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

CELEBRATING 20 YEARS



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by
**Meg
Arenberg**

This February, I spent a lovely evening with David Zakur, Barbara Melotto and John Haire in the Chatham Square neighborhood of Fair Haven. These three are among the core members of the Friends of Chatham Square, one of the longest running URI Greenspace groups in New Haven. Looking back on more than a decade of community greening, I asked them to share some of their stories with me, in hopes of shedding light on what has sustained them...

The Friends of Chatham Square have no shortage of stories. In thirteen years, this group has involved dozens of volunteers, planted 108 trees,

over 250 shrubs and countless perennials. Year after year their interns described them as ‘steady,’ ‘committed,’ ‘energetic,’ ‘ambitious’ and ‘impressive.’ In the early years of the groups’ restoration work, as many as fifteen steady members regularly attended weekly workdays, often staying late into the night to get the last few trees into their holes. Even during years when there was less active participation, the core members had a motto for their week-night plantings: “six trees before supper time!”

And the impact of the group’s dedication is apparent.

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FROM THE DIRECTOR



Twenty years have passed since Dr. William Burch first founded the Urban Resources Initiative at the Yale School of Forestry & Environmental Studies (F&ES). In 1991 the New Haven Urban Resources Initiative non-profit formed to partner with the university, creating a distinct local governing voice to drive the community-based greening activities. Over the decades, Dr. Burch trained the next generation of natural resource professionals to work in partnership with citizens to solve urban environmental issues. Milestones such as this 20th anniversary, create the opportunity for reflection on past accomplishments and for looking to future challenges.

Paula Randler describes historical impacts of lead contamination, past accomplishments to address the hazard, and current attempts by URI to examine the scope of lead contamination in the soil in New Haven. In her article she shares our experience of learning to reduce human exposure to this serious health threat.

Annette Bellafiore reflects upon her own childhood exploration of nature, and how she brings that experience into New Haven's sixth grade classrooms. Place-based education is growing as a form of pedagogy, but still is not commonly used by teachers. While place based education offers the opportunity to teach our children about local ecology, integrating the concepts into schools remains a hurdle.

Keeping to Dr. Burch's vision, Chris Ozyck describes in his article, "Mutual Pathway of Learning," the training Greenspace interns undergo as part of their professional development. We teach the interns that they have technical knowledge to share with citizen volunteers, and that if they engage the volunteers as partners they have much to learn from them in return. Former intern Laura Wooley, now the Program Coordinator at the New York Tree Trust, clearly carries that learning approach to her work today. Kim Yuan-Farrell interviewed Laura and incoming intern Peyton Smith to understand the impact on interns' careers, and the reasons they choose to work in our program.

While each of these articles portray the objectives originally framed by Dr. Burch, the cover story written by Meg Arenberg best captures the goals he set forth. Citizens working together to address locally identified environmental priorities are best equipped to solve them. And the volunteers working so long in the Chatham Square neighborhood show how working together results in a stronger community that is able to sustain the positive landscape changes.

Though Dr. Burch is beginning to plan his retirement, the legacy he leaves at F&ES, in New Haven, and around the globe, is profound. New Haven URI's board of directors is firmly committed to continuing his mission in our Elm City. The Yale School of Forestry & Environmental Studies increasingly focuses upon urban ecosystems, and endowed the Hixon Center for Urban Ecology. Hundreds of former interns working in the environmental professions do so with humility, and carry Dr. Burch's mantra, that natural resource professionals cannot solve environmental problems alone – they will only do so in partnership with all citizens.

 Colleen Murphy-Dunning

Dreaming Big at Chatham Square

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the “dark hole” that it once was, Chatham Square is now a recreational destination for local residents and their children. A circle of benches, at the center of the square, is surrounded by a variety of trees, shrubs, and other flowering perennials. At night the area is well lit, drawing families with picnics and children playing sports. Beyond the park, the greenspace group filled every available inch of the surrounding blocks with street trees. From where we sit in Barbara’s house on Maltby street, David tells me, “you cannot travel 40 feet in any direction without seeing something we’ve improved.”

Although the group is most recognized for this success in beautifying the neighborhood (including a visit from New Haven’s mayor in 1998), David and Barbara claim that the real pride comes from building and maintaining the fabric of their community. “I think in general, in human nature, it feels good to belong,” says David. “Through the Greenspace Program but also through making connections as human beings, we have a real strong sense of home and place and where we are—I feel very proud of that.”

While Barbara acknowledges the positive changes in Chatham Square over the years, she adds that sometimes the best change in a neighborhood is no change at all. “We are just ordinary people who get up to go earn a living every day, and raise our families, but we all interact with each other and that has remained, we haven’t lost that...I think the fact that that hasn’t changed is probably the best thing for our neighborhood. We still hold the same values. We are still friends with each other. We still work together. And it’s been a loooooong time.”

A moving example of the community-building fostered in Chatham Square was revealed when one of the neighbors became critically ill. In 1998, Steve Kahn, a committed member of the group from its inception, was diagnosed with Lou Gehrig’s disease.



Six Trees Before Supper time

“We had always had this sort of, you know, loose friendship,” describes David. “We’re neighbors, we’re in this community group together but when [Steve] came and told us that he was basically dying, it was like ‘what can we do for you, how can we help you?’ We took care of both him and his wife, [Merrily Kaplan,] who was also a member of the group. We cooked for them five nights a week, took him to doctors.” Barbara adds, “We tried to make it so Merrily could still have a normal life.” Although the group experienced periods of strong disagreement, in a moment of critical need, the bonds built from years of collective work brought them together.

“There were heated arguments...Steve was the guy we loved to hate. The tree would be in the hole, ready to be watered, and he’d be like mmmm...I think it should be moved five inches to the right,” David recounts the moments of frustration working together. “But in the end,” he says, “it was really a beautiful thing that we came together and took care of him and his wife” (quote from Steve on the back)

Even with all the positive

community-building in Chatham Square over the years, the members admit there is still work to be done. One goal is to encourage the greater involvement of the Latino members of the larger Chatham Square community, many of whom are lower income renters. Historically, the majority of members of the Friends of Chatham Square have been white, middle-class homeowners, despite the diversity of the larger community.

Although David acknowledges that the day-to-day demands of making a living can often limit neighbors’ participation in Greenspace activities, David expresses the importance of increasing outreach efforts. “Some people choose to live here and some people sort of get stuck living here,” he said, describing how demographics, crime and social issues can differ even block to block within the neighborhood. “But the community is for everybody and the park needs to reflect that. I think people see which houses we come from and they make assumptions. [So we are working] just to get that idea out... this is your park! I mean, they have ownership as much as we do.”

Barbara describes the challenge of breaking down communication barriers due to language differences in Chatham Square. She describes how walking from house to house, with a Spanish-speaking staff member of the Community Foundation for Greater New Haven, is an important first step. “It helped to introduce us so that at least you can say hello to them when you see them on the street and I thought that that was a really important thing. Now all the flyers that we ever put out are done in both languages.”

The group also describes how they learned the hard way that an ambitious group can sometimes bite off more than it can chew. They told the story of how they decided to restore the yard of a neglected house on the corner of Downing and Chatham. “We knew there were kids that lived there and there wasn’t a blade of grass in the yard.”

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Seeking Solutions for the Legacy of Lead

By Paula Randler

A Leaded History

Throughout history many societies used lead in both industry and households. In fact, it probably contributed to the infertility and insanity rampant in Roman rulers who used it to preserve food and drink and pumped their drinking water through lead pipes.

In the U.S. lead was used in gasoline almost since the advent of the personal automobile and was lauded as the solution to improving engine performance. It was also used as an ingredient in paint to improve longevity of color. The result of these lead applications is that many urban soils, along roads and close to homes, became contaminated by varying amounts of lead.

During the 1970s, the government banned lead from paint, gasoline, and other common uses, but the metal persists in our homes and the environment as an everyday contaminant. Children are most at risk for lead poisoning, which causes developmental disabilities and soft-tissue disorders. While children may swallow paint chips found indoors and out, the greatest hazard is through the ingestion of lead contaminated dust.

New Haven's Lead Solutions

"Childhood lead poisoning continues to be a serious threat to young children within the inner cities because of lead dust in their own homes, whether tracked in from outside or created internally through abrasion of windowsills or chalking of paint surfaces on walls," says Paul Kowalski of the New Haven Health Department.

In 1969, two young children in New Haven died from exposure to lead. The City of New Haven has since made great strides in lead abatement in and around homes. According to Paul, the city now offers "close to 5.5 million dollars to homeowners" to help remove the sources of lead in homes. This effort is clearly paying off as the number of children with elevated blood lead levels

(over 20 micrograms/deciliter) dropped dramatically from 533 cases in 1993 to just 51 cases in 2006.

Through grants Paul obtains from the Department of Housing and Urban Development's lead hazard control program, a New Haven family of four with an annual collective income less than \$59,600 can receive funding to clean up sources of lead in their home. The goal of this grant program is to create safe environments for children and any future families who will inhabit the home.

While the frequency of lead poisoning cases in New Haven is much lower today, URI wants to ensure that the problems associated with lead continue to be minimized. Because our Community Greenspace groups work with soil - while planting and mulching their parks and properties - we want to understand how to best remediate lead contaminated soil when needed. Last year we launched the Healthy Yards Initiative to better understand the scope of the problem of lead in New Haven soils.

DID YOU KNOW: New Haven has the highest screening rates for children's blood lead levels in the state of Connecticut. Hill Health Center, Fair Haven Community Health Center, St. Raphael's Hospital, Yale-New Haven Hospital, and private physicians all provide testing for children under two years old.

Healthy Yards Initiative

URI's Healthy Yards Initiative

is made possible by a grant from the Jessie B. Cox Foundation. This grant allows us to encourage families to voluntarily have their soils tested and participate in remediation efforts if elevated lead levels are found in their yard soil.

When first told about the dangers of lead in soil, many residents are surprised and concerned. One of these volunteers is Pat Highsmith who said that she was originally interested in having her soil tested to find out about nutrients. "I just wanted to know why the grass wouldn't grow. I didn't know anything about lead," says Pat. Pat thinks her surprised reaction is typical



Post Lead Remediation in the Dripline

of the people in her neighborhood – people don't know about the health hazards of lead.

The lead remediation process is relatively simple, however, it is costly and can be financially out of reach for some landlords and homeowners. The Jessie B. Cox Foundation grant is a crucial resource, supporting homeowners to take the steps required to make their yards safer places to live and play.

The Scope of the Problem

Since most homes in New Haven predate the 1970s' ban on lead, the soil around these homes likely have moderate levels of lead contamination. Between June 2007 and January 2008,

over fifty residents from Greenspace groups volunteered to have URI test their front yards and curbstrips for lead. URI found that 90% of these yards tested positive for lead with levels exceeding the federally acceptable threshold of 400 parts per million.

To test for lead, URI interns take soil samples from the dripline of the eaves (about 3 feet from the house), the middle of the yard, and the curbstrip. Once URI receives the results we immediately contact the homeowner, let them know the test results, and propose an action plan for making the yard safe. We

inform residents about lead-related health concerns and, despite the physical labor required for remediation, residents are pleased to have a front yard makeover both for beauty and health.

DID YOU KNOW: You can apply for a grant to clean up lead in your home. Call the Greater New Haven Community Loan Fund at 624-7406.

Solutions for the yard

Since all of the residents, that volunteered to have their yards tested, are part of communities with a

Community Greenspace summer grant, the residents with lead results exceeding the acceptable range work side-by-side with URI staff to remediate their yard.

Depending on the lead levels found through testing, the yard or curbstrip soil is sealed with a durable cover including peastone gravel, clean soil, heavy bark mulch, and plant materials like shrubs and lawn. In extreme cases the soil is removed and replaced with clean soil.

In Pat Highsmith's yard, we removed the sparse grass and added clean soil on top of the existing soil throughout her yard and curbstrip. We added peastone gravel on top of the fresh soil and planted a hardy ground-cover plant all over the yard. We placed stepping stones for access and aesthetic appeal.

In addition to Pat, several other homeowners in her neighborhood also worked with URI to remediate their yard soil. Pat says, "this program is great...I'm glad that you were able to help us take care of [lead] in our yards, but I just hope there won't be any damage to our health as a result of the lead having been there."

URI hopes that this program continues to increase awareness of lead hazards across the city. The number of children with elevated blood lead levels is decreasing, but even the 51 cases reported in New Haven in 2006 are too many. Given the initial findings from the testing, we know lead contamination continues to be a problem in the city and that more testing and more yard remediation are needed. The success of this pilot arms URI with the knowledge and experience needed to work with more Greenspace volunteers in making their yards safer places to play.

PAULA RANDLER is a Master of Environmental Management student at Yale F&ES. She worked as a URI Community Greenspace Intern in 2007,

Photos by: Paula Randler



Example on Blake Street Pre and Post Remediation

Training Community Foresters

By Chris Ozyck

“Mutual pathway of learning”- is a guiding principle for the professional training of Community Forester Interns in URI’s Community Greenspace Program. Bill Burch, URI’s founder and Faculty Director, coined this phrase. This vision shapes both the staff and interns work, and leads the interns to learn from URI staff, outside professionals, community groups and individuals, other interns, and through self reflection. And in turn, these interns provide knowledge and guidance to communities, city staff, and URI staff.

The interns are inquisitive, eager to gain real world experience within a supportive framework of learning. The interns, though typically students from Yale’s School of Forestry and Environmental Studies, often have never planted a tree. While having interns with tree planting skills is useful it is not required; an eagerness to learn and work with others as a team is the most important prerequisite.

We challenge Community Forester Interns to understand how to work with both natural resources and with community groups, requiring wide-ranging skills. Thus the intern training sessions cover broad topics including urban forestry skills, facilitation and group dynamics training, and information and resource management. We developed and use a 200 page community forestry manual specifically designed for training interns covering topics such as urban ecology, background on species that grow well in urban areas, design, soils and compost, maintenance, mapping, monitoring and evaluation, and stakeholder assessment.

To prepare for the 14 week internship we begin training interns every Friday throughout March, and when the semester ends, training continues full-time for the first two weeks of the program. Classroom lessons are paired with practical field exercises.

Interns are always keen to visit existing project sites and utilize newly acquired skills. A popular exercise at any site is to identify both the assets of a community and opportunities for urban forestry activities.

In the second week of training, interns call their respective seven community groups that they will work with during the summer. Before calling their volunteer groups, interns are trained on effective phone communication through role-playing.

After establishing contact with the volunteer group, the interns’ set-up meetings and the training becomes real. At this point interns often feel in over their heads - uncertain that they have the skills they need. Like any newly acquired skills they need to be practiced and internalized. Over time, as the interns become more familiar with both the neighborhoods and planting techniques, they gain confidence.

Throughout the summer, the interns write weekly reports for each of the community groups they support documenting challenges and progress. As URI’s Greenspace Manager, I mentor the interns, meet individually with them, and together we often visit current project sites. The weekly meetings are brain picking sessions for us both. I ask many questions to glean information about the community groups as well as to gauge the interns’ level of learning.

Often, relevant information gained from the one-on-one meetings is then shared with the rest of the interns. This information may include useful tips such as where to find certain plants

or how to contact a city agency or may involve sharing stories of challenging inter-personal relations. Some of the best learning occurs at 9:00 pm in the office, comparing daily experiences and supporting each other through hot, long



Interns learning proper tree placement

days. Usually, after a couple of weeks the interns have their bearings and really focus on being effective through sweat and grace.

As the program winds down in August, the final two weeks of the internship include final field tasks with the volunteer groups and writing final project report for each site. Often, interns find it difficult to feel an immediate sense of accomplishment as projects are ongoing, and may span several years. However, with time interns realize the magnitude of their accomplishments and learning.

URI staff see the competency of each intern grow tremendously. The interns that grow the most, feel personally invested to a few or all of their community groups, and have not only many new skills, but also friendships, as a result.

CHRISTOPHER OZYCK is URI’s Greenspace Manager. He also owns and operates Alfresco Landscape & Design.

Sharing Insights: Past and Future Interns

By Kim Yuan-Farrell

The reason URI exists at Yale is to give students clinical experience through internships. Our internships provide opportunities to test career fields, develop job skills, feel more a part of New Haven, and give back to the local community. Interviewing an intern offers us insights about expectations and impacts of these clinical experiences.

Incoming Intern: This summer, Peyton Smith will join URI as an Community Forester intern supporting New Haven residents in restoring their neighborhoods.

Through the Greenspaces program, Peyton will support the work of seven different community groups by providing technical advice and materials for their planting projects. She will likely fill a variety roles, including project facilitator, community organizer, liaison to organizations, and group cheerleader.

Peyton graduates in May, with a master's degree in Environmental Science from Yale's School of Forestry and Environmental Studies. Peyton applied for URI's internship because of her interest in environmental restoration, from ecological improvements to social benefits.

Thinking ahead to the upcoming months, Peyton expects to learn valuable skills in communicating with a diverse group of interns and community members. Following the 2004 Indian Ocean tsunami, she volunteered in Tamil Nadu, India as part of an ecological restoration team that worked with local villagers to build a biological barrier on the coast. The restoration team was very diverse, often making communication across genders, ages, ethnicities, and languages difficult and leading to breakdowns in the team's efficacy. "I hope to develop more skills to work effectively

with people – to build strong and useful relations with both interns and with community members."

Peyton also hopes to gain practical experience in negotiating her role and responsibilities as a professional in relation to the needs and desires of residents. "I want to learn how to facilitate but not to co-opt or take over the work of a community. I'd like to help make



Laura Wooley with volunteers in the West River Neighborhood

people more effective in realizing their dreams." Peyton begins training as a URI intern this spring and is looking forward to getting some dirt under her nails – "something that's lacking when you're a masters student."

Former Intern: Laura Wooley, a 2004 Community Greenspace intern, reflects on how her experiences at URI prepared her for the many challenges she faces today as she continues to work closely with people and trees.

Laura is currently coordinating urban tree planting projects and promoting citizen stewardship for the New York Tree Trust, a program of the NYC

Department of Parks and Recreation. Among her many responsibilities, Laura selects planting sites and tree species, directs and supervises contractors, and conducts tree stewardship workshops for the public.

Through her training in the Greenspace program, Laura gained expertise fundamental to her work at the Tree Trust. "My internship with URI was definitely relevant to my current job," Laura says. "The internship gave me an understanding of how neighborhoods function and how people relate to greenspaces. I learned how to work with a broad range of people and organizations and gained many problem-solving skills."

Laura utilizes other skills from her URI internship, like how to select appropriate tree species for specific planting sites. "Working as a Greenspace intern was the first time I felt like all of the learning was hands-on. I had to coordinate so many logistics, including materials and other real-world details." Through this hands-on method, Laura gained the knowledge and confidence to lead workshops, advise people on tree care, and handle volunteer projects.

Laura also discovered new attributes about herself through the Greenspaces internship. "I learned that I am very good at teamwork – or that I love it. I'm not sure which one it is. We had a fantastic team of interns, and we all worked really well together... When the work is that hands-on, I'm happy to be really really busy. I learned that during my internship. It was the best work experience I've ever had."

KIM YUAN-FARRELL is a Master of Environmental Management student at Yale F&ES. She worked as a Community Forester intern last summer.

Building Local Connections: learning science through place-based education

By Annette Bellafiore

I am anxiously standing outside Ms. Perrault's sixth grade classroom at Lincoln-Basset Elementary School in New Haven, waiting for the students to return from lunch. It is the first day of my internship with URI's Open Spaces and Learning Places program and I am excited and nervous to meet my students. As I wait, I look at the artwork that decks the hallway walls. A paper cutout of each student hangs with their name and a list of things they like to do.

As I scan each child's cutout I notice that most of the activities revolve around sports, video games, T.V., family and dance. Very few students list they like spending time outdoors and in nature. I realize I may have a difficult time turning these students on to nature. The goal of my internship is to teach the students science and environmental education within the context of their local environment—something called place-based education.

While considering the lives and interests of my students, I begin to reflect on my own experiences as a child growing up in suburban Long Island. I loved having the freedom to explore the woods behind my house. Each year I discovered a new fascination: toads, caterpillars, rocks. My collections were diverse and my pursuits driven. My mother was patient as I searched the house for containers to store my treasures and food to feed them.

Now, whenever I return to my childhood home, I walk through the woods and fondly recall all of my adventures. Many environmental professionals recall similar experiences of nature as an integral part of their childhood. Yet, with more of today's youth spending a significant amount of time indoors and plugged into electronic media—an average of 30 hours per week on computers, televisions and video games—many researchers wonder where the next

generation of environmental stewards will come from.

This lack of contact between children and the natural world, especially in urban areas like New Haven, is referred to as "Nature Deficit Disorder" by the writer Richard Louv in his book *Last Child in the Woods*. Louv and other researchers argue that nature is crucial for proper child development.

As it turns out, direct experiences in nature help children develop mentally, physically, emotionally and spiritually. Outdoor play encourages creativity and enhances cognitive development. Several researchers also find that contact with nature diminishes symptoms of Attention Deficit/Hyperactivity Disorder.

When children

stop interacting with the natural world and only limit their experience to indoor activities, they are unable to develop a strong sense of place. David Sobel and other authors advocate that a strong sense of place develops through frequent encounters with the local environment. From abandoned lots to steams to woods, any type of naturalistic setting can be a source of wonder about the world for a child.

"Without a complex knowledge of one's place, and without the faithfulness to one's place...it is inevitable that the place will be used carelessly, and eventually destroyed," said Wendell Berry, a writer on the subject.

Developing a strong sense of place is also important for helping children to relate to the world. An understanding of the local environment allows children to feel connected to the landscape where they grow up and helps children feel more secure in their surroundings.

Since connections to the natural world and the development of a sense of place are so crucial for child development, many researchers advocate the use of place-based education both as a part of and supplemental to regular classroom experiences.

Researchers studying the relationship between children and nature,



Visiting Lake Wintergreen

discover that middle childhood—ages 7-12—is an extremely important time in a child's development and a time where nature can have a large positive influence of a child's life. According to Sobel, "Middle childhood appears to be the time when the natural world is experienced in highly evocative ways."

Within New Haven, URI's Open Spaces as Learning Places program brings place-based education to sixth grade students. Following the tenets of place-based education, URI fosters a connection between New Haven's urban children and their local environment while they are at the critical middle childhood stage of development.

Through the program, we try to make children aware that one of New Haven's greatest assets is the green spaces distributed throughout the city. Most of the larger parks form a circle around the periphery of the city which we tell the children is referred to as the city's emerald necklace. In addition, the

city abounds with pocket parks, many of which were created through URI's Community Greenspace program.

URI's Open Spaces program tries to build interest in exploring New Haven's natural areas. To facilitate this process, the children participate in a number of field trips throughout different types of green spaces within the city. The first field trip ventures no further than the schoolyard—a place that the children should feel comfortable exploring. Outside in the sun and fresh air, we encourage the students to observe nature through bird watching and a scavenger hunt for different natural objects found in the schoolyard. With each passing field trip, the children travel farther away from their home-base to ensure that they develop trust and comfort with being outdoors.

The field trips are supplemented with classroom-based lessons that help children learn key concepts that will aid with their outdoor pursuits and further their understanding of the local

environment.

All of URI's experiences aim to provide the children opportunities to discover the wonder of nature by teaching students that direct experiences with nature can be more exciting than the virtual world of television and video games. In this respect I feel the program is very successful. When we brought in live animals, all native to the area, the students practically jumped out of their seats to touch the snake's rough skin or the turtle's hard shell. And when we brought the children to Lake Wintergreen, even the students that are normally difficult to engage in the classroom could not wait to try and catch tadpoles and newts for the new class aquarium.

Another goal of URI's program is to teach children about environmental stewardship. Children learn about the importance of community involvement by visiting a local Greenspace. They meet with a neighborhood leader who explains how and why they work to recover their Greenspace.

The Open Spaces Program complements the No Child Left Inside Initiative, Connecticut State DEP Commissioner's, Gina McCarthy, vision to promote families and children to get outdoors. This program "teach[es] children about the importance of our environment so they are inspired to protect it as adults," says McCarthy. "We need to put a new generation of leaders and activists in place to protect and build upon the environmental progress we have made."

As I visited the classroom for one last time I hoped that the children's experiences will last a lifetime and that I helped them to establish a connection between themselves and the natural world.

ANNETTE BELLAFIORE is a Master of Environmental Science student at Yale F&ES. She is interested in environmental education and communications.

Dreaming Big at Chatham Square

(continued from page 3)

Although the landlord had no interest in keeping up the property, the Friends of Chatham Square decided to come in themselves and clean it up. Without the stewardship of the residents, however, the property quickly returned to neglect. Barbara recounts how "the next week the kids were riding their bikes over the shrubs. And after six months, it looked like trash again..." Referring to the group in more recent years, she says: "We no longer take on as much, but now we are much more focused. We do what we think we can handle."

When asked what advice they have for neighborhood groups just starting out, the Friends of Chatham Square

don't hesitate: "Dream big," said David, "but just take it slow. Don't try to do it all at once."

Both he and Barb talk about the flux of their group, years when it was large and years when it was small. They emphasize that other groups should not feel discouraged by numbers and that it may not be realistic to expect participation from every house on the street. However, David does mention the importance of receiving a mix of community input. "Getting key people involved throughout the neighborhood is good, because you come at it from different angles. [Each of] you sees things. You see the sun rising in a different window. You see a tree shadow from a

different perspective. Then you mix it all together in a big bowl and out comes your Greenspace Program."

At the end of our conversation, he distills Chatham Square's thirteen years of lugging trees and digging holes, joking and arguing, sharing hot dogs and making hospital visits, into a few short words of encouragement.

"You can make it happen," he says. "Even with a small group, you can make it happen!"

MEG ARENBERG is a Master of Environmental Science student at Yale F&ES. She worked both as a student assistant and as a community forestry intern at URI.

Hixon Fellows Research Activities

The Hixon Center sponsors summer internships for students from the Yale School of Forestry and Environmental Studies to undertake research projects to increase understanding of urban ecosystems.

Bird Diversity is Higher in Developed Landscapes: Steve Brady examined the distribution of wetland dependent birds across three types of land cover: urban/suburban, agricultural, and forest. Many studies indicate the negative consequences of habitat conversion on native wildlife, however recent investigations suggest that some species may respond positively to human dominated landscapes. While the negative response of forest songbirds to land development is well documented, the response of wetland dependent birds is less known. Steve conducted this research in the CT River Valley and the Yale Forest in Union, CT. He used point count surveys to record bird abundance and diversity at each of 16 wetlands. His findings indicate that wetlands in human dominated landscapes support larger and more diverse communities of birds. These results suggest that the response of wildlife to land conversion is context dependent, and that human dominated landscapes may offer opportunities for conservation of wetland dependent birds.

Urban Growth and Land Cover Change in Ecuador: Brenna Vredeveld examined how specific economic, social, political and biophysical variables motivate or hinder urban growth in Quito, Ecuador's second largest city. Specifically, she focused on understanding the influence of these variables in three peri-urban communities located in two important watersheds southeast of the city. The three communities represent a gradient of urban development defined by presence of formal infrastructure. In order to understand historical growth trends in these areas, Brenna conducted interviews with community leaders as well as with regional urban

planning and environmental departments. She also used community surveys and an informal GIS analysis to observe changing demographics and associated land covers in order to gauge the importance of biophysical variables on urban growth. Overall, she found that the contribution of each variable to urban growth varies across the three communities. In addition, land cover changes are often influenced by the effectiveness of planning policies, the attraction of markets, opportunities for livelihoods and resource availability.

Continuum of Tenure and Services: Jen Lewis conducted her research with support from The United Nations Human Settlements Programme in Mexico. She focused on land tenure legalization and service provision in peri-urban communities in Mexico. She worked in Xalapa, Veracruz developing criteria for future initiatives that link legalization and service provision processes. Key elements of this initiative included a comprehensive study of historical land use planning, environmental indicators, and political processes for property rights and services. Ultimately, the results of this research project offer an initial historical review of land rights and planning programs in Mexico. An additional outcome is an innovative proposal for sustainable development in peri-urban communities of growing cities as well as an academic analysis of current urban land use policy in Mexico.

Children's Exposure to their Outdoor Environment: Ali Senauer evaluated and is testing a novel method, based on global positioning system (GPS) technology, to better understand children's exposure to their outdoor physical environment in urban areas. Through numerous studies and the development and application of new tools and techniques over the past several decades, we have become acutely aware of the direct linkage between non-human organisms' distribution, health, and survival and the quality, quantity, and spatial distribution

of their habitat. Unfortunately, while there has been increasing emphasis on understanding non-human organisms and their habitat needs, there has been relatively little focus on understanding human habitat needs. Ali is interested in using GPS technology to advance our understanding in this area. Towards this end, she evaluated a number of commercially available GPS instruments and is currently developing a custom unit to meet her research needs. This work will directly inform and advance Ali's dissertation research, which is focused on understanding how the structure of children's physical environment impacts their experiences and health.

Hydrolic Effects of Instream Habitat Restoration: Gerald Bright analyzed how an instream habitat restoration application affects both instream flow variability and habitat quality for invertebrates, on the main stem of Pennypack Creek in Philadelphia, PA. Often, restoration applications are completed without a full understanding of process and violate the dimension, pattern and profile of a stable river. Using River2D, a two-dimensional (2D) hydrodynamic model, Gerald modeled natural and modified instream hydraulic conditions at a range of discharges to test for differences in hydraulic conditions and habitat suitability. Analysis of model outputs from River2D yields promising conclusions as to the utility of modeling the effects instream habitat restoration structures. The ability of 2D hydrodynamic models to resolve spatial variability in hydraulic conditions can provide opportunities for their use in making predictions about hydraulic conditions in systems with altered flow regimes. Conditions present in impacted urban systems could support the use of 2D models in the development of watershed management strategies given the influence of anthropogenic and land-use effects on flow regimes and habitat quality.

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I think, though, that being able to hear each other, and to be just a little in each other's business is the only way neighbors come to be aware of and respectful of each other, and to know enough about each other to be able to help when help is needed. ...it is easier to be private than it is to be social. It's not so hard to keep windows closed and shades drawn: what's difficult to find is a way to connect with others. ~ Steve Kahn

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