

URBAN ISSUES

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**Newsletter from
New Haven /
Urban Resources Initiative, Inc.
at the
Yale School of Forestry &
Environmental Studies**



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*Newsletter of the
Urban Resources Initiative
at the
Yale School of Forestry &
Environmental Studies*



Photo: Balmori Associates

In this issue:

**A Neighborhood
Summit 3**

**Harvesting Experience
in Environmental
Education 6**

**Combating Lead:
Interview with Ted
Kennedy, Jr. 8**

**Lead Remediation
in Soils 9**

**Hixon Fellows
Complete Research 10**

News & Notes 11

**by
Ellen
Wells**

Summer is always a time of intense activity for greenspace projects. Community members and greenspace interns plan, plant, and celebrate the renewal of neighborhood greenspaces. Work at Lenzi Park in the summer of 2001, however, proceeded differently. Here, scientists' research and community's local knowledge combined into a plan that considered both ecological and human needs. This is a model approach for urban restoration projects, which often focus more on social needs, rather than environmental ones.

The design and planning process at Lenzi Park recognized and responded to the fact that greenspaces consist of physical components, such as plant

cover and water flow, as well as social components, such as how the park is used. Scientists investigated the biophysical health in this greenspace, and suggested methods for its improvement or maintenance. Community members described local issues and detailed their desires for the park's future. Designers incorporated these insights into an inviting design for the park. The result was a guide for Lenzi Park's revitalization founded on a collaboration of science, community and design.

Characterizing the Greenspace
Formerly home to the Eaton School, Lenzi Memorial Park was designed
(continued on page 4)

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**URBAN ISSUES
Spring 2002
Vol. 12, No. 2**

Urban Issues Editor
Ellen Wells

www.yale.edu/uri

The essence of this edition of Urban Issues is captured well in the title “Agents of Change.” Borrowed from the training summit described in this newsletter, this title truly addresses the mission of our organization. Our purpose is to foster environmental stewardship and human development in the New Haven area by promoting citizen based management of natural resources through education, institutional cooperation, and professional guidance. We strive to achieve our mission through programs like the *Open Spaces as Learning Places* environmental education program and the *Community Greenspace* program. In addition, activities such as training events, lecture series, and student research projects help us to realize our organizational goal.

This installment of our newsletter covers all of the bases. Bill Finnegan describes the progress made in our environmental education program, emphasizing how we are developing a system to monitor and evaluate its effectiveness. Just as we promote learning activities for the elementary school student, the teacher, and the Yale intern, we too must learn as an institution how we are reaching our goals, when we are missing the mark, and why. Our editor, Ellen Wells, covers another endeavor in which we are learning and growing, the Lenzi Park project, in “A Collaboration of Science, Community and Design.” Here we are exploring how to optimally integrate scientific input and community concerns and desires in a design process which may serve restoration efforts.

We are certainly starting our spring season on the right path. We launched the 2002 *Community Greenspace* program with a day-long training event in partnership with the Livable City Initiative, the New Haven Land Trust, and the Community Foundation for Greater New Haven. Our Greenspace Manager, Chris Ozyck, and our new Greenspace Coordinator, Will Durbin, describe the sessions held in City Hall on the first Saturday of March. Wangari Maathai, the heroic Kenyan leader of the Green Belt Movement, gave an incredibly inspirational presentation that helped participants see the connection between their work and the tree planting movement on the other side of the globe.

Throughout this spring, we are hosting the seventh annual Restoration Agenda Lecture Series. The entire series is designed to forge a guide to environmental revitalization and related research required for the foreseeable future. Our topic this year is Environmental Justice. Ellen Wells interviews one of the fourteen guest lecturers in the series, Ted Kennedy Jr., and explores the many angles that need to be addressed to combat the problem of lead poisoning. Will Durbin also offers an article on the subject of lead, but with the emphasis on remediation in soils – an issue we unquestionably confront in New Haven. In fact, this subject brings to light why an environmental justice lecture series is of interest to URI. In our work with resident groups to recover the natural resources in their communities, we encounter environmental justice issues, such as the quality of open space or lead poisoning.

Finally, Neal Etre explains the learning opportunities made possible through research fellowships supported by the Hixon Center for Urban Ecology. Neal briefly covers the wide-ranging research efforts of the six Hixon Fellows and shares the new understanding they have brought to the field of urban ecology.

I hope you enjoy perusing these articles, and that you can get a sense of the passion and purpose we find working alongside neighbors in New Haven to accomplish the mission of URI.



Colleen Murphy-Dunning

A Neighborhood Summit:

How people positively affect their communities

To celebrate its tenth anniversary, the Community Foundation of Greater New Haven's Neighborhood Program sponsored a neighborhood summit on the theme of "People as Agents of Change in their Communities." Participants included members of the Community Gardening program of the New Haven Land Trust, as well as URI's *Community Greenspace* program. Both participating organizations are flagship projects within the Community Foundation's Neighborhood Program.

The opening speaker of the summit was Wangari Maathai, an activist from Kenya who is internationally recognized for her persistent work for democracy, human rights, and environmental issues. In 1977, she founded the Greenbelt Movement, whose main focus is planting trees with women's groups in order to conserve the environment and improve their quality of life. Through this movement, she has assisted women in planting more than 20 million trees at their farms, schools, and churches. In a gentle yet commanding tone, Maathai captivated the audience. Speaking of her experiences organizing women in Kenya, she inspired the audience to celebrate their successes but also to push forward to tackle the systemic injustices that plague both our country and hers. Maathai not only enraptured the participants, but also connected them to a larger effort – an international movement – to improve our environment and build sustainable communities.

After Maathai's speech, four simultaneous workshops were held echoing the theme 'people as agents of change.' Che Madyun of the Dudley Street Neighborhood Initiative in Roxbury, Massachusetts facilitated the first workshop. Madyun examined the life cycles and struggles of organizational development to help participants understand some of their

own group's problems. Following this, Yale Professor William Burch, URI Greenspace Manager Chris Ozyck and two of Dr. Burch's students offered a second workshop on neighborhood assessment. Residents learned how to analyze the assets and liabilities of their neighborhoods and to use the information to improve their quality of life. Joanne Sciulli, an active URI Board member who is the director of Solar Youth, teamed up with Mary Moulden of the Kellogg Environmental Center to discuss effective methods of teaching youth about the environment in a third workshop. The final workshop, "Environmental Injustice," featured Dan Lorimer of the CT Fund For the Environment and Rafael Ramos of the Livable City Initiative. The two involved the audience in a discussion about how to use city agencies and outside organizations to overcome the problems that afflict New Haven's neighborhoods.

The closing address was given by H. Patricia Hynes, Professor of Environmental Health at the Boston

University School of Public Health. She is also Director of the Urban Environmental Health Initiative, where she works on issues of urban environmentalism, feminism, and environmental justice. Hynes has authored numerous books including *A Patch of Eden: America's Inner-City Gardeners*, which won the 1996 National Arbor Day Foundation Book Award. Hynes used slides to show successful greenspace and gardening efforts in New York, Chicago, San Francisco, and Boston. She then spoke about how greenspaces and gardens can truly bring people together across racial, class, and gender lines.

As a result of the Summit, community groups may utilize their new skills and perspectives to tackle the many issues that erode the quality of life in New Haven. Hopefully, participants will take to heart the positive message that they can truly make a difference.

Christopher Ozyck is URI's Greenspace Manager; Will Durbin is URI's Greenspace Coordinator.

by
**Chris
Ozyck
and
Will
Durbin**



Photo: Will Durbin

Maathai connects a local audience to Kenyan restoration movements

A Collaboration of Science, Community & Design

(continued from page 1)

in the 1970's as a tribute to Joseph C. Lenzi, a WWII veteran who died on Iwo Jima. The playground equipment was designed by the renowned American designer Dan Kiley. In recent years, Lenzi Park showed signs of urban blight. Aging concrete walls on the park provide a partial enclosure where illicit activities continue to occur. Additionally, park infrastructure is either missing (such as lighting), or is in disrepair (such as playground equipment).

In contrast, neighbors noted the area's assets: the park has a long history, is relatively open, and possesses the potential to be an ideal community gathering place. Additionally, the park's proximity to both homes and Grand Avenue businesses grants potential for the park to become a "path park" and act as a bridge between these different areas.

Analyzing Available Data

The restoration plan for Lenzi Park was based on both scientific and community evaluations. Soils, vegetation, hydrology, and pollution data were all examined by specialists in these fields. Portions of these investigations provided very specific information about Lenzi Park and its microecology. At the same time, these scientific analyses strived to provide information on a more general scale, to ensure that the scientists' observations are applicable to all of New Haven's urban greenspaces, and not just Lenzi Park.

One example of this research was the soil analysis conducted by the USDA's Natural Resources Conservation Service and the Connecticut Agricultural Experiment Station. The park's neighbors helped to collect soil samples for this analysis. The sandy and loamy soils present at Lenzi Park are typical of the New Haven area.

Additionally, a ground penetrating radar investigation unexpectedly found a series of large buried objects under the area of the current handball court. These have been determined to be old heating oil tanks that were buried after the Eaton School was demolished.

The scientific investigations had other benefits, according to Sara Ohly, a representative of the Upper Grand/Wooster Square Neighborhood Association. The "excitement and momentum of a team of experts focused on the park drew others in and overcame some, [but] not all, of the skepticism of those living around the park," she noted.

Park stakeholders, include merchants, neighbors, children, and members of the Lenzi family. All of these stakeholders participated in community forums where perceptions of Lenzi Park's current and desired future uses were discussed. Ideally, according to the neighbors' analysis, Lenzi Park would be a place for housing the Lenzi memorial, relaxing with friends, watching children play, and hosting community celebrations. Many of these participants have also actively replanted areas around Grand Avenue during the summer.

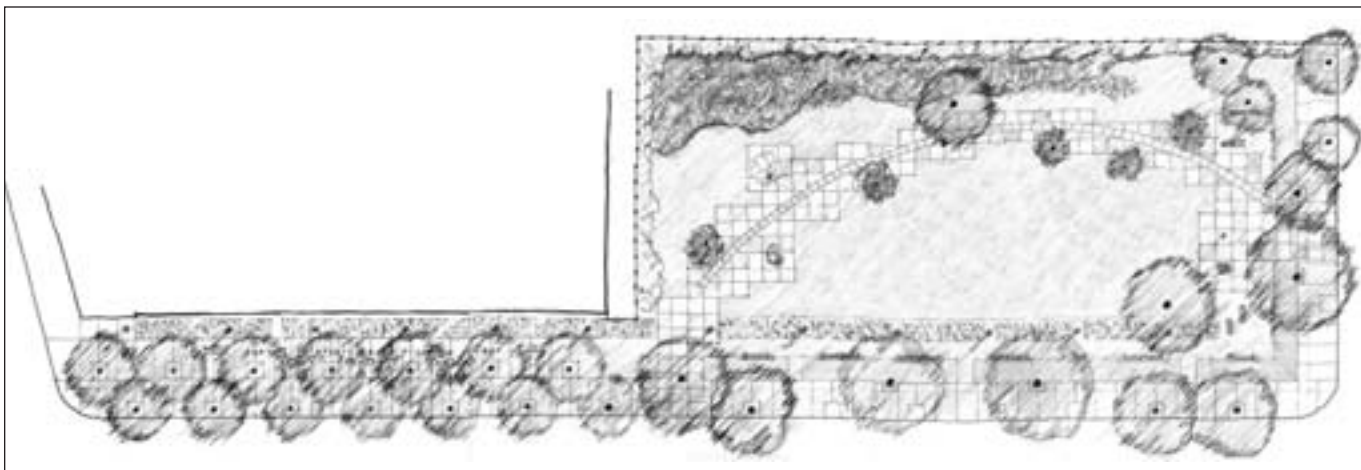
The Collaborative Plan

Three possible designs for park improvement were created by Diana Balmori, of Balmori Associates, incorporating input from scientists and neighbors alike. The benefit of this approach, according to Balmori, is that it brings in different disciplines at the beginning of the process, whereas a consultant approach generally brings these in after a design has been chosen. Design ideas were presented to park neighbors, who voted unanimously in favor of the "path park" design described below. Ms. Balmori also emphasized that these designs will be refined as the project proceeds. "Our

Photo: Balmori Associates



A current view of Lenzi Park



Source: Balmori Associates

The collaboration-based design for Lenzi Park's future

hope is to have another layer of ecological data . . . and a much more specific design," she said.

The community-selected park revitalization design has several stages, which are dependent on funding resources. The research and design phase has already been completed. The second stage involves removal of the oil tanks and demolition of concrete walls, a derelict seesaw and swing frames, concrete surfaces and furniture, wooden benches, and heaving sidewalks. The existing monument for Joseph C. Lenzi will also be improved.

Following the demolition, newly exposed areas will be planted. Tall grasses, wildflower patches, ivy, and forsythia have been planned to accent the existing vegetation in the park. Park neighbors are enthusiastic about helping to plant and maintain the area to ensure the survival of these new plants.

Following the planting phase, the design calls for construction of benches and an arching path that is lined with cherry trees. These are intended to create inviting places for neighbors to meet and relax. The path is one of the key design elements for the park, as it turns the park into a bridge between the

adjacent residential and commercial areas. Lamps will be added along the path following the street, in order to make the park safer at night. The Joseph C. Lenzi monument will be replaced in the corner of the park closer to the former home of the Lenzi family. Finally, a spray fountain and a drinking fountain will be added, to encourage use of the park by neighborhood children.

Future Designs

The plans for the park met with approval from park neighbors, scientists, designers, and New Haven park commissioners and staff. Funding for the research/design and planting phases has been obtained from the US Forest Service; the New Haven Garden Club provided additional funds for the planting phase. Unfortunately, the demolition of concrete structures and removal of the buried oil tanks has considerably raised the cost of the project, and further implementation is on hold while additional resources are sought.

Nonetheless, the collaborative design process of last summer will continue to have lasting benefits. Community members have defined goals for the type of park they wish to see, which helps to forge a network that can be effective in accomplishing further work on the

project. Sara Ohly states that although the collaborative process took more work and time to complete, "the process built a momentum that was crucial at the time. An interested group of people is out there to get it moving again and to take care of it once it is done." An additional benefit is that the insights and ideas from participating scientists will be adapted for future greenspace projects.

Perhaps most importantly, the collaborative planning method used at Lenzi Park adds a new dimension to thinking about greenspace renewal. This greenspace is the first URI site that has tested integrating science and community in a collaborative approach to urban restoration. URI plans to bring together scientists and neighbors in order to revitalize a vacant lot during summer 2002. For this project, and further in the future, the Lenzi Park model will provide valuable insights on how to incorporate both ecological and human needs of greenspaces, in New Haven and beyond.

Ellen Wells, '04 is a joint-degree student with the School of Forestry and Environmental Studies and the School of Epidemiology and Public Health.

Harvesting Experience in Environmental Education

by
**Bill
Finnegan**

On an unseasonably warm October morning, a string of third graders marches from elementary school to a nearby community garden. Not missing a chance for an urban ecology lesson, Susan Swensen directs the students' attention to buckles in the sidewalk caused by a constrained street tree. The kids, young scientists with clipboards in hand, scribble down notes on the health of each tree. They are serving as stewards of the urban environment – and we haven't even gotten to the Greenspace yet.

The on-going environmental education program of URI, *Open Spaces as Learning Places*, builds on the curiosity of children by opening their eyes to the natural wonders of the urban environment. "We zap the kids three times," commented

Swensen, Yale FES alum, URI Board Member and creator of the program. "We hit them with classroom teaching, hands on activities, and outdoor fieldtrips." The lessons of *Open Spaces as Learning Places* are firmly planted in the local community, from monitoring street trees to canoeing in nearby streams. Students are also taught about enhancement efforts by local residents that have encouraged waves of positive change in their neighborhoods, as evidenced by *Community Greenspace* sites.

Unfortunately, measuring students' learning is very difficult. Swensen designed the program to guide children through the stages of wonder, exploration, discovery, understanding, caring, and action – resulting in a community full of young environmental stewards. A simple multiple-choice test

could never capture each student's progress along this continuum. Students in grades three through five also have trouble articulating their changing environmental values and behaviors. In addition, students aren't the only targets of *Open Spaces as Learning Places*. Elementary school teachers should travel along the same environmental education continuum, with action manifested as the incorporation of outdoor activities and environmental issues into a range of lesson plans. The long-term effect of the program on teaching styles may be even harder to gauge.

As URI prepares to apply this model to other elementary schools in New Haven, one major challenge remains – developing a monitoring and evaluation system for the program. A team of Yale FES students is currently tackling these difficulties as part of the Research Seminar in Rehabilitation Ecology and Community Restoration, led by Professor William Burch, URI Faculty Advisor, and Colleen Murphy-Dunning, URI Director. A system of monitoring and evaluation will not only measure the present effectiveness of *Open Spaces as Learning Places*, but also identify areas for improvement and thus help strengthen the program.

Burch and Murphy-Dunning teach a project-based research seminar, which gives students real-world experience in urban ecosystem management. The class is divided into three groups of students, each investigating an urban environmental education program existing at a different scale. The landscape team will be working with the Urban Park Rangers of New York City to analyze the regional effectiveness of a recently constructed nature center. A second group will assist the Connecticut

Photo: David DeFusco



Susan Swensen explores nature with Hooker school students

Audubon Society by developing a long-term environmental education plan for their Long Island Sound site, approaching the issue from an ecosystem and watershed scale. The third group will look at *Open Spaces as Learning Places*, a community-based, neighborhood-centered program.

This student team will produce a report for URI with specific recommendations outlining potential monitoring mechanisms that assure the long-term effectiveness of *Open Spaces as Learning Places*. The first step is developing strategies to measure the programs threefold goals: developing kids' environmental stewardship, changing the way teachers approach environmental education and allowing FES interns to develop their skills and experiences. As a second component, the students will assess the sustainability of the program by analyzing factors such as funding stability and teacher training.

This research seminar serves to align the academic requirements of FES students, the institutional needs of URI and the community revitalization goals of New Haven. Student consultants gain valuable field experience, and their research takes on importance outside of the classroom. Yale students are thus connected to the greater New Haven community by improving the *Open Spaces as Learning Places* program. The student team is working closely with Swensen, incorporating her years of environmental education experience into their analysis. Team member Cintra Agee (FES '02) notes that "monitoring and evaluation harvest this experience."

Bill Finnegan. '03, is an Open Spaces for Learning Spaces intern.



Photo: David DeFusco

Bill Finnegan discusses open spaces with students

Hixon Fellows Complete Urban Ecology Research

Each year, the Hixon Center for Urban Ecology sponsors the Hixon Fellowship Program to further research on urban environmental issues. On February 15th, the Center sponsored the Hixon Fellowship Symposium in which the 2001 Hixon Fellows presented their research. The Center's diverse interests were well represented by the range of topics investigated by the Hixon Fellows.

Lianne Fisman, MEM '01, explored how greenspaces affect children's development. An exploratory study was

performed with two third-grade classes at Worthington Hooker Elementary School in New Haven. The research highlighted information that can be utilized in future studies, such as mechanisms behind solitary play, identifying the types of spaces and activities that encourage social integration and the role of the "natural" versus the "built" environment on the children's behavior in the schoolyard. Fisman emphasized the value of children as designers of the schoolyard, as they are the ones
(continued on page 10)

**by
Neal
Etre**

Combating Lead from Many Angles: An Interview with Ted Kennedy, Jr.

by
Ellen
Wells

"The science behind lead poisoning is so strong that no one can dispute the fact that lead is bad," said Ted Kennedy, Jr. He discussed issues of lead poisoning in children during an interview and a joint lecture with Dr. Dottie Needham as part of the Restoration Agenda: Environmental Justice Lecture Series. Kennedy emphasized that the problem of lead affects many different parts of life, therefore, in order to solve and prevent future lead poisoning, it is imperative to view this problem from a multidisciplinary angle.

"You can't disentangle the medical problems from the social problems," Kennedy noted. "Children have been successfully treated for lead, only to return to the hospital a few months later with more lead-related problems. If children are exposed to lead at home, the source of exposure must be removed in order to protect the children." As many of the contaminated homes are in poor repair, "lead poisoning is a medical, housing, and social problem," said Kennedy.

The key to solving the lead problem is recognizing and working with the various factors that cause it, explained Kennedy. To deal with immediate threats presented by housing, the New Haven Lead Safe Home provides a safe place for children with lead poisoning to stay while lead is removed from their homes. "This is in lieu of hospitalization" added Kennedy, "and a way to keep the family intact."

As removal of lead from homes is an expensive process, and as predominantly low-income families are exposed to lead, economic hardship is another facet that needs

attention, according to Kennedy. In order to deal with this problem, "a federal program through the Department of Housing and Urban Development makes grants available to landlords who will be renting to small children for more than five years," said Kennedy. This program provides needed economic assistance for lead abatement.

Civil suits can also be used to combat the lead problem. "Approaching the lead problem through litigation or the threat of litigation can be a powerful tool," said Kennedy. "Although litigation is a powerful tool when successful," he adds, "the information needed for successful suits can be difficult to obtain." For example, it is practically impossible to track the origin of thirty-year-old paint. Additionally, children with elevated lead levels often come from families that move frequently. Therefore, it is usually difficult to determine who is legally liable for lead poisoning. Kennedy is hopeful that class action law suits may be able to get around these restrictions in the future.

Kennedy emphasized that "one of the largest obstacles with litigation is that liability suits occur after a child shows elevated blood levels; by this point, irreversible harm may have already been done." For this reason, Kennedy sees preventative approaches from a variety of disciplines as the future course of action.

Expanded screening of children and promotion of lead abatement would prevent lead poisoning, thought Kennedy. "Children are always screened when they come to a clinic. However, children who do not receive medical attention may also be those at high risk for lead poisoning," said



Ted Kennedy, Jr.

Kennedy. Therefore, medical intervention should be expanded in recognition of social factors.

"Abatement," noted Kennedy, "can be both more cost effective and beneficial for children's health rather than treatment after a poisoning has occurred; but it can also serve as a mechanism through which New Haven residents can benefit by receiving special training for new jobs as lead abatement specialists."

"In the past year, New Haven's rates of lead poisoning have decreased," stated Kennedy. He suggested that the success New Haven has seen in working with an interdisciplinary model could well be applied to similar problems relating to the environment and health. "Air pollution and asthma problems might be well approached in this fashion," he said. Meanwhile, Kennedy and others continue their interdisciplinary-based efforts to help prevent lead poisoning and protect children's health.

Ellen Wells, '04, has helped start an environmental health student interest group.

Lead Remediation in Soils

In New Haven, as in virtually all older northeastern U.S. cities, exposure to lead can be a serious problem. Lead can cause shortened attention spans, increased aggressiveness, seizures, and even death. Moreover, these effects are especially serious for small children, because their bodies are still rapidly developing. Although lead has been banned from almost all products, lead that was used before the ban remains in the paint of older homes and in the soils of areas that were exposed to lead in the past.

Historically, lead was commonly used in paint and gasoline. Virtually all paint had lead in it until 1960; lead was legally banned from paint in 1978. According to the Agency for Toxic Substances and Disease Registry (ATSDR), approximately 21 million American homes still contain lead paint. In addition, automobiles emitted around 200,000 tons of lead into the atmosphere annually from the combustion of leaded gasoline until leaded gasoline was phased out in the late 1970s.

Over time, lead from these sources can work its way into the soil. Peeling lead paint may fall directly onto the ground. Lead from gasoline enters the air, and will eventually fall into soil and stick to soil particles. Dust from this lead contaminated soil can enter the air and be inhaled. Additionally, plants grown on lead-contaminated soil may accumulate high levels of lead. As a result, lead soil contamination is a serious concern for URI as well as for any group working on greenspaces or gardens in New Haven.

Soil remediation strategies

Professionals use a number of methods to remediate areas contaminated with lead. Traditionally, remediation has consisted of removing and replacing all

contaminated soil. This process is expensive, disruptive, and requires a safe repository for the contaminated soil. More recently, on-site (*in-situ*) approaches have been attempted. The Connecticut Agricultural Experiment Station recommends filling, or placing a protective layer of soil over the polluted area.

Another possibility for removing lead from soils is phytoremediation, in which plants absorb the lead from the soil. The plants are then harvested and brought to a secure waste location. Trinity College initiated a successful phytoremediation effort in Hartford using mustard plants. After two years of phytoremediation, eleven of fourteen sites experienced decreases in the amount of lead in the soil to levels deemed acceptable by the EPA for residential use. The United States Department of Defense has had mixed results with phytoremediation trials, but intends to continue research in future years.

URI's approach to lead abatement

URI assumes that New Haven's urban soils are poor in essential nutrients and may also contain some background level of contaminants and heavy metals,

including lead. Therefore, as it implements its Greenspace Program, URI takes precautions to minimize lead exposure as well as to increase soil fertility.

Dust from contaminated soil is a possible route of lead exposure. Interns and community residents place hardscape to reduce the amount of mud and dirt that is tracked inside, in order to reduce possible exposures to lead through airborne dust. Additionally, using gravel, mulch and plant material helps to reduce the amount of dust that is drawn into the air from the soil. Finally, Greenspace sites use copious amounts of compost in order to create a planting layer that is assured to be nutrient rich and free of contaminants.

To complement these actions, this year Greenspace is establishing an education program for interns and community residents on lead and other pollution issues in New Haven. Only with educated citizens will we be able to stamp out the problem of lead in our community.

Will Durbin graduated from Yale College in 2001.

**by
Will
Durbin**



Photo: Joshua Schachter

Adding mulch to the greenspace at Ivy-Dixwell

Hixon Fellows Complete Urban Ecology Research

(continued from page 7)
who use the space.

Tracking vacant properties in urban areas was studied by Neal Etre, MEM '02. The reuse of urban vacant land can bring higher densities to the urban core, while helping to curb urban sprawl by reducing the demand for development in suburban greenfields. Etre found that approximately one-half of US cities do not formally track vacant land, while just over two-thirds of cities do not track abandoned structures. The major barrier to conducting inventories appeared to be the costs of staffing and technology. A national inventory-funding program could assist cities with overcoming these cost barriers.

Adrian Camacho, MFS '02, used epigaeic insect fauna to develop site

evaluation criteria for urban lots based on conservation value. Camacho gathered data from various urban areas. He found that the slowest-dispersing insect species are the most vulnerable, and the most biologically diverse sites are those near urban natural areas. His work was discussed in the Fall 2001 *Urban Issues*.

Michael Funaro, MEM '02, studied urban waterfront habitat restoration, using the inner harbor of New Haven as a study site. The focus of his research was to understand physical and regulatory barriers to habitat restoration along the urban waterfront, particularly in areas with a high density of bulkheads or seawalls. Funaro explored opportunities and current trends in community development that have the potential to influence the creation and restoration of habitats along the urban waterfront. He concluded that recent

redevelopment plans for New Haven's harbor may have the potential to rehabilitate the quality of a once vibrant area.

Kim Thurlow, MEM '02, analyzed the formation of Dominica's public-private partnership in the provision of energy services. She developed a case study to both illustrate and examine the private sector's ability to provide energy, especially regarding issues in the protection of Morne Trois Pitons National Park. She also looked for ways to expand public involvement in these partnerships that provide urban services. This research was part of a larger project on the socio-economic analysis of tourism strategies in Dominica.

Water quality in Sodom Brook was tested by Catherine Ashcraft, MESc '02. This research was part of continuing studies of bacteria levels in tributaries of the Quinnipiac River. Her data showed that Sodom Brook regularly exceeds water quality standards for both fecal coliform and *Escherichia coli*, with a larger percent of exceedences occurring during wet flows. She concluded that due to these differences, an accurate sampling strategy would include both wet and dry flow data.

The Hixon Center for Urban Ecology provides an interdisciplinary forum for faculty and students to work collaboratively on integrating research, teaching, and outreach to improve our understanding and management of urban ecosystems. Research by this years' Hixon Fellows successfully contributed to this critical area.

Neal Etre, '02, was the Urban Issues Editor in Fall 2001.

Photo: Michael Funaro



Funaro's study site on the inner New Haven harbor

Lectures

Notes & News from URI

The Humane Metropolis: People and Nature in the 21st Century

A Symposium to Celebrate and Continue the Work of William H. Whyte

Session topics will include

- Holly Whyte: "The Observation Man"
- Whyte viewed from the 21st Century
- Protecting regional "Last Landscapes"
- Ecological restoration
- Green design in the built environment
- Green infrastructure in Greater NYC
- Urban environmental education
- Privately owned public spaces
- Toward excellent park systems
- European green urbanism

June 6-7, 2002

NYU Vanderbilt Hall Auditorium
40 Washington Square South, NYC

Organized by the Ecological Cities
Project, University of Massachusetts,
Amherst

For more information: 413-577-6060,
www.umass.edu/ecologicalcities



William H. Whyte

Environmental Justice Lecture Series

The seventh annual Restoration Agenda Lecture Series was hosted by the Yale School of Forestry and Environmental Studies and sponsored by the Hixon Center for Urban Ecology and URI.

Environmental justice, the topic for spring 2002, proposes that people of color, more often than expected, live in unhealthy environments near toxic waste sites and polluting industries. Scholars and activists explored through lectures and discussions a broad range of perspectives, using case studies from various parts of the US and around the world. The series investigated the social, economic, health, and legal dimensions of environmental justice. The entire series was designed to forge a guide to environmental revitalization and related research required for the foreseeable future.

Wednesdays, 11:30 am - 12:50 pm
Bowers Auditorium, Sage Hall
205 Prospect Street, New Haven, CT

January 16th *Bunyan Bryant*
"The History of the Environmental
Justice Movement: Issues and
Dilemmas"

January 23rd *Robert Stanton*
"Our National Parks: Lessons for
Diversity, Environmental Quality and
Justice"

January 30th *Wangari Maathai*
"When it is the State You Fight"

February 6th *Michael Dorsey*
"Hejiras, Rio to Joburg: Sustainability
& Justice & Other Malcontents"

February 13th *Ted Kennedy &
Dottie Needham*
"Lead Poisoning: Justice or Injustice?"

February 20th *William Burch &
Steward Pickett*
"Toward an Understanding of Nature
and Human Nature on the Urban
Frontier - Mapping the Patches of a Hip
Hop, Funky, Jazz, Stravinsky, Bach,

Rhythm and Blues Dance of
Ecological Science"

February 27th *Edwardo Rhodes*
"The Challenges of Measuring and
Evaluating Environmental Justice"

March 6th *Jeffrey Miller*
"Using Federal Environmental
Statutes to Promote Social Justice"

March 27th *Randolph McLaughlin*
"Role of Civil Rights Law to Promote
Social Justice"

April 3rd *Gary Machlis*
"Land Matters: Wilderness in
Modern America"

April 10th *Patrick Kinney &
Cecil Corbin-Mark*
"Community Based Air Quality
Research in New York City"

April 24th *Gerald Torres*
"Environmental Justice in Indian
Country"