Signing On: Nuts & Bolts Questions About Adapting NEMO

So, you've scoped out NEMO and decided to have a "go" at adapting it to your state. You've answered most or all of the basic questions about target audience, topical focus, geographic focus, partners, expertise and funding (read *National Fact Sheet 1*). But before you get down to business, you have some other questions about how this may play out farther down the NEMO road. As one of our national contacts put it in a letter, "…since we're now getting serious about signing on, we want to feel comfortable with what's coming."

Cornered again! Fair enough. Here are his questions—taken more or less verbatim from his letter—and our responses.

Question 1: Based on your experience what has been done in Connecticut and other states in terms of local contributions or match for participation in NEMO?

In Connecticut, match requirements for grants to NEMO are typically met through state (salary) contributions. However, considerable local effort is involved by volunteer organizers, the volunteer commission members, and, where applicable, town staff. Often, local data on such things as land use, property ownership and zoning is provided by the town, either to enhance the GIS analyses and educational presentations, or as part of follow-up efforts. These contributions could be quantified as legitimate matching funds, and probably are in some of our network programs.

Over the long term, towns pursuing NEMO recommendations can contribute considerable effort. However, since there is no NEMO "12 step program" set in stone, the time and effort it takes to pursue NEMO-generated initiatives varies widely. Many things (e.g., asking the right questions of developers) can be done as part of the usual course of business, without large additional amounts of time or effort. Other things, like conducting natural resource inventories, open space plans, or watershed plans, take considerable time and effort—whether they are done in-house, or by a consultant.

Some examples: The town of Waterford, CT hired a prominent consultant to work with them on a watershed management plan. The cost was around $50,000. The Town of Branford, CT decided to create a NEMO Committee composed of departmental staff and representatives of all land use boards and several other organizations (garden club, watershed group, land trust, etc.); the dollar amount of the time of these volunteers has not been estimated, but is considerable.

Nonpoint Education for Municipal Officials (NEMO) is a University of Connecticut educational program for land use decision makers that addresses the relationship of land use to natural resource protection.

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updated, 4-03

Question 2: What local conditions do you feel are necessary for NEMO to be "welcomed" by a town and for it (NEMO) to effect change?

We feel strongly that support for the program by the chief elected official is critical. NEMO has to do with better planning, and communication is the most important element for that to occur. The chief elected official is in a position to create and support that communication. Communication is also the reason that we strongly recommend that all land use boards be present during NEMO presentations. Just having them hear the same message at the same time, and giving them a chance to discuss the issues, is key to getting something going in the town.

NEMO was planned and designed specifically for local land use decision makers.

Also, keep in mind that we never force our way into a town! Almost all of our programs are the result of being "asked in" by some local organization or board. Once the invite is extended, we prevail upon our "host" to broaden the awareness of, and support for, the program before we give the presentation; this extends to contact with the chief elected official. In the few cases where we have been asked into an area not by the municipalities but by a federal or state agency, we have taken considerable time and effort to seek out the town leaders, explain the project to them, and answer any question or concerns.

With regard to local issues or concerns, obviously water resource protection is usually the thing that stimulates interest in NEMO. However, this is not always the case. By addressing water quality issues through land use, NEMO eventually ends up in a whole host of community concerns (traffic, road design, neighborhood design) that can be summed up as "community character." Whether you call it sustainable development, sprawl, liveable communities, or some other buzzword, community character is typically an important issue to a broader spectrum of local residents than water quality as a "stand alone" topic.

Over the long haul, effecting change requires that there be at least one, and more probably several, people who will push things along. This is no different than any other local initiative. In towns with professional staff, things can sometimes move more quickly (however, professional staff can also impede change if they are invested in the status quo.) Carefully-timed project follow up advice and education are also important to keep the ball rolling (see Question 6).

Question 3: What characteristics do you look for in a pilot location?

The most important factor is looking for a pilot is to select for success. Remember, a pilot approach (which we are very much in favor of) has several purposes:

- To demonstrate the usefulness of the approach;
- To work out any kinks in the system and learn what works best in your state;
- To use as an example and educational tool for more widespread efforts.

With these goals in mind, it only makes sense to choose an area that has a number of positive factors that could give your effort a leg up. Some questions along these lines include:

- Is there an existing motivation, like a well-recognized water quality problem and/or a valuable or well-loved aquatic resource?
- Is there existing digital data available? Some key data types are water quality, land cover, and zoning.
- Are any of the chief elected officials interested in protecting water resources? Or at least not openly hostile to the idea?
- Do you have a good working relationship and positive track record with any of the towns, counties, nonprofits, or other potential partners?

(Geographic considerations are discussed in *National Fact Sheet 1*). In summary, we feel that a watershed focus makes the most sense, although town and county-level programs can

certainly work. You need a watershed with a workable number of political units, but the definition of "workable" is up to you. Here in Connecticut, we seem to be most comfortable with sub-regional watersheds, which are in the 25-100 square mile range and involve somewhere around 2-10 towns.

Question 4: As we proceed with a pilot project, what role can your office play in educating towns about NEMO?

The Network Hub can help out in a couple of ways during the early stages of your program. Let us count the ways…

1 **Speaking:** If at all possible, we can help to jump-start interest in NEMO through speaking at a statewide or regional event that you deem particularly important or strategic.

2 **Scoping Workshops:** Once your core program team is assembled, we can run a scoping workshop to get into even more excruciating detail about our techniques and experiences.

3 **Educational Tools:** We provide a variety of educational tools (fact sheets, slide presentations) that you can adapt to your own issues and audiences; some of these are "promotional" in nature and can be used to help spread the word about your program. And, we will continue to develop new educational resources.

4 **Training:** The Network Hub holds training sessions for Network programs to help them expand programming in their states. These training workshops may focus on a specific technical tool or may stress the development of a new topical area, such as open space planning or NEMO in urban environments.

5 **nemo.uconn.edu:** Our website is a resource to both you and your local constituents. Getting the web address "out there" via newsletters, article and fact sheets or flyers should help you to raise awareness of NEMO among your clientele.

6 **Geospatial Technologies:** The Network Hub, together with the UConn 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.

7 **Communication:** Perhaps most important, we try to provide ongoing, long-term support to you through "over the shoulder" advice and guidance. The Hub also provides a biannual Network newsletter, a Network-wide List-serve, and up-to-date information from the federal agencies and our partner organizations. Just as important are the almost yearly Network conference, known as NEMO U. This give you a chance to meet with other NEMO coordinators in other states, to share successes and challenges and to otherwise revel in things NEMO.

Question 5: We'd like to get a break-down of the cost of starting a NEMO Program.

Of course, we would like to see a five-person NEMO office equipped with Dell workstations and special NEMO van. However, we realize it may take 2 or 3 years for you to get to that level, so here's an overall breakdown of a basic NEMO pilot. Obviously, this is to be taken with a grain of salt, since things can vary widely depending on all sorts of factors.

We estimate that implementing a NEMO pilot project will cost between $80,000 and $120,000, depending on the location. Most of the funding is for a full-time program coordinator/director. Although other arrangements may be workable, we feel that a NEMO program needs to have a full time professional person there to conduct the educational presentations, coordinate with

other agencies and organizations involved, and communicate on a regular basis with the target town(s). You probably have a very good feel for what an "FTE" (full-time equivalent) costs in your organization: depending on fringe benefits and overhead involved with hiring a person, this can easily be $60,000-$80,000 alone, even for a relatively junior position.

The next chunk of funding is for the cost of conducting educational programs. Since NEMO can provide much of the foundation educational materials, the costs mostly involve printing, program delivery (laptop and computer projector or slide projector) and travel (which can vary widely depending on the geographic scope). We are great fans of the qualitative improvement that computer projected presentations (e.g., PowerPoint™) make; however, a decent laptop and projection system may run you $5,000 - $8,000 (but getting cheaper and better all the time!). So, say maybe $10,000 as an average figure for this whole category, including the projector system.

The most frequently-requested information concerns impervious surface reduction and open space planning, and we have presentations and materials to address both issues.

Costs for data acquisition and GIS services vary widely. They can be expensive if "shopped out," but most NEMO adaptations to date are using in-kind services from state or regional agencies to provide them, at little or no cost to the project (and providing some of that match that we talked about in Question 1). In general, the data is there for basic NEMO educational applications. Data for more intense analyses (like our Eightmile River Watershed project) may have to be generated, or at least collected from multiple sources. So, the costs of this part of the budget page could be from zilch to maybe $25,000.

Question 6: Once a NEMO program is initiated in a municipality, what types of assistance, materials etc... do municipal officials typically request following the initial completion of the project?

Beyond the startup phase, what type of staffing commitment is necessary for the coordinating state agency on an ongoing basis per the above structure?

We are very clear about what types of assistance we are willing and able to render. **We stress that we are an educational organization, and that our follow up would be in the form of education.** Our educational role, and simple staff time constraints, mean that we usually cannot provide detailed GIS analyses, reviews of Plans and regulations, or other work of an intensive and analytical nature. (This would also put us in conflict with the private sector in some cases). However, this does not preclude the possibility of technical follow-up assistance from other agencies or organizations involved in the NEMO partnership. If Regional Planning Agencies are willing to follow up with detailed planning advice, or the state regulatory agency can help with recommendations on specific best management practices, that's great.

That being said, our printed materials and slide presentations have basically been developed in response to the requests that we've received over the years. The most frequently-requested information concerns impervious surface reduction and open space planning, and we have presentations and materials to address both issues. Our "Clean Waters" presentation and materials, which focus on how homeowners can help to protect water quality in and around their home, are also quite popular. We have other follow-up presentations, all listed on our website.

Staffing requirements for providing ongoing support is a riddle that we haven't necessarily solved. Early on, we became aware that we

never really finish with any town that truly gets involved in NEMO. Calls may be fewer and farther between, but they don't stop. Good natural resource-based planning is an ongoing process, and of course the cast of local land use decision makers changes continually. To date, we have been able to handle the work load, but our staff has also grown with time. Also, to be fair, one measure of success is a certain amount of independence of town officials from the program; the most successful towns have internalized NEMO to a great degree.

Question 7: How does the CT NEMO program evaluate success when working with municipal officials?

Our measures of success are changes to local policies, practices and plans. This isn't easy to measure in the traditional sense of surveys, evaluation forms, etc... We have done evaluation at our presentations, which we find to be very instructive as to the effectiveness of our educational methods; however, this information does not get at impacts.

Our experience has been that successful outcomes must be documented through remaining in close contact with the town, and noting changes that have occurred to town documents, town maintenance policies, subdivision design, etc... And, since NEMO recommendations cover several different areas, we have a wide range of possible impacts, ranging from open space planning to parking regulations to riparian buffers. These changes are sometimes difficult to document, but it can be done. Letters from town officials, newspaper articles, the plans and regs themselves—all this can add to evidence of success.

The other complicating factor is the length of time it takes for things to change at the local level. It is not uncommon for several or more months to go by between our first contact with a town, and a request for follow-up services. Then, more time is taken up in slow infiltration of new ideas into the town land use decision making processes. Our most impressive impacts to date have occurred in some of the first towns in which we worked. For example, we conducted our first NEMO presentation (ever) in the Town of Waterford, CT in the fall of 1993. Although there were many changes in the way the town commissions did business in the period immediate, some of the major impacts took/are taking years to come to fruition: considerable water-related changes were included in the 1996 update of the town Plan of Conservation and Development (finalized in 1997), in 1999 the town and a consultant put the final touches on a watershed management plan, and a state-of-the-art water quality subdivision was built as part of a research and education project (read our *Project Impact Report 2: Waterford, CT,* for further details).

We understand the time constraints typically involved in a federal or state-funded project. Many sources of funding now allow 2-year project periods (or longer), which of course would be very desirable for a NEMO program. Even so, the compressed time period, and the need to show results, is yet another argument for a pilot approach. Even when it is too early in the life span of a program to have realized substantial long-term impacts to plans and regulations, it is possible to evaluate the success of the program as a pilot, in terms of reaction to the programs and first steps taken by towns. Some of this can be garnered through the type of evaluation form mentioned above, and we have our version of this for those who are interested.

Question 8: What are the minimum computer/GIS coverage requirements do you need to run a successful program?

Data layers that are needed for basic NEMO, including the impervious surface build-out analysis, are detailed in our *Technical Paper 4: "Do It Yourself!,"* available in hard copy and posted on our Publications section of the NEMO website.

Many of the most powerful educational images —that of watersheds and land use, for example, are the most easily acquired. If existing data layers are used and simply manipulated in *ArcView*, then a high-end PC is all that's required.

Question 9: We're leaning toward a structure where NEMO would be very minimally housed at the state level and educational programming delivered at the regional level. Based on your experience, do you see this as workable?

In a word, yes. The main thing you need is an educator who is good on their feet and has a real feel for land use decision making in your state (read *National Fact Sheet 1*). This person is probably better off housed in the region where he or she is working, rather than "up at the state office." As noted in *National Fact Sheet 1*, you must carefully consider which agency will house the person actually delivering the educational program—the "messenger is as important as the message" issue, as we call it. In other words, the NEMO message may be more warmly received if it's coming from an organization that is perceived as having no axe to grind or hidden agendas.

Question 10: We are interested in developing pilot projects in coastal and lake watersheds. Have any other states developed modules for NEMO that address coastal or lake issues?

Both the Maine and Massachusetts NEMO programs have developed a Lakes module for their states. In fact, the creation of this module was the result of collaboration between these two states, a particular victory for the concept of the Network and the efficiency of *being greater than the sum of our parts*. Connecticut NEMO, in collaboration with the Connecticut Sea Grant Program, the Nature Conservancy, and the CT Department of Environmental Protection, developed a coastal module called *Focus on the Coast*, which addresses the unique issues decision makers face in coastal communities.

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Finally, we want to emphasize that we are very supportive and excited to have NEMO-adapted programs find their own way to address particular issues of concern. Whenever you can improve on our basic model with better data, more specific scientific relationships, or innovative educational techniques, let it rip! We will make you famous through the national network (and only claim most of the credit ourselves).

The National NEMO Network is a group of affiliated projects that educate local land use decision makers about the relationship of land use to natural resource protection. The Network is coordinated by the University of Connecticut Nonpoint Education for Municipal Officials (NEMO) Program, with funding from USDA/CRSEES, EPA/OWOW and NOAA/NOS.

NEMO is an educational program of the University of Connecticut, Cooperative Extension System, Connecticut Sea Grant College Program and Natural Resource Management and Engineering Department. The Connecticut Cooperative Extension System is an equal opportunity employer. 4-03

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