The National NEMO Network
Nonpoint Education for Municipal Officials

2002 Progress Report
A network of education programs teaching local land use decision makers about the relationship between land use and natural resource protection.
The Network Across the States

Alabama
Arizona
California
Colorado
Connecticut
Delaware
Georgia
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Massachusetts
Michigan
Minnesota
Missouri
Mississippi
Montana
Nebraska
Nevada
New Hampshire
New York
North Carolina
Ohio
Oregon
Pennsylvania
Rhode Island
South Carolina
Tennessee
Texas
Virgin Islands
Washington
Wisconsin
This is a progress report on a unique group of educational programs that are helping communities across the country make better land use decisions.

Mark Twain’s famous quip, “A great, great deal has been said about the weather, but very little has ever been done,” might just as easily be applied to land use. Land use is at the root of many of the most pressing issues facing our communities. Water and air quality. Economic development. Farmland preservation. Sprawl. Open space protection. Community character. However, land use is determined at the local level, by people serving on town, township and county boards and commissions. As they struggle to deal with these important issues and guide the future of their communities, local decision makers are in need of assistance and technical tools. Yet few federal or state agencies have the mission, expertise or resources to provide this type of assistance.

What can be done to address this problem? EDUCAT I O N. The member programs of the National NEMO Network believe that research-based, professional outreach education is by far the most effective, and most cost effective, means by which to help America’s communities make better land use decisions.

We’re turning that belief into action in communities across the country. Far from just talking about land use and its problems, our programs are making real headway in addressing the growing concerns of the nation, one locality at a time. Local land use plans and regulations are being revised. Roads, parking lots, subdivisions and other developments are being designed and built differently. Policy changes are being made at the local, watershed, regional and even state level.

Please read on and learn more about who we are, what we’re doing and why we’re making a difference in communities across the country.
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National NEMO Network member programs are supported by many different federal, state and local sources (page 28). Coordination for the NEMO Network by the University of Connecticut Cooperative Extension Service is currently supported by the USDA/CSREES Water Quality Program, the EPA Office of Water Nonpoint Source Control Branch, the NOAA National Ocean Service and the NOAA National Sea Grant College Program. The National NEMO Network is a program of the University of Connecticut Center for Land use Education And Research (CLEAR), Land, Sea and Space Grant collaborating.

nemo.uconn.edu
The National NEMO Network is a confederation of programs that educate local land use decision makers about the links between land use and natural resource protection. Network programs are patterned after the original Nonpoint Education for Municipal Officials (NEMO) Program developed at the University of Connecticut, but each program is a unique entity, typically operated as a multi-organizational consortium. The University based USDA Land Grant and NOAA Sea Grant systems are the most common institutional homes of NEMO programs, although lead organizations also include state agencies and nonprofit groups. These programs, now numbering 27 in 26 states and territories (map, front inside cover), have joined together of their own accord to create a unique national network that is sharing information, educational methods and technical tools across state and agency lines.

What is NEMO?
The NEMO Program was created in 1991 at the University of Connecticut as a partnership between the Cooperative Extension System, the Connecticut Sea Grant College Program and the Natural Resources Management and Engineering Department. A major objective in the development of NEMO was to demonstrate the effectiveness of using remote sensing and geographic information system (GIS) technologies to inform and enhance educational programs linking local land use decisions to water quality issues.

The most important aspect of the NEMO model, however, is its tight focus on local land use decision makers as the educational target audience. Because of this, and because land use issues are complex, multifaceted and often political, there is no substitute for the give-and-take of direct communication with local officials. Thus, although the use of geospatial technology is often an important element of NEMO educational programs, the basic approach of the Network remains face-to-face workshops for local officials.

The Birth of the Network
News of the NEMO Program quickly spread to other states through articles, conferences and word-of-mouth. By 1995, interest in the program had evolved into requests for assistance in adapting NEMO to other areas. Connecticut NEMO staff began to conduct workshops to assist their colleagues in other states to plan, organize and initiate NEMO adaptations. By 1997, with the
number of NEMO programs growing and with the advice of an Interagency Work Group that included USDA, NOAA, EPA and NASA, the idea of a national network began to take hold. In October 2000, 15 NEMO programs from across the country met for the first time to share experiences and expertise, and to discuss ways to better collaborate. It was during this first NEMO conference, dubbed NEMO University or “NEMO U,” that the National NEMO Network was truly founded.

Greater Than the Sum of Its Parts

Why a national network? Because no one has the corner on good ideas! Land use practice is in need of as many effective and innovative approaches as possible to help address the diverse challenges communities face as they struggle to balance economic growth with natural resource protection and preservation of community character. In order to create effective educational programs to help disseminate these new ideas, educators need access to resources and expertise that may not exist in their home institutions or state.

The National NEMO Network allows for the transfer of innovation and information so that it can benefit the people who will actually make the difference—land use decision makers. Communication and coordination for the Network comes from the Connecticut “Hub,” and member programs demonstrate their commitment to the Network by signing a Charter (page 29).

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Network Facts

• As of early 2003, there are 27 funded Network programs operating in 26 U.S. states and territories.
• 19 of the 27 programs are in coastal states.
• Programs range from small pilot programs operating at the town or county level to larger statewide programs, many operating at the watershed level.
• Network programs have given over 500 presentations to local officials in the past two years.
• New programs in 2002: Colorado, Texas, Delaware and Arizona.
Within the boundaries of their shared philosophy and educational approach, NEMO programs are diverse. Institutional makeup, geographic coverage, topical focus, methodology, funding and staffing vary from state to state. The following pages attempt to capture this diversity, and to demonstrate the depth and breadth of the local work being done by Network programs.

The first section, **Selected Program Profiles**, describes the work being done by eight Network programs. The second section, **Selected Program Snapshots**, gives brief updates on some of the more recent efforts.

These reports do not attempt to describe all the work being done in the Network. Because of the breadth of the work being done by the Network, not all of the 27 member programs are featured in this report. We intend to issue further progress reports, featuring different sets of programs and communities, as the Network continues to grow and mature. We encourage readers interested in a particular program to get in touch with the contact person for that program (pages 36-38).

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How the Program Developed

The original NEMO Program, still going strong after a decade, developed from work being done by the Long Island Sound Study (LISS) National Estuary Program on coastal nitrogen pollution.

Working together for the first time on the LISS Nonpoint Source Working Group, University of Connecticut (UConn) Cooperative Extension land use and water quality educators linked up with the UConn Laboratory for Earth Resource Information Systems, which had just created the first satellite-derived land cover map of Connecticut.

This new and unique information, incorporated into educational programs using geographic information system technology, became the informational foundation of NEMO. The other major element of the program was its tight focus on municipal land use decision makers as the target audience. With support from the USDA/CSREES Water Quality Initiative, NEMO was able to develop slowly, testing educational methods in three pilot coastal communities before broadening the program.

How/Where NEMO Works

NEMO has evolved in many ways since its inception. Topically, NEMO has expanded from the basic presentation developed in the pilot towns to over a dozen educational modules covering many different aspects of natural resource-based community planning, including open space planning, community resource inventories, wetlands protection, watershed planning and designing development to reduce the impacts of impervious surfaces. Geographically, NEMO has long been a statewide program: over two-thirds of the 169 communities in Connecticut have participated in a NEMO educational workshop. The most important change to the program, however, has been the development of the Municipal Initiative, in which one town in each of Connecticut’s five major watersheds is selected each year to work with the NEMO Team on an intensive basis. The “Muni,” which has been incredibly successful at fostering local change, is supported by the Connecticut Department of Environmental Protection’s Section 319 Nonpoint Source Program. Additional support comes from NEMO’s two major partners, the Connecticut Sea Grant College Program and UConn Cooperative Extension.

Accomplishments

NEMO has been the catalyst for planning, policy and practice changes at all levels of Connecticut government. At the state level, NEMO is referenced in, and NEMO principles have been incorporated into, the State Plan of Conservation and Development, the Section 319 Nonpoint Source Plan, the “6217” Coastal Nonpoint Source Plan, and the upcoming State Stormwater Guidance Manual. NEMO is an important part of Connecticut’s plan to assist communities covered under the Stormwater Phase II permitting program.

However, it’s at the all-important local level that the program has had the most impact. Catalyzed by NEMO educational programs and information, towns throughout Connecticut have changed their land use plans, regulations, policies and procedures. New multi-commission task forces have been created to address growth related issues in a coordinated fashion. Watershed plans have led to unprecedented inter-town cooperation. Natural resource inventories have been
NEMO has been the catalyst for planning, policy and practice changes at all levels of Connecticut government.

Conducted, to help identify and prioritize areas worthy of protection.

Comprehensive town plans have been revised to more specifically outline the goals of protecting water resources and community character. Open space plans to guide the protection of natural areas and working farmland have been created, and many hundreds of acres of these lands have been placed in permanent conservation.

Zoning and subdivision regulations have been changed to minimize the impact of new development, through fostering of innovative development design that requires stormwater “best management practices” that conserve green space and protect water. Taken together, these new policies and practices are changing the way that Connecticut’s local leaders plan and build their communities. Old Saybrook (below) is one example.

The Future

Ten years after its first pilot presentation, CT NEMO is going strong and providing inspiration to the entire National Network. The program is committed to the practice and philosophy of fostering change “one town at a time.” And it works—the number of local impacts is snowballing, as more and more towns provide examples of ways to grow while protecting their natural resources. Finding the resources to service the growing number of towns requesting assistance is the key future challenge for the NEMO “Mother Ship.”

Spotlight on Old Saybrook, CT

Old Saybrook joined the Municipal Initiative in 2000, and with the help of NEMO staff the town’s multi-commission NEMO Task Force is spearheading an overhaul of town land use plans and regulations. Natural resource and economic resource inventories have been conducted, local road standards are being revised, and the Board of Selectmen has put forth a policy statement on development that has already resulted in the town’s first water-friendly innovative subdivision.

Excerpts from Old Saybrook’s Policy Statement on Development:

It is the desire of the Board of Selectmen to encourage the use of design standards . . . that will maintain and enhance the character of the Town [and] minimize potential impacts to the environment . . . The specific objectives of the Board are to:

1. Reduce increases in volume, velocity and rates of stormwater runoff. 2. Minimize erosion and sedimentation of wetlands, watercourses and drainage systems. 3. Minimize the potential for increased frequency and severity of flooding. 4. Minimize potential for stream channel and floodplain changes. 5. Minimize the potential for reduction in groundwater recharge and reduction of stream base flows. 6. Minimize the discharge of pollutants to wetlands and watercourses.

On the Web at: nemo.uconn.edu
This development pattern, tied to an influx of new residents, makes urbanization and sprawl primary factors in water quality impairments in South Carolina.

In May 1998, the South Carolina Sea Grant Program hosted a team from the Connecticut NEMO Program to hold a scoping session for representatives of allied agencies and organizations interested in bringing the NEMO Program to South Carolina. From this session the South Carolina Nonpoint Education for Municipal Officials (SC NEMO) Program formed, coordinated by the SC Sea Grant Extension Program. The program brings together a broad and unique consortium of partners, united in their efforts to protect the state's natural resources through responsible land use planning and development.

How the Program Developed

As in much of the country, coastal communities in the South are under increasing pressure to develop previously undisturbed areas, with houses and roads consuming land at an unprecedented rate.

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How NEMO Works

The SC NEMO Program has focused on watershed level work throughout the state. The program's first pilot project was in the Waccamaw River Basin, which encompasses eight sub-watersheds, totalling 626 square miles. Three formal workshops were given in the study area for local town councils, town planning commissions, county councils, county planning commissions, public works officials and the local press. Additionally, 29 different NEMO presentations were given throughout the study area and the rest of the state on behalf of the pilot program. Requested talks were given to civic groups, non-governmental organizations, environmental advocacy groups and local chambers of commerce in order to generate interest and knowledge about the NEMO program.

In 2000, SC NEMO went statewide, focusing on several designated watersheds. To date, 14 different NEMO presentations have been given, reaching over 175 elected and appointed officials, advocacy groups and others in these watersheds. Several more presentations will be conducted in the Saluda and Catawba watersheds by the end of 2002.

A new effort funded by both EPA Section 319 funds and the NOAA Sea Grant Coastal Community Development Program is focusing on the South Carolina Coast. Headed by a coalition of SC NEMO and the Berkeley-Charleston-Dorchester Council of Governments, the team has conducted 21 NEMO presentations to date. Four formal presentations and 17 briefings have been given to municipal and county planning commissions in the watershed.
Over the four years of its existence, the SC NEMO Program has reached over 600 elected and appointed officials. Surveys of this audience show that 94 percent felt that the NEMO workshops provided them with new information that will help them in their decision-making processes. One hundred percent of those surveyed indicated that they would recommend the NEMO Program to others; a result that particularly pleases the hardworking SC NEMO Team.

Accomplishments
SC NEMO hasn’t rested on the laurels of workshop participants. Rather, they have measured the success of their program through changes in land use plans and regulations in their client communities. After several years of educating South Carolina’s decision makers, these changes are beginning to mount.

In 2000, the City of Conway adopted a new landscape ordinance as a direct result of NEMO. The City of Conway Zoning Ordinance 11.1040 requires newly constructed on-site retention ponds to utilize native wetland vegetation around the perimeter to protect water quality. In Berkeley County, the County Council adopted language in their comprehensive plan directly identifying the SC NEMO Program as having strategies they would like to use in their future ordinances.

In other counties and municipalities, SC NEMO has played an advisory role. For example, NEMO Team members have been asked to participate in the drafting of a stormwater management plan by the City of Surfside Beach. In the City of Georgetown NEMO is serving on the community’s Visioning Committee, which is crafting revisions to their comprehensive plan. SC NEMO has also been asked to review and suggest changes to the Land Use and Development Standards Ordinance for Anderson County in the Seneca Watershed. Additionally, NEMO will be working with the ACE Basin National Estuarine Research Reserve to address important planning and development issues within their boundaries.

The Future
Wishing to further accelerate its impressive accomplishments, the SC NEMO Program has started the SC NEMO Coastal Communities Initiative. This initiative is roughly based on Connecticut NEMO’s Municipal Initiative, and is designed to bring “focused educational programming aimed at assisting local communities in the development and implementation of land management policies and practices to reduce polluted stormwater runoff and protect local natural resources, while encouraging sustainable development.”

The Coastal Communities Initiative is funded in part by the NOAA Sea Grant Coastal Communities Development Program.

“This was a program that really accomplished its goals and should have a positive impact on nonpoint source pollution.” - Doug Fabel, Section 319 Grant Coordinator, South Carolina Department of Health and Environmental Control

Program Partners
South Carolina Sea Grant Consortium
Clemson University
Waccamaw Regional Council of Governments
USC Environmental Research & Service
USC Earth Science & Resources Institute
Berkeley-Charleston-Dorchester Council of Governments
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In 1998, a consortium of Alabama agencies, led by the Alabama Department of Environmental Management (ADEM) and the Alabama Cooperative Extension System, contacted the NEMO Hub with interest in bringing the NEMO message to the state.

**How the Program Developed**

The state of Alabama has a long agricultural tradition and its people identify readily with the land. Like many other parts of the country, as subdivisions are popping up in farm fields and woods, Alabamians are beginning to recognize the gradual degradation of their natural and cultural heritage.

In 1998, a consortium of Alabama agencies, led by the Alabama Department of Environmental Management (ADEM) and the Alabama Cooperative Extension System, contacted the NEMO Hub with interest in bringing the NEMO message to the state.

**How NEMO Works**

Early in the planning process, the program’s coordinators realized that in order to implement NEMO on a statewide basis, they would need dozens of people trained to present the program. Funding was not readily available, however, to support this number of professional outreach employees. So with funding from the state’s Section 319 Program, a coalition of state agencies led by ADEM designed a “train-the-trainers” workshop to prepare volunteers to give the program to municipalities and counties in their area. Alabama NEMO has designed a two-day curriculum to give participants the kind of “deep background” information they will need to be effective educators. Workshop participants are armed with all the materials they will need to conduct the basic NEMO presentation, including a “NEMO Bible” and CDs with presentations and publications such as fact sheets and promotional materials.

**Accomplishments**

AL NEMO has trained dozens of trainers across the state. These trainers have given over 175 presentations statewide to over 1,500 people—an impressive feat by a small army of volunteers. But the AL NEMO coordinators have also worked to broaden the program’s educational offerings to local officials, having developed programs on forestry, on-site wastewater, watershed restoration and low impact site design. They are currently planning to develop a program for businesses entitled “Business Partners for Clean Water” that will address the unique challenges local businesses face in being responsible stewards for clean water.

AL NEMO can also point to on-the-ground accomplishments of their program. In Baldwin County, new subdivision rules have been adopted that provide for conservation subdivision design and other low impact development standards. In the municipality of Trussville, new planning documents and ordinances have been recently developed that provide for greenway and open space planning, along with the designation of stream buffers to protect water quality.
The Future

Although AL NEMO has been amazingly productive over the past several years, there is still much to be done. Many counties and municipalities are still in need of assistance and even with the growing corps of AL NEMO volunteers, it will take years to reach them all. Coordinators of the program are finding growing interest in NEMO, in part due to the impending Clean Water Act Stormwater Phase II deadlines in early 2003. AL NEMO will continue to provide assistance and motivation to improve both planning and land use practices on the local level.

Spotlight on Fairhope, AL

Fairhope is an innovative city adopting new development practices and initiating new plans to protect natural resources. The City is located in southwest Alabama on the eastern shore of Mobile Bay, in one of the fastest growing counties in the state. Working with members of the Alabama NEMO Task Force, Fairhope officials have begun to institute many innovative programs that will ensure their leadership in smart growth planning. Examples include:

Planning and “Smart Growth”
Fairhope has parks and green spaces interspersed throughout the community. Fairhope will continue its open space planning efforts in collaboration with AL NEMO as part of the EPA/NEMO Smart Growth Initiative, including emphases on: • Shoreline protection and public access to local waters. • Creating bicycle and pedestrian networks to and between residential and commercial areas to encourage neighborhood and community feeling. • Planning for land use that centers on the “walkable village” concept.

Stormwater Best Management Practices
The City partnered with Sherman International Corporation and the Coastal Alabama Clean Water Partnership to install permeable concrete at one of their new city facilities (photo, top and middle right). An educational display on stormwater and polluted runoff will promote water quality stewardship at this highly visible downtown facility. Projects include: • Perma-Turf (plastic grate topped with grass) at city lift stations, as an asphalt/concrete alternative. • Effective stormwater ordinances and educational brochures on sedimentation management, outlining penalties for violation. Future projects include implementing additional innovative urban stormwater bmbs, including bio-retention areas.

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Ohio NEMO Program

Program Initiated: July, 1999

How the Program Developed

In 1999, Ohio State University (OSU) Extension, the Ohio Department of Natural Resources and the Ohio Environmental Protection Agency created a new watershed initiative to help Ohio communities deal with the upcoming Total Maximum Daily Load (TMDL) and Stormwater Phase II regulatory programs.

Ohio Extension watershed staff, hearing of NEMO through the Land Grant University network, came to Connecticut in 1999 to learn more about the program. The meeting resulted in an Ohio NEMO Program, and a training workshop held in spring of 2000.

How/Where NEMO Works

Ohio NEMO is led by OSU Extension, but involves many partner organizations and agencies. Initial funding, which came from the USDA Water Quality Program, has now been replaced by funding that OSU Extension receives from the Ohio Watershed Initiative. A recent grant from NOAA is focused on increasing NEMO programming in the Great Lakes region, and cements additional partnerships with the Ohio Coastal Management Program and Ohio Sea Grant. The state NEMO Coordinator oversees a multi-level educational program that involves five OSU Extension Watershed Agents, as well as running workshops for partner agency personnel that have trained 80 professional staff in the presentation of NEMO materials to local officials. These trainees then work directly with local officials and watershed groups on stormwater management and other land use planning and natural resource issues. NEMO also conducts statewide topical workshops. For example, one featuring the national nonprofit Center for Watershed Protection, a NEMO Network partner, was attended by 65 OSU students and 145 water and planning professionals. NEMO presentations, publications and other educational materials are available on the program's extensive website.

Accomplishments

Ohio NEMO has had true "bottom line" success in fostering real change at the local level. The City of Columbus used NEMO principles as a basis for developing a progressive stormwater overlay zone to help protect Darby Creek, a national and state designated scenic river. The City, which is the 15th largest metropolitan area in the United States, is considering a similar ordinance city-wide in the coming year. The village of New Albany has fully incorporated NEMO
The City of Columbus used NEMO principles as a basis for developing a progressive stormwater overlay zone to help protect Darby Creek, a national and state designated scenic river.

stormwater management principles into their regulations. Closer to home, Ohio NEMO worked within the University (a virtual city unto itself, with a student populace of 49,000) to develop a vegetated “bioretention” swale to treat the stormwater from a 500-stall parking area (above). The “CampU Shed” project, devoted to reducing the environmental impacts of the OSU campus, is also developing other stormwater and stream restoration programs in concert with NEMO. Additional bioretention installations are cropping up in Ohio villages and towns, in part as a result of Ohio NEMO publications and programs.

The Future
Business is brisk for NEMO in the Buckeye State. The program has three additional conferences planned for the coming year, including one on open space protection in concert with the Network Hub and the EPA’s Smart Growth office. Work continues with the City of Columbus, to keep up the momentum of the landmark Darby Creek stormwater overlay. The partnership with CampU Shed continues to grow. Finally, the program is beginning a new relationship with Franklin County to develop a natural resource-based comprehensive land use plan that NEMO Program Director Tim Lawrence of OSU Extension hopes “…will become a model for developing a quantifiable, parcel-by-parcel evaluation of important natural resources within a community.” Clearly, NEMO can play an important role as Ohio embraces revitalization of its urban areas and protection of its agricultural heritage.

On the Web at: nemo.osu.edu

Program Partners
Ohio State University Extension
Ohio Department of Natural Resources
Ohio Environmental Protection Agency
Soil & Water Conservation Districts
Ohio Stormwater Task Force
Ohio Watersheds Network
County Commissioners Association of Ohio
County Engineers Association of Ohio
Ohio Township Association

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How the Program Developed

In the decade from 1990 to 2000, Indiana's population grew by almost 10 percent, with the fastest growing areas located not in the cities, but in agricultural areas. Although 38th in the nation in land area, Indiana ranks second in prime farmland, so the impact of increased development on farmland and water resources is a major concern.

With these issues as a backdrop, the seeds of Indiana's NEMO effort were planted in June of 1997, when the CT NEMO Team traveled to Traverse City, Michigan to conduct a workshop for the Great Lakes Sea Grant Network Land Use Team. The following spring, a NEMO workshop was hosted by Indiana-Illinois Sea Grant, and after a period of program development, Planning with POWER began in 2000. The “POWER” in the program name stands for “Protecting Our Water and Environmental Resources.” Initial funding for the program came from an Indiana Section 319 Nonpoint Source grant, with additional support from the NOAA Coastal Services Center. Ongoing support is provided by the two lead agencies, the Indiana-Illinois Sea Grant College Program and the Purdue University Cooperative Extension Service.

How/Where NEMO Works

The POWER Program is a collaboration between two successful statewide educational and technical assistance efforts: the Purdue Extension Land Use Team and the multi-agency Indiana Conservation Partnership. In November of 2000, with assistance from the Network Hub, POWER held a two-day training workshop for program partners to kick off the effort. Team members developed and unveiled a 25-minute educational presentation targeted at county commissioners, county planning and zoning officials and local officials. The presentation has been delivered in 40 counties, to audiences representing over 60 professional groups and agencies in Indiana. Hendricks, Elkhart, Howard, Dearborn and Putnam Counties, in particular, have been the focus of much activity. In addition, presentations have been given at a number of statewide conferences and workshops. The program’s publications now number six, a website has been developed, and POWER displays have been exhibited at over 40 events around the state.

Accomplishments

The Planning with POWER Program is working closely with five communities on POWER goals and objectives.

- In Hendricks County, local leadership organized a Planning With POWER Advisory Committee that meets monthly and advises the Hendricks County
Plan Commission on incorporating natural resource protection into the comprehensive planning process. Currently, this group is helping to update and revise subdivision control ordinances. In addition, the POWER group is developing a conservation design subdivision ordinance.

- In Elkhart County, Planning With POWER has held several meetings to discuss natural resource protection and to help initiate a comprehensive land use plan update. The POWER Program is also working with several watershed projects to help them develop land use planning goals for the future.

- In Howard County, Planning with POWER has delivered several presentations including a Developers Workshop. The Planning With POWER Coordinator serves on the Wildcat Creek Watershed Alliance Land Use Committee and is providing expertise on natural resource protection on an ongoing basis.

- In Dearborn County, Planning with POWER has been working with the City of Aurora and county officials on long range planning. The POWER Program helped plan a Hillside Slippage workshop for developers, builders and other local officials in collaboration with the Indiana Land Resources Council and the local Soil and Water Conservation District.

- In Putnam County, Planning With POWER has been working closely with a farmland preservation group, and more recently with the Indiana Land Use Consortium, on a community workshop on land use and the environment. The POWER program presented information on water quality status, and the county is discussing a GIS initiative as well as updating the comprehensive plan.

The Future

Planning with POWER is working closely with the recently formed Indiana Land Resources Council, a group chaired by the Lieutenant Governor that is working with communities across the state. The Council has asked POWER to provide assistance and guidance to their first pilot community. With that kind of high level endorsement, and an average of two to three new counties requesting POWER presentations each month, the future of NEMO in the Hoosier state seems bright.
In the western Lake Superior Basin, the Minnesota Sea Grant Program in Duluth and the University of Wisconsin-Superior Cooperative Extension Program were focusing on the bi-state Minnesota/Wisconsin Lake Superior watershed. The rapidly urbanizing Twin Cities region formed the other area of interest in NEMO. A consortium of partners headed by the Minnesota Erosion Control Association and the Minnesota Department of Natural Resources coordinated the Twin Cities' effort. Staff from the National NEMO Hub office held scoping sessions in Duluth and the Twin Cities in 1999 and 2000 to help organize both efforts. These two programs have since joined together and are now coordinating their outreach efforts under the Northland NEMO moniker.

How NEMO Works

The Lake Superior Basin Program began with the bi-state Minnesota/Wisconsin Lake Superior watershed, and has begun to spread its efforts to surrounding areas. This portion of the Northland NEMO is particularly interested in working with small underdeveloped communities, and is working with a variety of partners to provide both educational and technical assistance to these underserved municipalities. Initial and continuing support comes from NOAA Sea Grant’s Coastal Community Development Program and the Wisconsin Department of Natural Resources.

The Twin Cities portion of the Northland NEMO Program is made up of more than a dozen partners who help deliver the message in various regions of Minnesota and western Wisconsin. Through this network of statewide partnerships, the program can quickly address the needs and land use issues specific to individual communities. These partnerships bring together regional, state and private natural resource agencies and organizations to deliver a coherent and consistent message to the decision-makers and citizens of Minnesota and Wisconsin. The partners also support Northland’s efforts, either financially or through in-kind donations of time and resources. Funding for this two year-old program has come from: the Metropolitan Council, a regional...
Northland NEMO’s outlook is bright. There has been overwhelming interest in their programs, both from local officials and citizens.

Accomplishments

Northland NEMO has been developing and presenting programs for communities along the North Shore of Lake Superior, both in the Duluth Minnesota area and in northern Wisconsin communities such as Bayfield and Ashland. Focusing on the Linking Land Use to Water Quality Program, they have developed current and future impervious surface maps of the communities to drive the message home. Northland NEMO partners participated in a recent Network Hub training session on the Impervious Surface Analysis Tool (ISAT), to help bring customized and accurate assessment of impervious surface and its impacts to their communities (for more on ISAT see page 33). They are also exploring new topical areas by working closely with the timber industry to determine the effects of timber and forest management practices on water quality, as well as working with their Twin Cities colleagues to develop a Lakes NEMO workshop.

In the Twin Cities region dozens of education programs have been given during the pilot phase, generating considerable interest from participating and surrounding communities such as Scott County, one of the most rapidly growing counties in the state. In April 2002 Northland NEMO was awarded a Section 319 grant which is helping to take the program from the pilot stage to an expanded focus area 150-miles around the Twin Cities. The NEMO Team is working to develop a series of educational modules on topics from low impact development and reducing impervious surfaces to landscape design with native plants.

The Future

Northland NEMO’s outlook is bright. There has been overwhelming interest in NEMO programs, both from local officials and citizens. The program is gearing up to meet this demand, and is tracking the success of its work along the way. Already, program staff are starting to see changes to local plans and ordinances and requests for more follow up information.

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Program Partners

• University of Wisconsin-Superior Cooperative Extension
• Minnesota Erosion Control Association
• Metropolitan Council Environmental Services
• Metropolitan Council Community Development
• Minnesota Department of Natural Resources
• Board of Water & Soil Resources
• University of Minnesota Extension
• University of Minnesota Water Resources Center
• Minnesota Pollution Control Agency
• Minnesota Offices of Environmental Assistance
• Minnesota Sea Grant Program
• Minnesota Association of Soil & Water Conservation Districts
• Scott County Community Development
• Dakota Soil & Water Conservation District
• Friends of the Mississippi River
• Natural Resources Research Institute
• 1,000 Friends of Minnesota
• Lake Superior Research Institute

On the Web at: www.seagrant.umn.edu/water/nemo.html
       www.mnerosion.org/nemo.html

Photo opposite page, courtesy of the Northland NEMO Program.
Both anecdotal and increasing scientific evidence suggests that the quality and productivity of coastal rivers and estuaries have declined markedly over the last 20 - 30 years. Major coastal stakeholders agree that Georgians need more information to quantify the current condition of the state’s coastal water resources, and that the results of scientific studies should be placed in an easily understood format and communicated to the largest possible group of Georgia’s decision makers and to the public.

To accomplish this task, in the fall of 2000 the University of Georgia (UGA) Marine Extension Service received funds to initiate the Coastal Georgia NEMO Project to help provide the growing body of scientific research to local land use decision makers. Funding for the project comes from a variety of sources, such as NOAA Sea Grant’s Coastal Community Development Program, EPA Section 319 funding through GA Department of Natural Resources (DNR) and Coastal Zone Management (CZM) funds administered by the Coastal Resources Division of DNR.

How/Where NEMO Works

The primary focus of the Coastal GA NEMO Project is the 11 CZM coastal counties in Georgia and the five major river watersheds discharging into the Georgia Bight. Coastal GA NEMO is coordinated by UGA’s Marine Extension Service and has a full-time NEMO coordinator on staff. The project has completed 20 workshops and training sessions geared to decision makers or NEMO trainers, totaling 1,440 participants. NEMO presentations or displays at coastal festivals have reached another 1,850 members of the public.

Accomplishments

The project is working directly with county and municipal staff and elected officials to tailor educational offerings directly to their needs. In Brantley County, Coastal GA NEMO staff assisted the chairman...
Through the Coastal GA NEMO Project, county officials were able to consider potential sites for waste facilities that would not threaten surface or ground water resources.

of the newly formed Planning Commission to develop a series of educational presentations for new commissioners. Of particular concern to the county was the placement and location of solid waste sites with respect to their aquifer recharge zones. Through the Coastal GA NEMO Project and the geospatial expertise of their partners at the Southeast Georgia Regional Development Center, county officials were able to consider potential sites for the waste facilities that would not threaten surface or ground water resources (photo, lower left).

In Glynn County, Coastal GA NEMO is working directly with the County planning and engineering staff to help develop subdivision design standards for improved stormwater management. Starting in mid-2002, the County Planning Commission began a comprehensive review and revision of the zoning and subdivision ordinances to incorporate many of the principles espoused by the NEMO Program, including a reduction in the amount of impervious surface mandated by ordinance.

The Future

Despite these impressive accomplishments, the Coastal GA NEMO Project is still in the formative stages of development. This hasn’t stopped the program from formulating grand plans for its future. Working with UGA Cooperative Extension, Coastal GA NEMO has been training county Extension agents to bring the Linking Land Use to Water Quality Program to local officials in their counties. Additionally, the program is working with colleagues at UGA Department of Ecology and the Natural Resources Spatial Analysis Laboratory to further spread the program to the Atlanta/Athens metro area.

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How the Project Developed

Growth around Tennessee’s urban centers is rapidly converting farmland into suburban development. The Tennessee Department of Agriculture recognized the need to address the new forms of water pollution coming from urban and suburban areas, and took action after being introduced to NEMO by the Alabama NEMO Program at a regional nonpoint source pollution meeting.

After a multi-agency workshop was held in collaboration with the Network Hub, a pilot effort entitled the “Growth Readiness Project” was started in the summer of 2001, and funded by the Tennessee Department of Agriculture Section 319 Nonpoint Source Program.

Pilot communities began using training and presentation materials in the winter of 2002. The pilot is now evolving into a statewide program that will make training and materials available beginning in the summer of 2003. The state's Section 319 Nonpoint Source funding has been matched with support from the Tennessee Valley Authority (TVA), the University of Tennessee and the pilot communities themselves. Through TVA, the project is reaching out to surrounding states in the Tennessee River Basin.

How/Where NEMO Works

The Growth Readiness Project, led by the TVA, involves many partners that include academia, city, county and state government and nonprofit watershed groups. These partners have formed an inter-agency development team which interacts with four pilot communities: Blount and Knox Counties and the Cities of Alcoa and Maryville. All four communities are concerned about preserving water quality in areas undergoing rapid development, and are using the project as a resource to help them comply with upcoming NPDES Stormwater Phase II requirements. Representatives from the pilot communities were trained by project staff to conduct NEMO educational presentations on natural resource-based planning and design. In addition, they were trained in water-protective site design principles developed by the national nonprofit Center for Watershed Protection (CWP), a NEMO Network partner. To date, 36 presentations have been made to over 500 local officials and other leaders. In addition, members of the development team have given presentations about the project at a dozen statewide conferences and meetings, reaching over 300 people in the water resource and land use planning disciplines.
Accomplishments
The pilot communities are in the process of reviewing their existing land use regulations and practices, in light of NEMO natural resource-based planning principles and CWP community design principles. Project leaders expect that all four communities will make changes to their codes and ordinances in the coming year. In the meantime, the Tennessee Growth Readiness Project is gearing up to go statewide. The statewide program will offer both Leadership and Growth Readiness training classes to planning and public works officials, based on feedback from the pilot projects. Curriculum materials, presentations, brochures, maps and reference materials are almost completed for the training, and are all being put on a Growth Readiness Project CD.

The Future
The Tennessee Department of Environment and Conservation and the Tennessee MS4 Working Group have been presenting the Tennessee Growth Readiness Project as a tool that communities could use to help them comply with the Stormwater Phase II permitting program. With that kind of endorsement, the beginning of statewide training, and the positive ripple effect generated by the pilot successes, project partners expect NEMO in Tennessee to continue to expand.

All four communities are using the Growth Readiness Project as a resource to help them comply with upcoming NPDES Stormwater Phase II requirements.

Project Partners
- Tennessee Valley Authority
- University of Tennessee Water Resources Research Center
- Tennessee Department of Agriculture Nonpoint Source Program
- Tennessee Department of Environment & Conservation
- Blount County
- City of Alcoa
- City of Maryville
- Knox County
- Little River Watershed Association
- Southeast Watershed Forum

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While most NEMO programs are formed in response to rapid growth, in the Berkshire Mountain region of Massachusetts quality of life issues brought the program forward. Western Massachusetts is a rural region with a relatively stable population base; however, local concerns over the environmentally stressed Housatonic River caused the Berkshire Regional Planning Commission (BRPC) to investigate NEMO as a way to address development issues in the region. The program, dubbed Berkshire NEMO, focuses on local issues related to second home development and open space planning.

BRPC works directly with the communities in its region, and also partners with local watershed associations. This working relationship between the planning agency and the watershed associations has been strengthened over the last few years due to collaboration on the Berkshire NEMO Program.

To date, most funding has been from the state Executive Office of Environmental Affairs through the Massachusetts Watershed Initiative Program, and from the Department of Environmental Management. Additional funds for program delivery have come through the federal Section 319 Nonpoint Source Grant Program.

Although a relatively new effort, Berkshire NEMO has made much progress in the area. A suite of educational workshops has been developed, based loosely on NEMO’s recommended steps of natural resource-based planning. Sixteen presentations have been made during this pilot phase of the program, reaching community planning boards, select boards and conservation commissions as well as lake associations and local conferences. In collaboration with the Maine NEMO Program, a new module has been developed that focuses on lake management from both the community and individual property owner’s perspective. This module has been very well received by water resource professionals and is in demand not only locally, but throughout the National NEMO Network.

The accomplishments of these efforts are still accumulating, but already one community has started the open space planning process as a consequence of several NEMO presentations. Berkshire NEMO attended the Network’s Open Space Boot Camp and is currently developing a new educational module that will focus on open space planning (see Network Initiatives, page 32).
Long Island is often viewed as the birthplace of Post-World War II suburban development. Now predominantly urbanized to the west and under rapid development pressure to the east, Long Island municipalities grapple with balancing economic growth, community livability and natural resource protection. Long Island leaders recognize New York Sea Grant's NEMO Program as a practical resource that can assist them in protecting water quality and valuable coastal areas.

The majority of program funding has been received from the New York Department of Environmental Conservation Section 319 Program and the EPA Long Island Sound Study office. In addition, the NOAA Coastal NEMO Enhancement Initiative (page 32) and the Long Island Sound Study have provided grants to enable NY NEMO to expand its GIS capabilities.

Focused initially in Nassau County, NY NEMO’s topical scope and geographic reach are broadening. NY NEMO has worked with two Nassau County Long Island Sound watersheds—Hempstead Harbor and Manhasset Bay—where two intermunicipal watershed protection committees are established. There, the issues stem from urban runoff and include closed shellfishing, restricted bathing, sedimentation of boating channels and degraded wildlife habitat. To assist communities address these problems, NY NEMO co-sponsored the Long Island Stormwater Conference which was attended by over 130 municipal officials and staff. Implementation of the municipal EPA Stormwater Phase II Program has become a priority on Long Island and NY NEMO has provided dozens of presentations to facilitate their efforts at local and regional events.

In Suffolk County where there is still significant undeveloped land, NY NEMO has begun assisting communities by offering a proactive impact prevention strategy. Future workshops for priority Suffolk County Long Island Sound watersheds will address local water quality issues, demonstrate the regional impacts of local land use using aerial photography, remotely sensed images and GIS data.

As the result of NY NEMO’s efforts, Long Island municipalities that now see the benefits of consistent, watershed-based resource protection are exploring ways to work together. In addition, several have made changes to their policies, municipal maintenance practices and land use regulations. For example, the village of Manorhaven strengthened its erosion and sediment control ordinance and enforcement measures, passed a requirement that all new driveways drain onsite, and now prohibits commercial vehicle washing on village streets. Manorhaven officials are utilizing NEMO site design principles including onsite runoff containment and use of xeriscopic and native plants, to protect water quality. The village of Kings Point has adopted stricter controls on non-stormwater discharges, improved its catch basin maintenance schedule and increased erosion and sediment controls required of construction site operators.

"No effort to deal with polluted runoff, habitat protection and open space preservation will be successful without providing local decision makers with the information, insight and tools that they need to make better decisions. The NEMO Program assists municipal officials in seeing the bigger picture, tying together the quality of their communities and environment.

- Mark Tedesco, Director, EPA Long Island Sound Office.

On the Web at: www.seagrant.sunysb.edu/ NEMO
Maine is a state comprised of small communities, many of which are experiencing a rapid rate of growth—particularly along the coast. This rapid growth threatens the rural character and spectacular natural resources that define Maine communities and are the foundation of one of the major economic engines of the state, the tourist industry. At the 1998 state Water Resources Conference, a NEMO presentation started discussion that eventually led to the formation of an interagency group. This group, headed by the Maine Department of Environmental Protection and the State Planning Office, brought NEMO to Maine in October 1999. Funding for the program has come from these two partners, with much of the support coming from the state Section 319 Nonpoint Source Program. The NEMO Coordinator is housed within the Partnership for Environmental and Technology Education (PETE), a national nonprofit network of community and technical colleges.

The original pilot program, which focused on two southern Maine coastal communities, is in the process of evolving into a statewide program. The statewide program is growing through the collaboration of a number of agencies and organizations. Water quality professionals from these partner agencies are trained to deliver NEMO educational programming to community leaders and watershed groups. Three such training programs have been held to date. The Maine NEMO Program is focusing on two areas where the state is experiencing the most rapid growth, coastal and lakeside communities. In addition to training and educational programs adapted from Connecticut’s work, Maine NEMO has developed a lakes educational module.

With the statewide program just hitting the streets, the great promise of Maine NEMO is just beginning. Already, the program has created an impressive statewide network of state agencies and nonprofit organizations working together to get the NEMO message out to as many communities as possible. NEMO is also referenced in Maine's draft guidance for the upcoming Stormwater Phase II Program, which will likely lead to many more communities seeking assistance.

Maine NEMO Program
On the Web at: www.mainenemo.org

Program Partners
University of Southern Maine
State Planning Office - Coastal Program
University of Maine Cooperative Extension
Maine Sea Grant
Lakes Environmental Association
Maine Department of Environmental Protection
Casco Bay Estuary Program
Wells National Estuarine Research Reserve
EPA Region 1
Cumberland County Soil & Water Conservation District
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Pennsylvania NEMO Programs

Tioga River Program
Pennsylvania is unique in having two sister NEMO programs. These programs are currently coordinated informally, but will soon be coalescing into a statewide program thanks to the leadership of Pennsylvania State University Cooperative Extension. The Tioga River Watershed NEMO Program is the first pilot in Pennsylvania and grew out of issues surrounding the expansion of a new interstate highway through Tioga County. Leaders in the county want to address land use practices and regulations proactively, and feel that an educational program for county and municipal commissions and staff will help them to prepare for future challenges. The program is funded by the State of Pennsylvania's Growing Greener Fund administered through the Department of Environmental Protection.

Neshaminy Creek Program
In the southeast corner of the state, another PA NEMO program is focusing on the more urbanized Neshaminy Creek Watershed. The effort, headed by Heritage Conservancy, is funded through a federal Coastal Zone Management grant from the Pennsylvania Department of Environmental Protection with funds provided by NOAA. The program intends to address the myriad of water resource problems that have arisen in this urbanizing area, including flooding, erosion and water quality issues. Heritage Conservancy gave three watershed-wide presentations in October, 2002. As a result of those presentations, four municipalities have agreed to be pilot NEMO municipalities.

Delaware NEMO Program
Suburban sprawl has become the prevalent development pattern in Delaware. Sprawl contributes to a loss of 3,500 acres of farmland per year, aggravates traffic congestion, destroys natural habitat, contributes to groundwater pollution and increases impervious surfaces. The cumulative impact has been degradation of the state’s water quality, biodiversity and local community character. Delaware has adopted watershed management programs to address issues of nonpoint pollution and Governor Minner’s Livable Delaware Program is developing statewide policies to address sprawl. Delaware NEMO will initiate a partnership of university, non-profit organizations and state and local governments to develop educational programs to build on these regulatory and policy efforts. The pilot effort will be funded primarily through the Coastal Management Program and NOAA Sea Grant’s Coastal Community Development Program administered through University of Delaware Sea Grant.

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Delaware Coastal Management Program
Local Communities

Neshaminy Creek Partners
Heritage Conservancy
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New Britain Township
Northampton Township
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Pennsylvania NEMO Programs

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Who Leads Network Programs?  
Network programs are multi-agency coalitions that draw upon the expertise and resources of partner agencies and organizations within their states. One agency is needed to lead and organize the effort, often a role filled by University Cooperative Extension or Sea Grant Extension programs (figure 1). In general, agencies with a mandate for research-based, non-advocacy public outreach are the best choice for leadership and delivery of NEMO programs, since they are viewed as being an objective and reasoned voice in the sometimes contentious world of land use planning. This is why the NEMO Network is perhaps the only effort in the country that involves the USDA Land Grant, NOAA Sea Grant and NASA Space Grant systems.

Who Funds Network Programs?  
Network programs are funded in a variety of ways, ranging from federal grant programs to private foundations. Rarely are programs supported by a single agency or organization. Rather, they leverage funding from a variety of sources, matching state and local dollars to federal contributions.

Of the funding sources supporting the Network, nearly two-thirds come from federal agencies, with the remaining coming from state funds, local governments or private funds (figure 2). The most common source of support comes from state administered EPA Section 319 Nonpoint Source funds. The National Oceanic and Atmospheric Agency (NOAA) funds a number of NEMO efforts through several agency programs. These include the Sea Grant Coastal Community Development Program (CCDP), a national initiative that provides funding for educational programming that support coastal communities, and the Coastal Zone Management (CZM) Program, enacted by Congress in 1972 to protect, restore and responsibly develop coastal communities and resources. Finally, many NEMO programs receive support from a variety of special state funding sources having to do with community planning, nonpoint source pollution control or other related topics.
Who Advises the Network?
The Network is advised by the National NEMO Network Interagency Work Group, an ad hoc group of representatives of federal agencies and national organizations that are involved with, or invested in, NEMO. These include USDA, NOAA, EPA, NASA, the American Planning Association, the National Association of Counties and the National Association of Development Organizations. The Work Group has met annually since 1997, and keeps in contact with the Network through the Hub.

How Does a Program Become a Network Member?
At NEMO U2, the Network conference held in January 2002, member programs agreed on the vehicle of a Network Charter, which programs sign to become part of the Network. The Charter has two main purposes.

First, it sets forth several key shared philosophical and operating principles for Network programs. These include:
- a non-regulatory, research-based educational approach;
- a primary target audience of local land use decision makers;
- a focus on natural resource-based land use planning and design; and,
- the use of landscape research and mapping technologies to help community leaders visualize their current and future landscapes.

Second, it describes the responsibility that Network programs have to fellow members, and to the Hub. The emphasis is on the free exchange of ideas and materials, helping to ensure that the Network reaches its goal of becoming greater than the sum of its parts.
Coordinating the Network
A primary role of the Network Hub is to help states interested in starting programs take the first few steps in getting organized. To date, the Hub has conducted nearly 100 scoping workshops, facilitating the creation of 27 funded NEMO programs in 26 states and territories, and underwriting a steady growth in the size of the Network (figure). The Hub also provides developing programs a NEMO startup kit that contains all the materials necessary to get a NEMO program up and running, including PowerPoint™ presentations, publications and tips for setting up a program.

The role of the Network Hub has expanded considerably since late 1999, when funding for Network coordination was first procured. The brisk expansion of the Network underlined the importance of keeping both existing and new programs abreast of new advancements in land use practices and educational outreach. Developing communication links between Network programs has been a key responsibility of the Network Hub. A list of these services includes:

- **Workshops** - As noted, one of the most important Hub functions is conducting on-site workshops in other states. Scoping workshops are conducted in states considering adopting a NEMO program.
- **Partnerships** - The Network Hub builds partnerships with other organizations and federal agencies to bring additional expertise to the Network. These partners give technical, topical and financial assistance to Network programs.

Funding for Network coordination funding varies from year to year, and is grant-driven. Network coordination and activities are supported by grants from three federal agencies. Funding comes from grants from the Water Quality Program of the USDA Cooperative State Research, Education and Extension Service (CSREES), EPA’s Nonpoint Source Control Branch (Office of Wetlands, Oceans and Watersheds) and NOAA’s National Ocean Service in collaboration with the National Sea Grant Program. This support has allowed the Hub, in 2002, to expand to two full time staff positions, a Coordinator and a Communications officer.
• **Communication** - The biannual Network newsletter, a Network-wide List-Serv and the National Network website are the main forms of regular communication.

• **Networking** - The Hub organizes a yearly Network conference, NEMO University (NEMO U). NEMO U2, held January 2002 in Charleston, South Carolina, was attended by 65 network participants from 19 programs.

• **Tracking Impacts** - NEMO measures its success in real, on-the-ground changes to land use policies and practices. This requires programs to remain in contact with municipalities long after the workshop has ended. The Hub assists Network programs by tracking changes resulting from national NEMO efforts.

• **Geospatial Resources** - NEMO programs are in the vanguard of utilizing geospatial technologies. The National NEMO Hub, together with the University of Connecticut Geospatial Technology Program, are working to make connections and create new tools for the use of Network programs. These include the National Geospatial Dataset website and the Impervious Surface Analysis Tool (described on page 33). The Network is connected to other agencies and networks that are working on cutting-edge geospatial information and technology, such as the NASA Earth Science Enterprise's Regional Earth Sciences Application Center (RESAC) network, the NOAA Coastal Services Center and the NASA Space Grant Geospatial Technology Extension Program.

• **Training** - The Network Hub holds training sessions for Network projects to help them expand programming in their states. Three such training sessions have been held, (see Network Initiatives, page 32) with several more planned for 2003-2004.

As the Network matures, the Hub has moved from the start up phase to the development phase, and has shifted emphasis to helping existing programs develop new educational modules and strengthen their technical base. The Hub will continue to respond to the needs of Network programs, helping them hone and expand their services to local land use decision makers.
The Network was originally envisioned as a cooperative of educational programs that would assist each other in fulfilling their mission of educating local decision makers. But as the Network has grown, it has begun to demonstrate that it can be far more than the sum of its parts, helping to leverage federal and state information, programs and dollars in a unique and effective way. The power and potential of a national network of land use education programs is being demonstrated through several ongoing initiatives. You can learn more about these initiatives at our website: nemo.uconn.edu/national/projects/

Enhancing Coastal NEMO Programs
In recognition of the fact that on-the-ground NEMO education was a tailor-made vehicle for several NOAA programs to attain their goals, in 2001-2002 four branches of NOAA collaborated on the Coastal NEMO Enhancement Grant Program. The Coastal Programs Division, National Sea Grant College Program, National Estuarine Research Reserve System and Coastal Services Center worked with the Network Hub to make available $200,000 in NOAA funding in competitive grants to coastal NEMO programs, to enhance their educational efforts. The purpose was twofold: to stimulate intra-NOAA collaboration between the four arms of NOAA, and to give a “shot in the arm” to the NEMO Network. It worked. Six proposals were funded out of the 15 proposals received (map, funded states in orange). The resultant projects, each involving a long list of partners, will strengthen not only the NEMO programs in these six states but the entire Network.

Planning for Open Space
In 2002, an exciting collaboration began between the NEMO Network and the EPA Office of Policy, Economics and Innovation, Division of Development, Community and the Environment, also known as the “Smart Growth” Office. Through this Smart Growth through Open Space Planning partnership 14 NEMO programs in 13 states attended an August, 2002 Open Space Boot Camp training session organized by the Hub. Attendees were taught how to demystify open space planning for local leaders through a series of practical steps that outline the information gathering, prioritization, public input and public outreach phases of planning. Network programs are now in the process of developing educational programs to assist communities as they plan for
Impervious Surface Research

Through the work of NEMO, the Center for Watershed Protection and others, the importance of impervious surface as an indicator of water quality degradation has become widely accepted. More communities are now interested in identifying where these surfaces are located in their town or watersheds, so they can begin to develop strategies to minimize the effects of development on their water resources. A collaborative of UConn’s Geospatial Technology Program, the National NEMO Network and NOAA Coastal Services Center has addressed this need by developing an “add-on” module for a commonly used GIS software package. Called the Impervious Surface Analysis Tool (ISAT), it helps communities estimate levels of imperviousness through the use of land cover coefficients. Since these coefficients vary considerably from region-to-region and state-to-state, a workshop was held in October 2002 to train Network members in the use of ISAT, and to develop standard protocols for the development of local coefficients. This information will be compiled by the Network Hub and represent the first time a unified, nationally derived set of coefficients has been assembled. The use of the Network to test and collect scientifically relevant information is a model for future collaborations.
Moving Forward

We envision the Network becoming a national force in providing much needed assistance to community decision makers.

Where do we go from here? Onward and upward—both as individual programs and as a Network!

Increasingly, Network members are experiencing benefits such as the sharing of educational materials, the mentoring of new programs by established members and the recognition that comes from being a part of a national effort. As each program grows and matures, multifaceted benefits to the entire Network will accrue. The Network Hub is committed to facilitating this process.

Most important, the Network is starting to realize the unique and inherent power of functioning as a true network. As demonstrated in the preceding section, this power can be manifested in many ways: the ability to stimulate new partnerships at the local, state and federal levels; a vehicle for conducting national research; and, a mechanism for leveraging small federal investments into on-the-ground programs assisting many communities. With each move forward, the Network becomes stronger and realizes more of its potential.

Our Vision for the Future

We envision the Network becoming a national force in providing much needed assistance to community decision makers. We envision robust, well-funded and staffed programs in all 50 states. We envision an evolving and adapting Network that is more than the sum of its parts, leveraging the talents and resources of a long list of federal, state, regional and local organizations to the betterment of the entire system. We envision an ever increasing number of America’s communities taking a proactive planning approach to balancing growth and natural resources protection, empowered by the information, education and tools provided to them by the National NEMO Network.
How We are Doing

The National NEMO Network is currently a small effort, compared to the enormous needs of America's communities. As demonstrated in this report, however, we are making real progress, based on our commitment to changing land use decision making one town at a time. Our experience demonstrates that given the education and resources, communities can and will do a better job of planning their future.

Our chief obstacle is the “mission gap” that makes programs for local land use officials fall between the cracks when it comes to support of federal agencies and national organizations. The fundamental fact that land use is local has resulted in a scarcity of agencies, programs and funding to support efforts like NEMO.

Given this situation, perhaps the greatest achievement of the Network is its very existence. The Network is not the creature of any one agency or organization, but has been supported by forward-thinking individuals at those agencies that have come to realize the critical importance of better land use decisions. At the state level, each Network program has been pieced together from the bottom up, by dedicated professionals committed to making a difference at the local level.

Over the past five years, NEMO has been a voice making the case, nationally, for the need to assist local land use officials. With success on this front, and with continuing success at the local level, the Network will continue to grow and become a major national resource to the communities of America.

We are making real progress, based on our commitment to changing land use decision making one town at a time.
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