A Message from President Berkey

As the President’s Task Force on Sustainability enters its fourth year of existence, the number and depth of sustainability practices across WPI continue to grow. This report documents WPI’s accomplishments over the past year and identifies specific areas for further work. From student-led recycling initiatives, to the design and construction of our new buildings, to the structure and content of our academic programs, to our interactions with the Worcester community and with the world at large, WPI maintains a steadfast commitment to sustainability in all of our endeavors.

The results from these efforts have been significant by several measures. WPI is increasingly identified externally for its commitment to sustainability, with recent recognition from organizations such as the Sierra Club and the Sustainable Endowments Institute. Over the next several years WPI will be building upon our historic strengths in the energy arena to enhance our contributions to this fundamental resource that is central to all aspects of sustainability.

These Annual Reports are creating a public record documenting WPI’s accomplishments in the important areas of energy use, water consumption, waste generation, and recycling. They also document our educational and scholarly accomplishments across the breadth of environmental protection, economic impacts, and social justice.

I am pleased to share with you this impressive evidence of the commitment of all aspects of the WPI community to assuring a sustainable future for our community, our nation, and the world.

Dennis Berkey, President
Sustainability Reporting

Sustainability at WPI
Since its establishment in 2007, the President’s Task Force on Sustainability has coordinated WPI's campus-wide efforts to assure the long-term sustainability of WPI's academic, research, and facilities-related activities in support of our educational mission. The Task Force has also endeavored to lead the campus community toward a broader understanding of the meaning of sustainability, both on campus and across the globe.

The Task Force accepts and endorses the broad definition of sustainability as an integrated, three-part approach for achieving the goals of environmental preservation, economic prosperity, and social equity for all members of society. Through our learning, research, service, administrative, and facilities operations, WPI is proudly engaged in each of these critical and overlapping areas. WPI is, first of all, a community, and the Task Force actively seeks to assist that community in producing innovative ideas and practical solutions to the complex problems associated with each part of the sustainability puzzle.

For more information about the Task Force and sustainability at WPI, please visit:
www.wpi.edu/sustainability

This Report
This Sustainability Report addresses Academic and Fiscal Year 2010-2011 and represents WPI's second annual such report. To track progress, indicator data are chosen to represent the university’s performance in specific areas such as energy use and water use. As WPI’s efforts in the sustainability efforts continue to grow, additional indicators will be added and tracked. By presenting information in the form of a series of quantitative indicators, the institution can visualize the data and trends, and make appropriate operational and policy decisions. By presenting the accomplishments that have been made and highlighting areas in need of improvement, this report will help to direct further efforts toward sustainability at WPI.

Not all activities can be quantified or illustrated in graphical form, but these results are also important, and are summarized here. This report focuses primarily on three major areas: academics, operations, and community engagement. The Academics section examines the role of sustainability education and research at WPI. The Operations section deals with physical data for the campus such as energy and water use. The Community section examines WPI’s impact on its local and global communities. This section includes two indicators: reported community service by students and donations to charitable organizations.

This report was drafted by Robert Monteith, edited by Kathryn Roosa, and revised by the President’s Task Force on Sustainability.
Academics

Academic activities are the heart of WPI, and span the range from first year courses, to student project work around the globe to advanced graduate courses, to leading-edge research. Further, sustainability innovations such as the green roof on East Hall and the energy saving features of the new Recreation Center are integrated into academic activities, particularly in the Civil and Environmental Engineering programs. This section illustrates how WPI’s philosophy of theory and practice are put to use in the sustainability arena. Only new sustainability activities are reported here; space does not permit a comprehensive listing of all of WPI’s sustainability-related courses, projects, and research programs.

WPI’s Mission

“WPI educates talented men and women in engineering, science, management, and humanities in preparation for careers of professional practice, civic contribution, and leadership, facilitated by active lifelong learning. This educational process is true to the founders' directive to create, to discover, and to convey knowledge at the frontiers of academic inquiry for the betterment of society. Knowledge is created and discovered in the scholarly activities of faculty and students ranging across educational methodology, professional practice, and basic research. Knowledge is conveyed through scholarly publication and instruction.”
Projects and Research

Theory and Practice
At WPI we implement our motto “Lehr und Kunst” (translated from the German as “Theory and Practice”) with an innovative and rigorous project-based curriculum. Two required projects, the Interactive Qualifying Project (IQP) and the Major Qualifying Project (MQP), not only teach students how to develop effective team dynamics, but also to solve real problems that the world is facing today. The IQP, which focuses on the impact of technology on people, is particularly suited to address the multiple facets of many sustainability issues. With the recent addition of the Great Problems Seminars for first year students that focus on problems such as world hunger and alternative energy, WPI students are engaged in learning about and addressing real-world problems throughout their undergraduate careers.

IQPs allow students to apply their knowledge to technical and societal problems around the world through the Global Perspective Program with sustainability-focused project centers located in Namibia, Puerto Rico, South Africa, Costa Rica, and Worcester.

Making a Difference
Each year, five IQPs that exemplify the goals of the program in their focus on the relation between science, technology, and societal needs are nominated for the WPI President’s IQP award. This past year, two sustainability-focused IQPs were recognized:

- **Evaluating ‘Business Opportunities with Solar Energy in Un-Electrified Areas’ in Namibia.** Students: Heidi Robertson, John-Andrew Sandbrook, and Chelsea Sheehan; Advisors: R. Ludwig and S. Nikitina. The project assessed the performance of the solar business opportunities in un-electrified areas of Namibia through evaluation of economic success, technical capacity, social implications, and customer satisfaction.

- **Designing a Water and Sanitation Centre Prototype for Monwabisi Park, Cape Town.** Students: Melanie Donahue, Blake Kelly, and Joshua Matte; Katherine McKenna (as MQP); Advisors: Profs. S. Jiusto and J. Petruccelli. The project created a final proposal for an experimental sanitation centre at the Indlovu Project in Monwabisi Park that outlined a sustainable layout and maintenance plan as well as community education and future sustainable adaptations.
Projects and Research

Faculty, assisted by both graduate and undergraduate students, engage in a wide range of research and scholarship, a significant portion of which pertains to sustainability.

- The Civil and Environmental Engineering Department focuses on sustainability in infrastructure and building design, water and wastewater management, and water quality protection, as well as other aspects of environmental engineering.
- The Chemical Engineering Department researches alternative energy sources and the remediation of pollutants.
- The Biology and Biotechnology department works with bioremediation and biofuels.
- Interdisciplinary and Global Studies professors actively participate in sustainability research including economic development as it pertains to sustainability, climate change strategies, new urban knowledge infrastructures, resource management, and experiential education.
- The Social Science and Policy Studies Department employs economic, political science, and system dynamics models in studying energy and other sustainability issues.

Academic Year Highlights

- Diran Apelian, founder of the Metal Processing Institute, receives Materials Advancement Award for research in resource recovery and recycling.
- CNN covers WPI Professor Rajib Mallick’s research aimed at turning roads into solar collectors.
- WPI receives $1.5M for membrane system that may make coal, gas, and electric plants more competitive and less environmentally harmful.
- Provost Overstrom announces the formation of a broad-based task force under the direction of Dean Selcuk Guceri to create a vision for WPI’s research and educational activities in the energy arena.

Further Work and Future Goals

Regarding research, the formation of the task force mentioned above has addressed a goal stated in the 2009-10 report. Regarding student projects, it is recommended that sustainability-related projects be identified at both the proposal and final report stages, and that results be catalogued and publicized, perhaps via a Sustainability Project Coordinator in the IGSD. Each year, the Task Force should also identify a small number of priority sustainability topics that it will encourage and support student and faculty to address through targeted proposals and projects.
Sustainability in Course Work

**Educating the Future Workforce**
As an institution focused on technology, WPI is in a strong position to educate future scientists and engineers to become leaders in their workplaces and communities, and to bring a sustainability perspective to decision-making in their future careers. The environmental, social, and economic impact of “technical” decisions are critically important to corporations and incorporating sustainability principles in the curriculum is one of many ways that WPI fulfills its mission “to create, to discover, and to convey knowledge at the frontiers of academic inquiry for the betterment of society.”

**Course Offerings**
A review in 2011 of the WPI undergraduate course catalog identified 22 sustainability-related courses and 12 sustainability-focused courses, based on a set of definitions from the Association for the Advancement of Sustainability in Higher Education (AASHE). *Sustainability-focused courses* place a strong emphasis on questions of sustainability connected to many or all aspects of the course curriculum, while *sustainability-related courses* incorporate smaller aspects into the course work or simply focus on one sustainability principle.

Also, the Environmental Studies program provides an academic major that is focused on the environmental aspects of sustainability. Finally, in Academic Year 2010-2011 the following new sustainability-focused courses were added to the curriculum:

- ENV 2600 Environmental Problems in the Developing World
- GOV 2319 Global Environmental Politics
- CE 400X Sustainable Solutions in Civil Engineering

While there is currently no formal policy to increase the number of courses dedicated to sustainability, course content on sustainability is likely increasing in many of our current courses. Many of the departments also provide a focus toward sustainability through student projects and professors’ research.

**Further Work and Future Goals**
Many courses include sustainability content, and knowledge of this content can be made more easily available to students. It is recommended that descriptions of “Sustainability Concentrations” be developed within the context of several academic majors.
Operations

### Essential Data AY2010-11

**Students**
- 3649 undergrads (3470 full-time, 179 part-time)
- 1711 grad students (524 full-time, 1124 part-time)
- 5360 total
- 4522 full-time equivalent

**Faculty**
- 396 total (279 full-time, 117 part-time)

**Staff**
- 588 total

**Facilities**
- 75 acre campus
- 72 buildings
- 11 residence halls
- 1.8 million square feet of building space

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**The WPI Campus**

The WPI campus community has an impact on its local environment, similar to the way a city or town would have an impact on its local environment. The campus requires utilities, food, transportation, new construction and renovations, grounds keeping, and the campus produces waste. These activities impact the local environment and contribute to global environmental change. Decisions that WPI makes, including types of fuels that are available for consumption, how food is purchased, what options are offered for alternative transportation, and what technological advances we implement in building construction, renovation, and land management to conserve resources, and how we minimize our waste, all have an impact on our immediate community, the city of Worcester, and the world.

WPI maintains detailed records of consumption of water, electricity, heating fuels, as well as the amount of waste produced. WPI tracks its greenhouse gasses through the Clean Air Cool Planet GHG calculator. WPI is committed to reducing its environmental impact in the areas described in the following sections, while it experiences significant growth in student population and facilities infrastructure.
Campus Environment

Building a Greener Campus
The manner in which WPI designs new construction, renovates existing buildings, and maintains its grounds, impacts the local environment. During the last six years, construction was completed on the Bartlett Center, Gateway Park’s Life Sciences and Bioengineering Center, and East Hall, and construction was begun on the university’s new recreation center. Major renovations were made to Goddard Hall, Salisbury Labs, Alden Memorial, and the Project Center. New building construction and renovation projects provide the opportunity to improve efficiency and conservation in our living and work spaces. Features in construction and renovations that promote environmentally friendly living and include water conservation and energy efficiency demonstrate our commitment to sustainability. These practices are included in management of green spaces, as well.

What is LEED Certification?
- LEED stands for Leadership in Energy and Environment Design.
- Developed by the U.S. Green Building Council in 1998 as a system to rate green buildings.
- Rating is based on credits such as water and energy efficiency.
- A building can earn Certified, Silver, Gold, or Platinum accreditation.

Green Buildings and Sustainable Groundskeeping
In 2007, WPI pledged to build all future buildings with sustainability features sufficient to achieve LEED certification. The Bartlett Center, WPI’s admissions building, is LEED Certified; East Hall achieved LEED Gold Certification. Our newest construction, the recreation center, which is slated to open in 2012, is anticipated to meet LEED Silver Certification. These three buildings account for approximately 13% of the school’s total built square footage. Though not LEED Certified, there are a number of buildings that have been recently renovated that feature energy efficiencies.

WPI groundskeeping practices have been developed to be earth-friendly. Pest control, landscaping, and waste recycling, as well as fertilization practices, are clear indications of how WPI cares for its land. WPI composts all of its grounds waste through an outside contractor, and no chemical fertilizers are utilized. Native plants are included in most campus gardens and lawns. These plants are well adapted to Worcester’s precipitation patterns and local pests, so irrigation is less necessary and pest control is less intensive. It is anticipated that more native perennials will be planted instead of planting new annuals each spring.

Further Work and Future Goals
With new building construction and renovation and a constantly increasing student population, the WPI campus environment is continuously evolving. Methods of evaluating building performance, such as electrical sub metering, must evolve and incorporate the most efficient and effective sustainable features available.
Campus Environment

Examples of Related Student Projects

- **Atwater Kent Energy Study**, IQP
  Students: Nicholas L. Granata–Cappablanca, Andrew J. Laflash, and Erik Newman
  Advisors: Alexander Emanuel and Fred Looft
  This project looked at ways to reduce electric power consumption and the feasibility of placing solar panels on the roof of the Atwater Kent building.

- **WPI Energy Efficiency Lighting Study**
  Students: Tory Jaskoviak, Daniel Nyren, and Kari Rehkugler
  Advisors: Brian Savilonis and David Spanagel
  This project determined the feasibility of lowering WPI’s total carbon footprint and energy usage costs through the modification of light sources and technology.

- **Gateway Park Build Design**, MQP
  Students: Dominic DecChiara, Evan Gaurino and Jesse Lane
  Advisor: Tahar El-Korchi
  This project developed a sustainable design for a mixed-use facility at Gateway Park as a part of a revitalization project for WPI.

Further Work and Future Goals

The campus environment is dynamic and is constantly evolving. Our methods of evaluating building construction and renovation must evolve, as well, and incorporate the most efficient and effective sustainable features available.

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**Academic Year Highlights**

- WPI’s first Sustainability Report is produced as a result of a student IQP
- WPI receives an A– on Sustainable Endowment Institute’s 2011 College Sustainability Report Card
- The Princeton Review names WPI to list of Nation’s Greenest Colleges
- Sierra Club places WPI 65th on the 2011 Sierra Club’s Top 100 Coolest Schools
Waste Disposal and Recycling

A Cleaner Campus
WPI’s students and staff are aware that proper disposal of waste, recyclables, and hazardous waste is key to reducing our impact on the environment. Most WPI waste is collected and sent to a nearby waste-to-energy incinerator. The community is actively seeking ways to both reduce waste and to increase recycling through campus-wide initiatives, including PRecycmania, WPI’s residential recycling competition, and Recyclemania, the nationwide college and university competition, as well as a waste stream analysis.

Waste Facts and Figures
The WPI community is working hard to decrease waste on campus. Increased recycling initiatives and awareness has led to a decrease in total waste from last year. However, a slight decrease in recycling rate was noted. WPI is also working to improve waste reporting by including more information about the materials we recycle. Included in this year’s data is information from the Institutional Recycling Network (IRN) and Superior Waste and Recycling. These vendors dispose of items such as fluorescent light bulbs and surplus equipment/furniture.

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Table 1: Waste and Recycling on Campus
Source: Waste Management and Institutional Recycling Network

Figure 1: Pounds of Waste per Student
Source: Waste Management and Institutional Recycling Network
Waste Disposal and Recycling

2010/2011 Waste Stream Composition

- Trash, 73.03%
- Cardboard, 5.21%
- Electronics, 1.67%
- Cans, 1.14%
- Commingled, 1.04%
- Food Waste, 5.34%
- Hazardous Waste, 0.58%
- Ballast and Fluorescent Bulbs, 0.40%
- Paper, 6.71%
- Surplus Equipment and Furniture, 3.98%

Figure 2: 2010/2011 Waste Stream Composition
Source: Waste Management and Institutional Recycling Network

Academic Year Highlights

- Recyclemania/ PRecyclemania 2011. In 2011, WPI was one of over 500 universities that participated in Recyclemania; a nationwide annual recycling contest. WPI placed 85th nationally and 9th in the state. WPI gathered over 30 tons of recycling material in that time.

To prepare for Recyclemania, WPI held a campus-wide Pre-cyclemania competition that ran in B-Term. The winning dormitory received a Wings Over Worcester party to celebrate their success. The winning dormitory was Daniels Hall.

- IRN, Staples, and WPI partner to recycle office products packaging materials in three locations across campus

- Eco-Representatives evaluate the recycling process in their dorms and request extra recycling containers for Ellsworth Fuller Apartments

Further Work and Future Goals

The WPI community has been increasing the amount of recycled waste each year. To continue this progress, we need the active participation of students, faculty, and staff. A stronger education program will be needed to help staff and students understand what can be recycled, as well as the effects of recycling contamination. A pilot waste audit would be helpful in educating the community.

Examples of Related Projects

- **Reduce, Reuse, Recycle, MQP**
  Students: Brian Edwin Anthony Murray, and Piotr Piskorski
  Advisor: Amy Zeng
  The goal of the project was to reduce Nypro’s impact on the environment by facilitating the company’s recent “Reduce-Reuse-Recycle” initiative.

- **Recycling and Waste Management in Massachusetts High Schools and Colleges, IQP**
  Students: Daniel Alan Barrows and Dennis Paul Griffin
  Advisor: Satya Shivkumar
  This study investigated recycling practices in Worcester County High Schools and Colleges.

- **Using Technology to Facilitate Surplus Inventory Distribution at WPI, IQP**
  Students: Rebecca Clair Baron, Hillary Elizabeth Fontino, and Eric P. Willisson
  Advisor: Chickery J. Kasouf
  This project sought to improve the efficiency of WPI’s asset management through development of an online database designed to store details on surplus inventory.
Energy and Carbon Emissions

Energy Components
WPI requires large amounts of energy for heating and cooling, and electricity to power lights, computers, and equipment. Numerous technical solutions have been implemented in buildings to conserve energy, including motion and CO2 sensors, which, when triggered, will activate heating/cooling and lights. An agreement with a power-shedding company two years ago allowed WPI to participate in a voluntary program to shut down power in select buildings on campus so as to reduce the total demand on electricity in times of extreme power consumption. Active research into renewable energy is ongoing in several academic departments and steps have been taken to achieve higher efficiency throughout the campus.

Electricity
WPI purchases electricity from National Grid and distributes it through the Power House to the main campus. Electricity consumption in 2010-2011 was 23,991,239 kilowatt-hours, a decrease from 25,562,939 in 2009-2010.

Heat
WPI’s Power House provides heat to the main campus from October to May. In 2006, the Power House switched its main fuel from oil to natural gas, achieving significant cost and environmental benefits. Changing from oil to natural gas is ongoing in our smaller peripheral properties. Building renovations are designed to be more energy efficient through improved insulation and climate control, which will have a positive impact on our energy usage.

![Figure 4: Heating Fuel for Power House per Academic Year](image)

Source: Tighe and Bond Annual Report

Figure 3: Electricity Use per Student; Source: National Grid
Energy and Carbon Emissions

Greenhouse Gasses (GHGs) and other pollutants result when fossil fuels are burned for heat and electricity generation. WPI students have completed projects that investigate reducing carbon dioxide emissions. During this academic year, The President’s Task Force on Sustainability began work on a sustainability plan, which will address the environmental, economic, and social aspects of sustainability, and the Energy Task Force at WPI was established. GHG emissions (figure 5, in units of CO2 equivalence) were calculated using the Clean Air Cool Planet Calculator for Campuses. Included in calculations are energy use, student travel abroad, refuse and vehicle fuel use.

Examples of Related Projects

- **Analyzing an Energy Reduction Policy at WPI, IQP**
  Students: Jeffrey D Baker and Christin Mary Grygorcewicz
  Advisors: Brian Savilonis and Susan Vernon-Gerstenfeld
  This project analyzed the effectiveness of emissions and energy usage reduction policies at universities with the goal of encouraging WPI to enact a policy of its own. The group’s findings helped formulate an outline for a feasible emissions reduction policy at WPI.

- **Photovoltaization of WPI, IQP**
  Students: Jason A Beliveau, Chao Lian, Yura Pyatnychko, and Muhammad Farzan Tariq
  Advisor: Alexander Emanuel
  This project helped to determine the feasibility of photovoltaization of the WPI campus analyzing available roof space and overall impact of “going solar.”

- **Assessing and Reducing the Electricity of Residential Students, IQP**
  Students: Courtney Brock, James Collier, and Katelin Wilfong
  Advisor: David DiBiaisio
  This report investigated electricity consumption of undergraduate students within selected residence halls and identified areas of energy waste. They also made recommendations for future energy conservation initiatives on campus.

**Further Work and Future Goals**

WPI will continue to develop data for its GHG emissions calculator. The President’s Task Force on Sustainability will be addressing goals as it develops its Sustainability Plan. The Energy Task Force will provide insight and recommendations into how WPI conducts its energy production and distribution.
Food for Thought
Dining services on the WPI campus is managed by Chartwells Dining Services. Morgan Dining Hall, the Campus Center Food Court, Higgins House Dining, and the Goat’s Head Restaurant make up the dining locations. Chartwells management has been diligent in its sustainability efforts. Several years ago, the Morgan Dining Hall went tray-less, saving at least 120,000 gallons of water each year. Chartwells makes an effort to purchase food from local suppliers and distributors, and currently it purchases local at a rate of 28%. Chartwells also tracks and audits all waste leaving its kitchens through a program call Trim-Trax.

Fresh and Local Foods
Chartwells has implemented a number of initiatives over the years to provide fresh, local, and sustainable foods to our community. Paper and plastic products were replaced with recyclable, compostable alternatives. Chartwells buys its produce from local farmers, and has pledged to buy certain sustainable food options such as cage-free eggs, fair trade coffee, and antibiotic-free pork and chicken. Chartwells hold several farmers’ market days on campus.

Compass Group, the parent company of Chartwells, donates 25 cents from every pound of Pura Vida coffee purchased by its customers to the Pura Vida Foundation to support our adopted community Guadeloupe Miramar, located in the state of Oaxaca in Mexico, to fund health services for the community.

Academic Year Highlights
- Farmers’ Market comes to campus
- WPI Green Team works with Chartwells to bring local food stations to Dining Hall
- Chartwells launches program for filtered water dispensers to replace bottled water dispensers

Further Work and Future Goals
Chartwells is constantly looking for ways to use its resources of water and energy more efficiently, and it regularly seeks out new suppliers for local food purchases. We hope to retain our connections with participating farms and expand to include additional products from local farmers.
**Water Use**

**Efficiency is Key**
In an effort to preserve one of the world’s most important finite resources, water management practices are becoming an integral part of WPI campus management. WPI has implemented numerous water conservation methods, such as waterless urinals, low-flow faucets and showers, and front-loading washing machines.

With water sub-metering in each building, contests between residential halls for least amount of water use will be introduced in addition to our recycling contests.

**Current Conditions**
WPI purchases water from the City of Worcester, which has 10 reservoirs around the city. Water usage calculations are for the entire campus, including residential halls. Water usage data shows that usage has increased steadily from 2008 to 2011, but water usage per student has remained steady.

**Examples of Related Projects**
- **Climate Change Adaptation Planning for Massachusetts Drinking Water and Wastewater Utilities, IQP**
  Students: Adrian Michael Catarius, John Charles Flannagan, Saul Emmanuel Garcia, and Matthew James Weisman
  Advisors: Chrysanthe Demetry and Richard Vaz
  This project focused on how MassDEP can provide assistance to water utilities for adapting to climate change effects such as sea level rise, an increase in storm intensity and rising temperatures. The students provided a list of recommendations of how MassDEP can provide assistance to utilities in need of protecting themselves against potential weather related threats.

- **Water Resources Development in Isaan, Thailand: The Social Case for Ban Thad, IQP**
  Students: Daniel Bjorge, Jessica Booth, Katrina Crocker, and David Warfel
  Advisors: Jennifer deWinter and Paul Davis
  The project made recommendations for appropriate actions to the Population and Community Development Association for improving farmers’ water access and income generating capabilities in the rural northeastern village of Ban Thad, Thailand.

**Figure 6: Water Use on Campus**
Source: City of Worcester Dept. of Water and Sewer

**Figure 7: Water Usage per Student per Academic Year**
Source: City of Worcester Dept. of Water and Sewer
Student Community

Community Service
Sustainability at WPI means more than addressing environmental issues. It includes promoting equality in a just society. By interacting with the WPI community in a positive way, the university improves the lives of students and local residents in Worcester. Through projects and research, WPI contributes to the well-being of communities in Worcester and around the world. Students, faculty, and staff are actively engaged in community service and philanthropic projects in the area to help those in need. Further, WPI’s more than 25 Global Perspective Program Project Centers engaged students and faculty with sustainability efforts around the world.

Further Work and Future Goals
Recent efforts to encourage and report community service work by students receiving federal work-study support have been quite successful, but represent only one way in which WPI contributes to community well-being. It is recommended that this program be investigated for approaches that can be applied to tracking other types of service.

Academic Year Highlights
- **2011 Worcester Community Engagement Award:** Awarded annually by the Colleges of Worcester Consortium, the 2011 recipients were WPI students Travis Collins, Chris Gowell, and Aaron Hall-Stinson in recognition for their work on green energy issues at the Worcester Art Museum. As a part of their IQP project, the students determined usage, researched funding, and provided immediate solutions as well as assessments for feasibility of green roofing and photovoltaics.
- **2010 Worcester Community Engagement Award:** 2010 recipients included WPI students Robert Grady, Lee Hermsdorf-Krasin, Evan Sawyer, and Jason Reynolds for their work in designing and building a garden in Worcester that will support the nutritional needs of local HIV/AIDS patients. As a part of their IQP project, the students provided AIDS Project Worcester with a visual prototype garden and construction-ready plans to facilitate implementation of a community garden.
- **2011 Students** Mariela Castillo, Tanawit Permsuk, Eduardo Pizzini, Daniel Thomas, and Daniel Valerio, advised by Nancy Burnham, worked with the Worcester Youth Center as their IQP project to devise a plan for a derelict warehouse. The students researched and facilitated plans to renovate the building into a recreation center, incorporating green aspects into construction recommendations.

Further Work and Future Goals
Recent efforts to encourage and report community service work by students receiving federal work-study support have been quite successful, but represent only one way in which WPI contributes to community well-being. It is recommended that this program be investigated for approaches that can be applied to tracking other types of service.
Student Community

Clubs and Organizations

WPI Green Team
The WPI Student Green Team is a student organization dedicated to increasing the campus's sustainability. Each year the Green Team strives to create a positive impact on the environment through advocacy, community service, and education. With 2011 being the organization's first official year on campus, the group made quite a first impression. Below are some of the team's accomplishments in 2011.

- Received recognition as an official club on campus by SGA
- Partnered with the Department of Facilities to plant bulbs around campus
- Modified the recycling process at Ellsworth Fuller Apartments
- Worked with Dining Services to offer local food stations at least once per month
- Placed 4th nationally and 12th internationally in Great Power Race Competition (350.org)
- Held campus-wide Sustainability Pledge Drive
- Co-hosted Quad Fest with SocComm

Students for a Just and Sustainable Future
Students for A Just and Stable Future (SJSF) is a statewide student initiative to promote sustainable practices and environmental awareness. SJSF unites students across Massachusetts campuses to address issues of climate change and social and environmental justice. In the past year, the WPI chapter of SJSF has worked to introduce a bill that calls for clean electricity in Massachusetts by 2015; arranged an alternative commencement speaker; and networked with students, faculty, and organizations both on and off campus to create a broad network of environmentally conscious groups and individuals.
**Dedication to Service**

Many WPI groups actively participate in community service both locally and internationally. Groups such as Habitat for Humanity, Alpha Phi Omega, and Relay for Life help those in need in our immediate community. Other groups, such as Amnesty International and Invisible Children, deal with international issues. And still other organizations, including the Gay-Straight Alliance and Active Minds, focus on issues of personal development and social justice. Through service programs and organizations, and the direct interaction of many IQP groups with communities all over the world, WPI is demonstrating its commitment to the communities in which it operates.

**Charitable Donations**

Community service at WPI is represented in this report by two key indicators: students’ reported hours of service and the amount of money donated to charitable organizations by all members of the WPI community (Figure 8 and Figure 9).

Hours and funds raised are only one aspect of community service. There are hundreds of educational projects annually that contribute to local and global communities through the efforts of hundreds of students each year.

**Alternative Commencement**

WPI’s 2011 Counterpoint Commencement, arranged by Students for A Just and Stable Future, featured keynote speaker Richard Heinberg of the Post-Carbon Institute, an organization dedicated to educating the public about climate change. Other speakers included WPI alumnus Paul Popinchalk, Pastor John Longworth, and student leader Linnea Palmer Patton. WPI’s primary commencement featured speaker was Rex Tillerson, ExxonMobil’s CEO.