporate environmental stewardship goals into University construction requirements, energy generation and use, solid waste handling, and hazardous waste and pollution prevention efforts. In addition, ESAC explored how it could highlight the accomplishments the University had already made toward environmental stewardship goals; how it could better apply the principles of environmental management systems throughout the University; how it could make use of students' growing interests and expertise in moving the stewardship agenda forward and how it could assume a national and international leadership role among universities in this area.

ESAC's key findings confirm that the University of Washington is a leader among universities nationally in its pursuit of environmentally sound campus management and has, in fact, long been following many policies and practices that are now becoming adopted among other universities across the country. We are proud to recognize these accomplishments but anxious to move forward by setting more ambitious goals for the future. ESAC learned that there are still barriers across the campus that make expanding these efforts a challenge. ESAC looks forward to identifying the many opportunities it sees for change.

ESAC emerged from its first six months of operation with a clearer sense of what the University has accomplished and what its role can be in moving the stewardship agenda forward. In ESAC's next and first full academic year of operation, a number of specific work groups will be established to more fully explore current policies and practices, to identify management and policy gaps that might exist, to determine the barriers to achieving greater gains, and most importantly, to begin to set some specific goals.

The University continues to have successes in promoting environmental stewardship and sustainability, and can be proud to have received awards for students, faculty and staff over the last few years. Examples of the awards are provided in Attachment E.

ESAC is a proactive committee with a commitment to nurturing environmental stewardship at the University by providing the Provost and EVP with succinct recommendations for environmental stewardship and sustainability with a focus on continual improvement.

This annual report provides a list of initial recommendations to the Provost and EVP in the pursuit of environmental stewardship and sustainability and the future actions that ESAC will pursue in the 2005/2006 Academic year.

The Committee forwards the following recommendations for consideration by the Provost and Executive Vice President:

- Broaden the University's commitment to the principles of environmental stewardship by incorporating the University's stewardship commitment into all new student/employee orientations and in University leadership training.
- Highlight accomplishments of the University of Washington and share goals and challenges by supporting development of an Environmental Stewardship website and a complimentary media strategy.
- Further scholarship in the area by establishing a competitive Presidential Environmental Stewardship Fellowship(s) and encouraging development of undergraduate and graduate coursework on campus environmental stewardship.
- Enhance problem solving by providing support for students to engage in environmental stewardship projects.
- Recognize accomplishments by establishing an annual "Excellence in Environmental Stewardship Award" to be given as part of the annual recognition ceremony for faculty and staff.
- Recognize outstanding operational units by extending personal congratulations to recipients of prestigious environmental awards. For example, in 2005:
 - The UW Motor Pool received a 5-star rating, and Eco-Star Award;
 - The UW Medical Center received the Governors' Pollution Prevention Award.
- Establish the University's leadership position in environmental stewardship by providing the staffing and fiscal support needed to move environmental stewardship forward and to sponsor a national conference on University Environmental Stewardship for other national university and college administrators.

Background – The Committee’s Charge and Membership

On August 10, 2004, the newly arrived University of Washington President Mark A. Emmert ushered in a new era when he confirmed his and the University’s commitment to environmental stewardship as a fundamental University of Washington value by announcing to the President’s Cabinet and the Board of Deans that he had supported and adopted the University’s Policy on Environmental Stewardship (provided in its entirety in Attachment A). The Environmental Stewardship Advisory Committee (ESAC) was appointed shortly thereafter to provide advice to the Provost and the Executive Vice President on issues, goals, policy, and implementation management related to the Environmental Stewardship Policy. The policy is the culmination of a several year University effort that had started with a grass roots movement of staff, faculty and students. Efforts to move forward with a stewardship policy were initially coordinated by the interdisciplinary Program on the Environment. Efforts continued through a Task Force on Environmental Stewardship established by the Executive Vice President, Weldon Ihrig. Additional support and momentum was provided by the Sustainable UW Alliance. Charged with making the policy a reality on campus, membership on ESAC, which reports jointly to the Provost and the Executive Vice President, was selected to represent a broad array of environmental stewardship interests and expertise among faculty, students, and staff from the University’s three campuses. (A list of the 2004-2005 ESAC members is provided in the front of the annual report). Within the Policy statement, the committee is charged with accomplishing several objectives:

1. Advise the Provost and EVP on the progress towards each of the expectation areas noted in the policy statement;
2. Develop, in collaboration with appropriate university units, benchmark measures of efficiency, cost-effectiveness, and the impact of activities in these areas;
3. Identify long-term goals and standards by which the UW community can examine its effectiveness and short-term progress toward agreed-upon goals, as well as timelines for evaluation of progress;
4. Identify emerging opportunities for collaboration between academic programs and operational interests;
5. Identify mechanisms by which the UW community, through collaborative efforts across academic and service units, can be made aware of the progress being made throughout the institution;
6. Interact with and receive information from existing environmental stewardship committees/activities throughout the University, including the University SEPA committee, the Montlake Landfill Oversight Committee, the Solid Waste Advisory Committee, and relevant academic units; and
7. Report annually to the Provost, the EVP and the University community on activities and accomplishments.

Initially, ESAC was supported with Ad-Hoc resources. The committee was staffed in May 2005 by the Environmental Health and Safety Department with a part-time (0.6 FTE) program coordinator who facilitates ESAC activities and coordinates the University’s efforts for environmental stewardship and management.

First Year Objectives and Activity Summary

While ESAC is advisory to the Provost and EVP and the group is not authorized to make final policy decisions, the scope of its charge is broad and potentially touches many aspects of the University's teaching, research and service missions. This motivated the committee members to be clear in both intent and process as ESAC moves forward. ESAC focused its initial effort on:

- Clarifying expectations for the committee and of individual committee members;
- Establishing operational procedures; and
- Learning about the current status of the University's stewardship efforts.

The committee addressed these tasks in six monthly meetings held between December 6, 2004 and June 23, 2005 (a meeting schedule is provided in Attachment B). The initial meeting included EVP Weldon Ihrig and Acting Provost David Thorud who clarified the charge for the Committee.

In the second meeting the Committee, with the help of an outside facilitator, developed and adopted a set of committee ground rules which now guide the committee's deliberations and operations (see Attachment C).

The remaining meetings during the academic year focused on information gathering designed to provide ESAC with a base of information on current activities in several key operational areas.

ESAC costs are provided in Attachment D.

Topics Reviewed and Findings

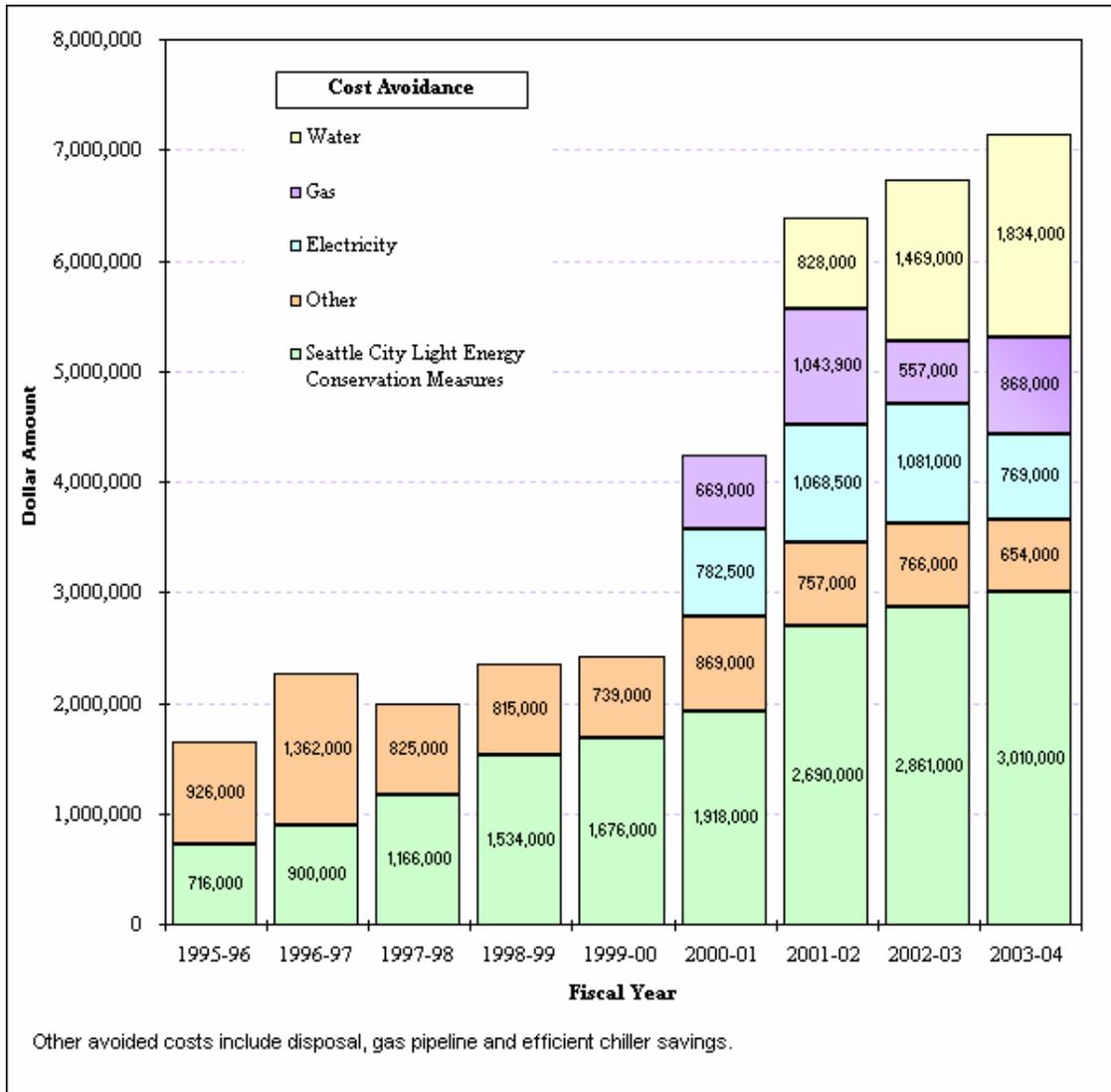
Current Efforts in Capital Projects and Facilities Services

In March, the Capital Projects Office (CPO) provided the committee members with an excellent overview of the current UW policy regarding the application of LEED (Leadership in Energy and Environmental Design) building design standards to campus construction and renovation projects. The presentation also compared the University of Washington's progress with that of other institutions. The University has been a member of the US Green Building Council (USGBC) since 2000, and the current strategic plan of the Capital Projects Office includes a Sustainability Goal. The Capital Projects Office website (<http://www.cpo.washington.edu/html/Sustain.html>) provides information on present stewardship policies and goals as well. Several of the CPO staff have undertaken specialized training for and have received LEED accreditation. ESAC learned that the University of Washington is in the top echelon of higher education institutions applying LEED on construction projects. Washington State is 5th in the nation for the number of LEED buildings constructed as of 2005. The details of CPO accomplishments and a list of LEED certified buildings at the University can be found at the website: http://www.cpo.washington.edu/html/Sustain_Accomplishments.html.

The UW has been incorporating many of the building requirements for LEED certification as part of its standard practices. Efforts to incorporate water and energy conservation are routine approaches in building design and operations. The University's current high standards makes it difficult for the UW to realize further gains attributed to formal LEED certification, particularly considering the cost and paperwork challenge of actually achieving certification. ESAC plans to further investigate LEED as an established process to support the UW environmental stewardship and sustainability goals in the next year.

ESAC also learned that current efforts in Facilities Services have been steady and persistent in evaluating the life cycle costs of equipment and processes in its operations although there are constraints in applying the concepts broadly. Managing energy and water consumption and a focus on conservation have been a major part of their best management practices for several years. These efforts have realized significant cost savings, as illustrated in the following graph provided by Facilities Services.

Figure 1: Avoided Costs
from UW Facilities Services Conservation Efforts
1995-96 to 2003-04



Facilities Services has produced an excellent publication, ["Facilities Services Focus on Environmental Sustainability,"](http://www.washington.edu/admin/facserv/sustainability.html) which should be distributed throughout the Campus. It documents the significant accomplishments the University has already realized through the efforts of Facilities Services. The booklet can be viewed on line at <http://www.washington.edu/admin/facserv/sustainability.html>.

Key Finding

The University's administrative units are making appropriate and steady progress in addressing sustainability in key areas and have already been incorporating (as standard business management practices) efforts that are beginning to be popular at other campuses. However, there are barriers to the University's opportunities to achieve further progress.

Barriers that make achievement of sustainability challenging, include but are not limited to:

- Resources are not always made available to make the initial larger investment that is often required to achieve sustainability in the longer run, which would ultimately produce substantial savings for the University.
- Biennial budgeting systems do not recognize longer run gains of lifecycle cost analyses since there is no policy that requires sustainable planning.
- There is no policy requiring life cycle cost analyses.
- Separation of capital and operating budgets make it hard to credit capital investments against future savings in operating funds.
- There is no link currently between energy costs and specific department or building energy users and uses, since utility costs are paid centrally and monitoring capacity at the individual unit does not exist.
- There is no current methodology for data collection to correlate lost productivity related to the current conditions and age of the UW buildings. This is a missed opportunity for capturing the true costs of buildings.

Energy Use

Given the emphasis on energy use in the LEED standards and concerns about rising energy costs, ESAC reviewed the status of the University's energy savings efforts with Facilities Services. Facilities Services has implemented several energy savings programs in recent years, and continues to undertake new energy saving initiatives. Approximately half of the campus energy consumption is attributed to heating provided by the central power plant, and the other half is attributed to electricity used for lighting, equipment operation, and air conditioning of buildings. The central power plant converted from coal to natural gas in 1988.

The Campus operates under an Air Operating Permit from Puget Sound Clean Air Authority and it has shown reductions in air emissions since 1994. A number of conservation programs have been implemented, but energy demand and costs continue to increase as: 1) research activities increase and 2) the use of electronic and other energy using equipment increases. Reductions both in the use of electricity and in the use of steam for heating the campus have the potential of reducing or avoiding costs. Facilities Services has a project underway to install building meters in those buildings that do not presently have meters that will enable Facilities Services to monitor electricity usage and identify opportunities for reducing consumption. Additional pilot projects on the use of solar voltaic systems are underway at Merrill Hall and Mechanical Engineering.

The fleet of 610 vehicles (that is managed by Motor Pool) represents another source of energy consumption at the University. This fleet includes 17 hybrid vehicles. Motor Pool has a focus on environmental stewardship and has received two awards for environmental excellence. A major current strategy includes retrofitting a Motor Pool tank to accept bio-diesel fuel and then to begin to use it in vehicles that presently use diesel fuel. Facilities Services has prepared a paper on its Alternative Fuels and Bio-diesel Strategy and plans to begin the retrofit in 2006.

Mike Richardson, from Puget Sound Energy, is an expert on alternative energy options for universities and college campuses in Washington State. He presented to ESAC energy options and alternatives for consideration for implementation at the University. Two examples of energy alternatives he presented include:

- Western University students voted to create either an energy fee, or to tax themselves a specific amount to cover the cost of using green energy on campus, and
- A student initiated effort at Evergreen College supported increasing costs of \$1/credit hour to raise money, most of which (90%) would go to paying for green power, and the rest would go to support a program aimed at supporting project funding.

The University (Facilities Services) is presently working with Seattle City Light to determine how the UW Seattle Campus can achieve 100% green power relative to the purchase of electricity for the Seattle Campus. Facilities Services also plans to explore opportunities for utilizing renewable resources to offset some of the fossil fuel sources currently used.

Aaron Best, a Graduate Student in the Daniel J. Evans School of Public Affairs, provided ESAC with an overview of his thesis on life cycle cost issues and institutional barriers to fully implementing sustainability efforts. A key issue he encountered was the institutional budgeting practice of separating capital and operational dollars, a barrier to sustainability previously mentioned in this report. He noted that students in some institutions had been willing to tax themselves for clean energy use, pointing out the powerful allies students can be in environmental stewardship (as witnessed by the UW in the 1970s when the first recycling efforts were started by students).

Key Finding

There are several opportunities to explore alternative energy options for the University in more depth. The role models provided by Puget Sound Energy and other universities in the region are worth further consideration.

ESAC will continue to study these options including but not limited to:

- 1) Leadership in Energy and Environmental Design (LEED),
- 2) student competition for reduced energy consumption programs, and
- 3) alternative energy options.

Solid Waste Management on the Seattle Campus

Property and Transport Services reviewed the solid waste management program and efforts at the Seattle Campus with ESAC.

ESAC learned that recycling is a significant aspect of the comprehensive solid waste management program of Property and Transport Services. This is the unit that oversees the municipal solid waste disposal for the Seattle Campus (including self-sustaining operations) and consults with the other UW campus locations. This began with student actions in the 1970's, but gained additional focus with the 1989 state legislation, "Waste Not Washington Act", that required both waste reduction and recycling.

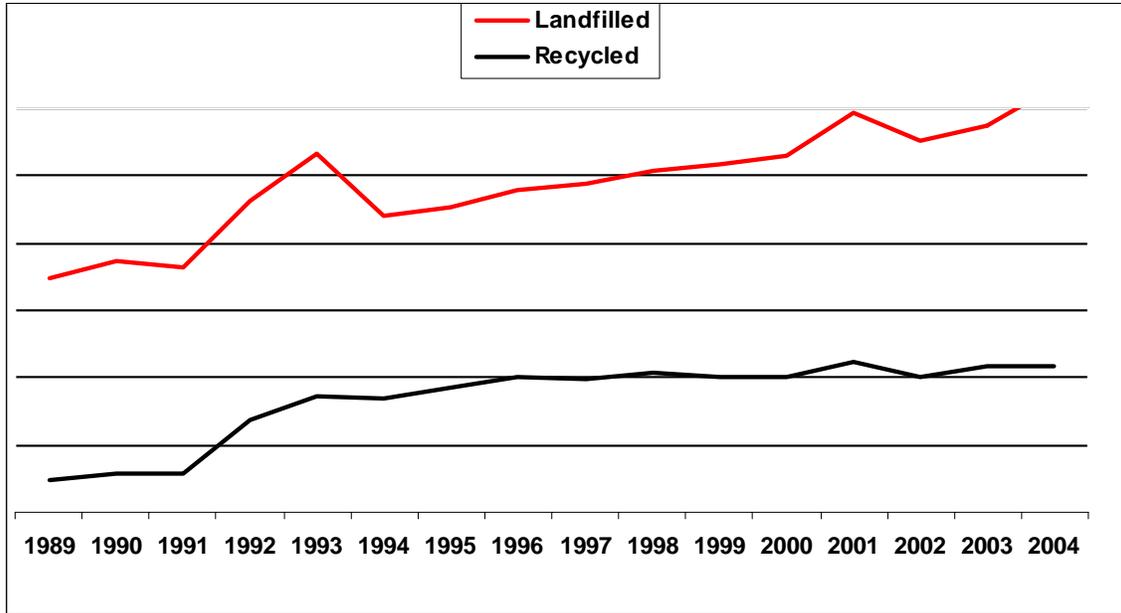
While paper is a major waste stream, UW Recycling also oversees the recycling of an extensive list of recyclables including fluorescent tubes, antifreeze, asphalt, books, glass, cardboard, and "e-waste". However, **the total amount of garbage has increased and the amount of recycled waste has remained the same or increased slightly during the last few years.** Therefore, the total percentage of waste recycled has remained roughly the same or slightly decreased (38% to 34%) in the last few years.

Some of the percentage decrease in recycled waste(s) can be attributed to: 1) increased UW population, 2) increased building square footage, and 3) increased utilization of UW facilities. The percentages of recycled wastes could be normalized with the increase in the University's population to determine the true relation between the increase and/or the decrease in the volumes of solid waste that are recycled by the University.

Other strategic efforts that Property and Transport Services are pursuing to reduce solid waste and increase recycled wastes include:

- The UW has partnered with the City to educate the campus community regarding its Paper Ban legislation. The City of Seattle legislation has set a city wide goal that states that 60% of all waste be recycled. It further mandates that all paper, including cardboard, be recycled.
- UW Recycling conducted a building to building distribution of desk side paper recycling containers to encourage compliance with the paper ban legislation.
- A comprehensive food waste recycling project was launched to capture an additional recyclable portion of the waste stream. These trends are illustrated in the following graphs provided by Property and Transport Services.

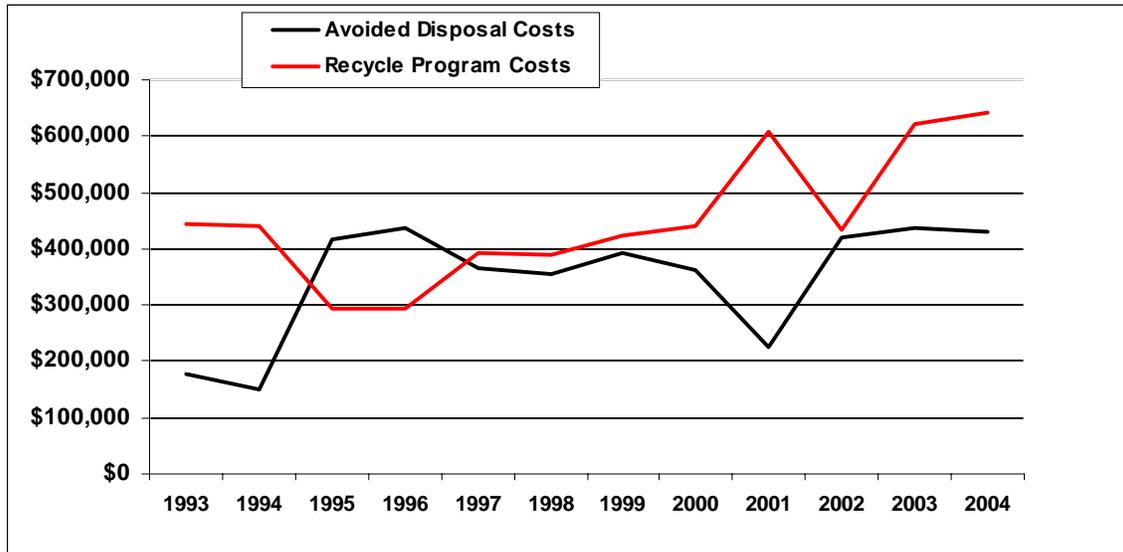
Figure 2: Trends in
Land-filled Tons – Versus - Recycled Tons
UW, 1989 – 2004



Year	Landfilled Tons	Recycled Tons	Percent Recycled
1989	5994	935	13.49%
1990	6321	1141	15.29%
1991	6120	1158	15.91%
1992	6530	2734	29.51%
1993	7228	3440	32.25%
1994	5456	3384	38.28%
1995	5366	3691	40.75%
1996	5561	4010	41.90%
1997	5800	3941	40.46%
1998	5978	4157	41.02%
1999	6314	4047	39.06%
2000	6610	4005	37.73%
2001	7404	4499	37.80%
2002	7033	* 4034	36.45%
2003	7130	* 4353	37.91%
2004	8296	4369	34.50%

- Land-filled tonnage does not include the tonnage of biomedical wastes generated for disposal, since it cannot be land-filled.

Figure 3: Trends in
 Avoided Disposal Cost – Versus - Recycle Program Cost
 1993 - 2004



Year	Avoided Disposal Cost	Recycled Program Cost
1993	\$178,880	\$444,847
1994	\$148,896	\$438,928
1995	\$417,083	\$294,414
1996	\$438,248	\$295,092
1997	\$364,262	\$392,318
1998	\$353,541	\$388,857
1999	\$391,640	\$422,832
2000	\$361,545	\$441,983
2001	\$226,739	\$607,966
2002	\$418,397	\$432,976
2003	\$436,337	\$622,809
2004	\$430,289	\$643,547

Hazardous Waste Management and Pollution Prevention

The hazardous waste and pollution prevention programs in place at the University were reviewed with ESAC by the Environmental Health and Safety's (EH&S) Environmental Programs Office (EPO).

EPO handles hazardous waste management and the related Pollution Prevention Program. The Pollution Prevention Program has targeted hazardous waste reuse and recycling for over a decade. Currently, 40 to 45% of hazardous waste is reused, recycled or treated annually. The Pollution Prevention Program has a staff of three (3) FTEs and saves a significant amount of money each year by cost avoidance of hazardous waste disposal. The University has been recognized in the State of Washington as a leader in implementing treatment and recycling hazardous waste. In addition, EH&S is involved in a nationwide program to develop sustainability indicators for colleges and universities through the Campus Consortium for Environmental Excellence. This effort provides some important performance measures for the UW and will keep the University's data collection consistent with other institutions and relevant to EPA work in this area.

EH&S has received two awards for its pollution prevention efforts, the Environmental Achievement Award from the Waste Information Network, for innovation in Pollution Prevention, 2003, and the Governor's Award for Outstanding Achievement in Pollution Prevention, 1996.

Key Finding

The University has taken a comprehensive approach to managing its solid and hazardous wastes. Significant programs in waste minimization and waste management have been incorporated into standard business practices for over a decade.

The University is expanding at a rate that presents a great challenge for Property and Transport Services to keep up with its current goals for recycling.

As the University continues to expand and its population increases, increased efforts and resources should be provided to maintain the current volumes of solid waste that are recycled, and to allow additional resources to meet the City of Seattle's recycling mandates.

There is ample opportunity to increase the University's emphasis on waste reduction and waste recycling. This is an area ESAC will explore more fully in the next year(s).

Environmental Management Systems

The Environmental Protection Agency has a significant effort underway (often linked as an alternative compliance effort) to encourage higher education institutions to develop and implement Environmental Management Systems (EMS). An EMS provides a systematic approach to improving environmental performance. It is a process for planning and managing the environmental impacts of an institution based on continual improvement. It provides a structure for identifying environmental and sustainability issues, developing gap analyses, establishing/reviewing policies, goals, performance measures, and management review. Institutions such as Washington State University, MIT, and others have already begun this process.

Key Finding

The development of such a system at the University makes good sense. ESAC supports the charge given to the Environmental Stewardship Coordinator to gradually develop such a framework so that the UW will maintain and enhance its leadership role in this national effort.

Academic Opportunities

ESAC had several discussions that involved potential student research projects, and the ESAC chair held meetings with the Program on the Environment (PoE, the academic program which first encouraged the environmental policy development for the University) to explore possible links with ESAC and the development of capstone projects for degree-seeking students.

Key Finding

There are many opportunities for student research and projects in environmental stewardship and sustainability. A portion of the ESAC work in the future is to establish a mechanism that links students and units needing research or project work.

Other Issues Reviewed

Legislation Endorsement Requests

ESAC was asked by an ESAC member to consider a recommendation that the University sign the Talloires Declaration (for more information about the Declaration, see <http://www.iisd.org/educate/declare.html>).

It was also asked to consider supporting the pending legislation that was proposed in the 2005 Legislative Session regarding mandates for LEED silver certification for construction of public buildings. Information on both these issues was presented to ESAC by members or other expert representatives.

Key Finding

The University has an established process and procedure for legislative input. Since ESAC is advisory to the EVP and Provost, it is not expected to take positions regarding pending legislation, unless requested to do so. For example, the University did support the “Green Building” legislation, with a modification that excluded laboratory facilities.

It was determined that the University was doing most of the items noted in the statement of commitment found in the Talloires Declaration, but since little was known about the benefits and political aspects of the Declaration, ESAC refrained from making any recommendations regarding signing the document at this time.

Budget Requests

The committee received a request to pay for an ongoing \$1500 membership in Education for Sustainability: Western Network, a group with whom several members of the University community are active.

Key Finding

The \$1000 annual operating budget of the committee is only intended to provide operating dollars for the committee itself and is insufficient to be used for University memberships. (An appropriate alternative was found when several operating units within the University shared the cost for membership).

Recommendations for Provost and EVP Action

After review of the current actions and programs of the University, ESAC recommends the following actions to: 1) increase the visibility of the University's commitment to environmental stewardship and 2) emphasize the high level of value the University places on environmental stewardship and sustainability. The ESAC members and appropriate administrative and academic units are willing to provide more substantive development of the recommendations when the recommendations are accepted by the Administration.

- Broaden the University's commitment to the principles of environmental stewardship by incorporating the University's stewardship commitment into all new student/employee orientations and in University leadership training.
- Highlight accomplishments of the University of Washington and share goals and challenges by supporting development of an Environmental Stewardship website and a complimentary media strategy.
- Further scholarship in the area by establishing a competitive Presidential Environmental Stewardship Fellowship(s) and encouraging development of undergraduate and graduate coursework on campus environmental stewardship.
- Enhance problem solving by providing support for students to engage in environmental stewardship projects.
- Recognize accomplishments by establishing an annual "Excellence in Environmental Stewardship Award" to be given as part of the annual recognition ceremony for faculty and staff, when deemed appropriate.
- Recognize outstanding operational units by extending personal congratulations to recipients of prestigious environmental awards. For example, in 2005:
 - The UW Motor Pool received a 5-star rating, and Eco-Star Award;
 - The UW Medical Center received the Governors' Pollution Prevention Award.
- Establish the University's leadership position in environmental stewardship by providing the staffing and fiscal support needed to propel environmental stewardship to the next level and to sponsor a national conference on University Environmental Stewardship for other national university and college administrators.

Future Actions

These are the ESAC future actions to move environmental stewardship forward at the UW.

- ESAC concurred that the development of an environmental management system was an appropriate strategy to pursue over the long-term. Environmental Management Systems are being established by the Environmental Protection Agency, and other institutions, such as Cornell, Harvard and MIT. This will be a focused effort of the Environmental Stewardship Coordinator, who also supports the ESAC activities.
- The Committee agreed to develop recommendations to the EVP and Provost on goals, objectives, time-lines and specific performance measures. The development of these recommendations for specific targeted areas will become the basis of work for ESAC in its first full year of operation. In the coming academic year, subcommittees will be formed to consider policy review, gap analyses and management review in targeted areas considering campus resources, operations, and emissions. The anticipated topics for the subcommittee work are: 1) Waste Management with a focus on recycling and 2) Energy Consumption/Conservation.
- The identification of potential student/academic projects will be developed, including possibilities for students in all academic programs.
- Informational presentations will be provided to ESAC members who have requested more information regarding several environmental stewardship/management areas, such as: clean energy; opportunities to monitor and/or audit water; solid waste recycling improvements; wetlands; the economic aspects of sustainability/life cycle costs; student projects in urban planning; UW sustainability efforts in Publications Services; potential use of bio-fuels/motor pool efforts; water issues being faced; waste issues; general environmental hazards; indoor and outdoor air quality; and purchasing policies.
- A visit to Merrill Hall to see a LEED building is also being considered.
- Reports from the various environmental committees on campus will be sought to continue the compilation of environmental actions and programs currently in place at the University.

Attachments

Attachment A

UW Environmental Stewardship Policy Statement

The University of Washington has established a commitment to environmental stewardship, setting the bar well above merely complying with laws and standards. The university is committed to being a positive force for enhancement of the environment, not just in research but in how it manages facilities and resources.

Environmental Stewardship at the University of Washington

Thursday, July 29, 2004

as the pre-eminent research university in Washington, the Evergreen State, the UW and its faculty, staff, and students recognize that we share a responsibility to act as a positive force for the enhancement of the local and global environment. The University of Washington embraces its important leadership role regionally and nationally to be an environmentally, economically, and socially responsible institution. The University is committed to practicing and promoting environmental stewardship while conducting its teaching, research, and service missions as well as its facility operations in all of its locations. Recognizing that this is fundamental to ensure a legacy for the future and to protect the healthy and safe learning and working environments valued by the UW, the institution and all members of the University community support actions, decisions, and leadership that will:

- Provide educational opportunities to the campus communities on sound environmental practices.
- Create intellectual resources which can be used to achieve goals for sustainability for this and future generations.
- Create partnerships at all levels within and outside the University that further the practice of environmental stewardship and sustainability.

Through its landholdings and operations on three campuses and several other locations, the scale and scope of the University's activities have the potential to significantly affect the environment. Ranging from working on a reclaimed landfill site to long-term monitoring of intertidal wetlands to upland temperate forests to fully built office high-rises in downtown Seattle, the present activities of the University are widespread and are of local and regional significance. By exercising effective management over its activities, the University will promote the sustainable use of its resources, seek to minimize risks to and negative impacts on the environment, and underscore our commitment to protect human health and the environment. Such effective management is exercised through the application of the following expectations:

- The University requires all activities to meet or exceed conformance with applicable environmental standards, regulations, and guidelines.
- Teaching, research, and service activities are conducted in a manner that seek to minimize negative impacts on the environment and promote sound environmental practice.
- Operations reduce resource consumption to the maximum degree feasible.
- Environmental stewardship and sustainability opportunities are promoted in land use, development, and construction practices.
- Environmental concerns are incorporated as a significant priority in University decision-making.

The University further recognizes that support and implementation of these core expectations does and will take many different forms. Specific guidance and suggestions for the University community are available on the following websites:

<http://www.ehs.washington.edu/>

<http://depts.washington.edu/poeweb/resources/sustainability.html>

To measure University progress towards each of these expectations, the Provost and the Executive Vice President (EVP) have established the University of Washington Environmental Stewardship Advisory Committee. This Committee will draw its membership from the faculty, staff, and students of the three campuses and be selected to provide the necessary operational and intellectual breadth so the Committee can:

- Advise the Provost and EVP on the progress towards each of the expectation areas noted above.
- Develop, in collaboration with appropriate university units, benchmark measures of efficiency, cost-effectiveness, and the impact of activities in these areas.
- Identify long-term goals and standards by which the UW community can examine its effectiveness and short-term progress towards agreed-upon goals as well as timelines for evaluation of progress.
- Identify emerging opportunities for collaboration between academic programs and operational interests.
- Identify mechanisms by which the UW community, through collaborative efforts across academic and service units, can be made aware of the progress being made throughout the institution.
- Interact with and receive information from existing environmental stewardship committees/activities throughout the University, including the University SEPA committee, the Montlake Landfill Oversight Committee, the Solid Waste Advisory Committee, and relevant academic units.
- Report annually to the Provost and EVP as well as to the University community on activities and accomplishments.

To increase the committee's efficiency and effectiveness, initial staff support will be provided for up to three years. The staff member will help coordinate committee activities, carry out specific tasks assigned by the committee, and maintain relationships with appropriate offices and interests. It is expected that after the initial three years, the staff position will be sustained by the financial benefits of this effort, indicating that environmental stewardship can result in economic and as well as environmental and societal benefits.

Attachment B
ESAC Meeting Schedule 2004 – 2005

Month	Day	Year
December	6	2004
February	10	2005
March	18	2005
April	28	2005
May	26	2005
June	23	2005

Attachment C

ESAC – Committee Ground Rules

The Committee Contact

1. Point of contact for the committee will be Chair Archibald.

Agenda

2. A draft agenda is set by Chair Archibald and distributed to committee members one week before the meeting.
3. Committee members will inform Chair Archibald if they have items to include on the agenda.
4. Individuals or groups external to the committee can request time on the agenda to make request or presentations from Chair Archibald.
 - The committee may endorse and/or advise the sponsors regarding the issue.

Meetings

5. The committee will meet once a month through June 2005, then reevaluate.
6. Standard days and times for committee meeting will be set once a quarter in order to accommodate class schedules.
7. Meeting will be set for 2 hours and will start and end on time.
8. Meetings are open to observers
 - Observers will sign in and will not speak unless they are invited to do so by the Chair or have been placed on the agenda.
9. The Environmental Stewardship Coordinator, EH&S, will record and maintain draft general summary notes which will be e-mailed to members following each meeting for feedback.
 - The final summary notes will be posed on the committee website.

Communication

10. Always show respect and courtesy to others
 - One person speaks at a time; be recognized by Chair before speaking.
 - Seek first to understand, then to be understood.
 - Stay focused on the task at hand; decide together before moving on.
11. The Chair has authority and responsibility to limit comments for the sake of moving the discussion forward.
12. Discussions can be tabled when necessary.

Decision Making

13. Previous decisions will not be reopened for the benefit of a member who was not present when the matter was discussed and decided.
14. A quorum is defined as two-thirds of the ESAC membership. If a quorum is not present, discussion may continue, but no substantive votes will be taken.
15. For substantive decisions, the ESAC will work to share information and build consensus to the extent possible within the time allotted.
 - "Consensus" is defined as all members can either support the decision, or "live with" the decision, even if it's not their first choice.
 - If consensus is not achieved within the time allotted, decisions will be made by two-thirds majority of the total committee membership, composed of members favoring a proposal and members who agree to "live with" the proposal.

16. For procedural decisions, decisions will be made by a simple majority (50% + 1 vote).
17. The ESAC may vote to delay a decision in order to allow members to consult with campus partners. A vote to delay a decision would be a procedural vote.
18. After the discussion of substantive decisions, there will be a delay for members to consult with their constituents, voting may then proceed by e-mail or be done at the next committee meeting.

Participation

19. Regular attendance by each member is vital to the positive outcome of the ESAC.
 - For continued membership, committee members must attend one meeting per quarter.
 - If members cannot attend a meeting, they will notify committee coordinator in advance.
 - Excused absence can be granted by Chair Archibald.
 - Proxies can attend with the approval of Chair Archibald and the represented group.
20. Members come prepared.
21. Member Replacement
 - Replacement of students will take place at the end of each school year.
 - Decisions regarding replacement of other members will be made by the Provost and EVP.

Resources

22. The committee will seek assistance from individuals and units who have information they need. If necessary they will ask for assistance from the committee sponsors to access information.
23. Requests for assistance from the committee coordinator will be made through Karen VanDusen.

Structure

24. Subcommittees will be established as needed and will be multi-disciplinary.
25. Subcommittees will seek necessary expertise from people external to the committee, who will not become subcommittee members.

Goals and Outcomes

26. The committee will provide an Annual report of performance outcomes/recommendations to the EVP and Provost
27. The committee will go through a process to establish target topics, goals, performance expectations for each year
28. Committee Recommendations will be forwarded to the EVP and Provost after adoption.

Attachment D ESAC Costs

Cash Flow	2004						2005						Cash Remaining
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
Annual Budget						\$ 1,000	\$ 1,000	\$ 1,000	\$ 650	\$ 582	\$ 582	\$ 582	\$ (110)
Expenses													
Materials Preparation *												\$ 200	
Room & Equipment Rental						\$	\$ -	\$	\$ 30	\$ -	\$ -	\$ 42	
Facilitation - UW Training & Development									\$ 350.			\$ 450	
Publications													
Advertising									\$ 38				
Speakers													
Cash Balance						\$ 1,000	\$ 1,000	\$ 650	\$ 582	\$ 582.	\$ 582.00	\$(110)	\$ (110) *
* Absorbed by EH&S													

Attachment E

Examples of UW Environmental Stewardship Successes

Current Practices

The UW Master Plan

The University of Washington Campus Master Plan—Seattle Campus 2003 guides campus development. The Campus Master Plan states that sustainable building is an integrated framework of design, construction, operations and demolition practices that encompass the environmental, economic and social impacts of buildings. It goes on to describe sustainable design is that which includes efficient management of energy and water resources, management of materials and waste, protection of health and indoor environmental quality, protection of the environment and reinforcement of natural systems and an integrated design approach. In support of sustainability, the following efforts by the UW put the master plan into action.

Academic Programs

Program on the Environment

The Program on the Environment (PoE) was established in 1997 to foster and promote interdisciplinary environmental education at the University of Washington. PoE offers an undergraduate degree in Environmental Studies, a Minor in Environmental Studies, and two graduate certificate programs. In addition, PoE serves as a focal point for information exchange on environmental education and research opportunities at UW.

PoE's programs provide students knowledge in four domains of inquiry: natural sciences; social sciences; law, policy, and management; and ethics, values, and culture. PoE merges these fields through rigorous coursework and hands-on learning within the community to provide a unique opportunity for students and faculty to explore complex environmental issues from multiple perspectives.

As a focal point of environmental studies at UW, the Program on the Environment is well positioned to bring “campus” and “community” together and to educate future environmental leaders.

UW Earth Initiative

The University of Washington Earth Initiative (UWEI) is a transformational initiative that encourages innovative partnerships to address environmental and natural resource challenges. By focusing on problem-specific environmental issues in the Pacific Northwest and beyond, UWEI brings together faculty, students, and community partners to create collaborative research, teaching and scholarship. The UW programs in natural resources and the environment are extensive, broad in scope, and of very high quality. The UW is committed, however, to becoming more than the sum of our parts. UWEI builds upon existing programs within the university and upon relationships with external partners to capitalize on unique opportunities where the UW has underutilized potential. UWEI offers a new model for faculty and students to collaborate on some of our region's and our nation's most critical issues. UWEI can make a difference by combining scholars from the environmental sciences and a host of other disciplines: computer science, public health, engineering, and business to name just a few. It creates the knowledge and encourages the flow and transfer of information that will result in potential solutions to some of society's great challenges.

Administrative Offices

Facilities Services

1. Natural Gas and Electrical Conservation

- Signed agreement with Seattle City Light for and installed solar array projects at Merrill Hall and the Mechanical Engineering Building; displayed educational signage in connection with the installations.
- Retrofitted lighting in University buildings to yield important energy efficiency - one incandescent lamp replaced with a fluorescent lamp avoids the production of 3/4 of a ton of carbon dioxide and 15 pounds of sulfur dioxide over the lifetime of the lamp.
- Conducted occupancy sensor pilot program in the Art Building to determine optimum design, product and installation information.
- Installed LEC (light emitting capacitors) exit lights at numerous University facilities; the LEC panels use only 1/4 watt of electricity compared to incandescent, fluorescent or LED lighting, and are maintenance-free.
- Lowered heating thermostats in most buildings to 68 degrees (except patient care areas or vivariums).
- Lowered water heating thermostats in campus buildings.
- Minimized production of steam at the Power Plant during Spring, Summer, and Fall.
- Minimized redundant systems in the Power Plant during Spring, Summer, and Fall.
- Raised cooling thermostats in most air conditioned buildings to 78 degrees.
- De-activated light fixtures in campus buildings.

- Adjusted building ventilation systems to operate at lower speeds.
- Adjusted building chillers, sterilizers and air compressors in the UW Medical Center.
- Installing "Vending Miser" devices on vending machines and de-activating lighting from vending machines (reduces consumption by 40%).
- Operating Husky Stadium lighting at 25% of capacity.
- Adjusted Allen/Suzzallo Library lighting shutdown hours.
- Adjusted voltage taps on substation transformers.
- Installed Conserve Energy placards over light switches in common areas and classrooms in major campus buildings.
- Monitoring energy consumption, utility costs and energy conservation information and communicating with the campus on same.
- Established Energy Conservation Team to review conservation measures and develop projects to conserve; exchange ideas; communicate with campus.
- Alerted Housing and Food Service residents and staff of energy costs and conservation steps to reduce consumption.
- Published "Guidelines to Follow" to save energy for UW Medical Center staff and faculty.
- Requested all UW leased facilities conserve.
- Continuing efforts under a long-term partnership with Seattle City Light (SCL) to identify cost effective conservation measures that result in SCL rebates; typical projects included:
 1. Occupancy Sensors in Art, Loew, Kincaid and Thompson Halls as a pilot project.
 2. Lighting Control System in West Campus Garage.
 3. Lighting Control System in Central Plaza Garage.
 4. Variable Speed Drives on supply and return fans.
 5. Compressed Air Booster Pump in Power Plant.

2. Water Conservation

- Replaced 1500 older toilets for a projected savings of approximately 30 million gallons of water annually.
- Installed over 100 waterless urinals for a projected savings of approximately 40 million gallons of water annually.
- Retrofitted sterilizers in the Health Sciences facilities with water saving devices, saving 26 million gallons of water per year.
- Computerized campus irrigation systems and installed flow sensors to monitor use.
- Eliminated daytime landscape watering.
- Installed low flow showerheads in residence halls.
- Reduced power washing of building and surfaces to remove graffiti and slippery material only.
- Curtailed car washing at the Motor Pool.
- Removed and replaced single-pass-chillers.
- Replaced two water-cooled compressors with air-cooled units in McCarty Hall.
- Replaced two vacuum producers in Health Sciences I-Wing saving approximately 26 million gallons of water annually.

- Continuing informal partnership with Seattle Public Utilities (SPU) to jointly audit water usage in campus buildings to develop water conservation projects that will result in SPU rebates; typical projects include:
 1. Replaced BB Tower Cooling Tower
 2. Replaced T-Wing Cooling Tower
 3. Johnson Hall Electronic Microscope Cooling
 4. Replaced Gerberding Hall Cooling Tower
 5. Replaced Quaternary Research/Johnson Hall Cooling Tower

3. Motor Pool

Mercury Switch Removal: In order to prevent mercury found in motor vehicles from reaching ground water sources, King County Metro and Motor Pool Operations have partnered in a program to remove mercury switches from all Motor Pool vehicles as they are readied for surplus.

Sensible Vehicle Purchases: Many of the vehicles currently in the UW vehicle fleet are "flex fuel" vehicles or "hybrid" vehicles. The flex fuel vehicles are capable of using E85, meaning the vehicle can use either ethanol or gasoline for fuel. Vehicles in the UW fleet with this capability include the Ford Taurus, Dodge Caravan, Chevrolet Sonoma Pickup Truck, Ford Ranger Pickup Truck, 2004 Chevrolet Suburbans, Chevrolet Tahoe, and Chevrolet Silverado Pickup Truck.

In addition to flex fuel vehicles, the Toyota Prius hybrid vehicle is available for rent as a compact car. You may also see some electric vehicles on campus, most notably the Bombardier and Taylor Dunn Electruck. These are a "Neighborhood Electric Vehicles (NEVs)" completely powered by electricity.

4. Property and Transport Services

Routine Solid Waste Recycling: One of the easiest and most effective ways the UW departments such as Motor Pool meets its challenge of building a sustainable operation is implementing its recycling program by:

- Making double-sided copies
- Communicating electronically
- Reusing office supplies such as file folders/envelopes
- Getting off unwanted mailing lists
- Repairing vs. replacing equipment
- Using rechargeable batteries
- Providing recycling containers such as glass, aluminum, plastic, cardboard
- Purchasing recycled products
- Setting up materials reuse/exchange station
- Preventing vehicle wash-water with soaps or detergents from entering a storm drain.

U – PASS. A commuting program that promotes the use of mass transportation, carpooling, vanpooling and alternative transportation for students, faculty and staff. It is a comprehensive program that not only supports but rewards efforts towards alternative commuting selections.

University of Washington Medical Center

1. Waste Reduction

Through Process Modification(s), the UW Medical Center achieved hazardous waste disposal cost avoidance by \$250,000 per year and reduced supply costs by \$37,000 per year.

2. Beneficial Reuse

The UW Medical Center reduced the volume of hazardous waste disposed of off-site by recycling used xylene onsite and reusing it.

Approximately 6,000 pounds of unused medical supplies are donated to charities each year.

3. Recycling

The UW Medical Center has achieved a \$100,000 savings by recycling confidential information while ensuring compliance regarding patient information and confidentiality.

Capital Projects Office (CPO)

1. Sustainable Construction and Resource Conservation

CPO has project managers and associate construction managers who have passed the United States Green Building Council (USGBC) examination and are LEED accredited professionals. CPO offers University staff and clients training on many aspects of sustainable construction, including LEED training. The UW has over 30 LEED accredited professionals on staff.

Awards

UW Earth Initiative

2004 Edward T. Laroe Memorial Award

Jerry Franklin

The Society for Conservation Biology awarded Franklin this honor for excellence in translating principles of conservation biology into real-world conservation.

2004 John Rieger Award

Kern Ewing and Warren Gold, Ecosystems

This award acknowledges the Society for Ecological Restoration's debt to those who have dedicated their time and skills to the advancement of ecological restoration and/or to the development of the Society.

2004 Carl R. Sullivan Fishery Conservation Award

Jim Karr

The award is presented annually to an individual or organization for outstanding contributions to the conservation of fishery resources through political, legal, educational, scientific, and managerial successes.

2004 Conservation Project Award

The Rare Plant Care and Conservation Program (Rare Care)

Rare Care was awarded because of its innovative programs that train and manage 134 volunteers to monitor 266 rare plant populations, collect and safely conserve seed of rare plants, and promote conservation education.

2003 National Academy of Sciences (37th Inductee)

Jody Deming, Oceanography

Deming studies the tiny organisms that manage to survive under both the frigid conditions deep within the Arctic icepack and in the 700 degree F temperatures of hydrothermal vents.

2003 National Academy of Sciences (38th Inductee)

Edward Miles, Marine Policy

Miles formed the Climate Impacts Group that strives to help businesses, agencies, and other organizations incorporate planning for global climate change into their agendas.

2003 Medwin Prize in Acoustical Oceanography

Jeffrey A. Nystuen

Nystuen is receiving the Prize for the development and effective use of measurements of underwater sound generated by rain to determine rainfall rate and type at sea.

**2003 Architecture Firm Award from the American Institute of Architects (AIA)
The Miller/Hull Partnership**

UW Professor, David Miller FAIA, is founder and partner of Miller/Hull. Their design work has been described as "regional modernism"--the firm practices within a modern idiom while responding to site, climate, and ecological concerns.

Administrative Awards

**2005 Business for an Environmentally Sustainable Tomorrow BEST AWARD for
Honorable mention in Energy Conservation**

Facilities Services

2005 Governor's Award for Pollution Prevention

University of Washington Medical Center

**2005 Mayor of Seattle's Award sponsored by Business for an Environmentally
Sustainable Tomorrow (BEST) for Environmental Leadership.**

Capital Projects Office. This is the highest award offered by this organization.

2004 Governor's Award for Pollution Prevention and Sustainable Practices

Motor Pool

2004 Washington State Recycling Association "Recycler of the Year".

Motor Pool

2004 EnviroStars: 5-Star Rating

Motor Pool

2003 EnviroStars:4-Star Rating

Motor Pool

1994, 1996, 1999 Recycling Angel Award

Motor Pool

2003 Environmental Achievement Award by the Waste Information Network

Environmental Programs Office, Environmental Health and Safety for innovation in Pollution Prevention.

**1996 Governor's Award by the Governor of Washington State for Outstanding
Achievement in Pollution Prevention**

Environmental Programs Office, Environmental Health and Safety.