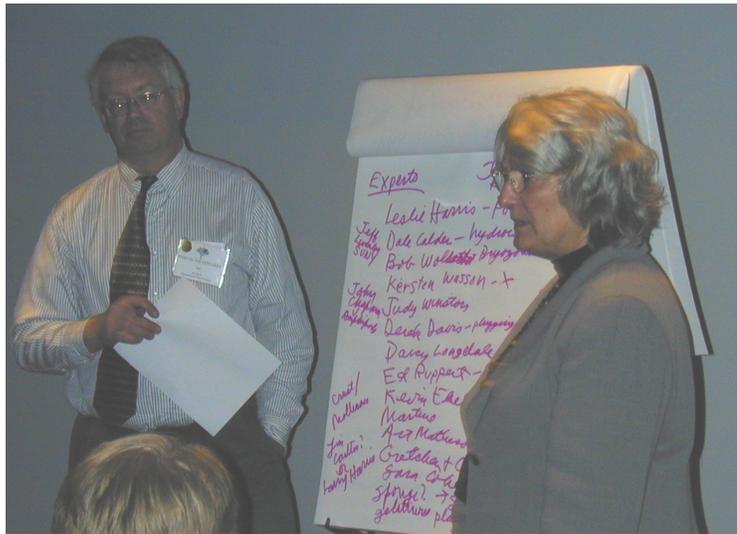


# Section III: Break-Out Group Discussions



*Jan Smith and Judy Pederson lead a break-out group discussion on the 2003 Rapid Assessment Survey.*

## **Break-Out Group #1: Development of a Regional Monitoring Network**

**Moderator:** Jay Baker, Massachusetts Office of Coastal Zone Management

**1) Is there a need for a regional monitoring network? If so what questions or issues would we like to address with the network?**

**Responses:** There are many questions that could be answered through a regional monitoring approach, many relate to some key management issues.

Potential issues to address:

- Baseline data: current distributions of both introduced and native/cryptogenic species
- Impacts from bioinvaders
- New introductions (identifying hot spots for new invasions)
- Links to transport vectors
- Using monitoring data to predict species spread and distribution
- Identifying special areas for protection

**2) What are the fundamental components to a monitoring network?**

**Responses:** A monitoring network would require (and implies) a coordinated approach and the development of standard monitoring protocols.

The effort would include monitoring for invasions through space (geographic area as well as variety of habitat and depths) and time (temporal changes in species composition).

Key elements of data collection efforts must be consistent. Minimum standards for monitoring data should be agreed upon and simple.

Quality assurance: All data should pass through a gatekeeper to apply agreed upon quality assurance protocols. Training should precede monitoring efforts. Taxonomists should verify the identification of many or all of the species

**3) Should the approach be vector based, species based, or habitat based?**

**Responses:** Vector based monitoring should not be altogether separate from ecosystem monitoring. Both are essential and not necessarily independent efforts.

**4) Should the monitoring efforts be bi-products of other research efforts or should they be independent programs?**

**Responses:** A regional monitoring effort can take advantage of a variety of monitoring efforts with a minimum set of commonly agreed upon protocols.

There are different types of monitoring efforts to be considered when identifying basic monitoring protocols

- Watchdog monitoring
- Routine monitoring
- Monitoring for new introductions (requires the greatest amount of taxonomic expertise)

**5) How should the data from the monitoring efforts be organized and presented? Who would be the users of the database?**

**Responses:** Those involved in the development of the monitoring network should work with other stakeholders to create a user-friendly online database.

Stakeholders may include:

- Water-based industry representatives
- Natural resource managers
- Regional scientists
- Educators
- Students
- Citizens
- Internet technicians

**6) Initial steps for the development of the marine monitoring network**

**Responses:** Begin by developing a list of taxonomic experts, assemble existing data, and look at what other regions have done. Organize a steering committee to develop a monitoring protocol.

Once these steps are completed, organize a regional workshop to present the protocol and other components of a regional monitoring network.

## **Break-Out Group #2: Pathway Monitoring and Prevention Strategies**

**Moderators:** Michelle Tremblay, Northeast Aquatic Nuisance Species Panel and Shannon Weigle, Massachusetts Bays Program

### **1. How do we monitor the pathways? Who should collect the data?**

**Responses:** Recruit volunteers to look for invasive species in public markets (supermarkets, bait shops, etc.).

May result in a lot of false alarms because volunteers who aren't taxonomic experts might have a hard time identifying species of concern. However, may be able to set up a system that includes spot-checking by experts.

Public markets may not be the best place to look for invasives.

### **2. Should there be a regulatory reporting requirement for companies that import exotic species?**

**Responses:** Current reporting systems should be modified to reduce risk of invasive introductions.

For example, as part of the National Pollution Discharge Elimination System (NPDES), certain companies already need to report how they handle particular species. However, NPDES managers have not yet provided comprehensive lists of invasive species.

Seafood companies need to report which species they sell however, they generally only use broad market names when reporting. Scientific names should be used in addition to market names.

Additional reporting systems should begin with voluntary participation – if effective, regulatory requirement may not be necessary.

The Global Marine Aquarium Database (GMAD) is a potential model for a voluntary reporting system. GMAD was developed by the pet industry in order to encourage more environmental responsibility.

The Aquatic Nuisance Species Hazard Analysis and Critical Control Point (ANS HACCP) program is another example of a voluntary industry program. With ANS HACCP, the aquaculture industry is working to develop best management practices to limit introductions of invasive species.

In order for companies to provide reports, they need to be given the right tools such as taxonomy training. Managers may want to consider developing black lists, gray lists, or white lists or ask companies to report all live or fresh species that they import. Scientists can then use these lists to identify species of concern.

### 3. What are our research needs?

**Responses:** In order to develop a reporting system for the industries, additional research is needed to identify potential future invaders and their pathways.

Need to determine which domestic species are of risk to the local region. Should begin by compiling current invasive species lists and criteria.

Since lists of terrestrial species seem to be more organized and complete, aquatic species managers may wish to follow the example of terrestrial species managers. UCONN has a good list on terrestrial plants – potential model.

In order to create lists, we need to know what species are being imported. Need people from each industry who are willing to work with researchers to compile the lists

This information can then be used to create black, gray, and white lists. Exceptions to lists may include species with no access to open marine systems or species that have no risk of becoming established.

**Responses:** Need to review and evaluate current invasive regulations or other regulations that may be pertinent.

Les Mehroff (UCONN) and Northeast Regional Panel of the Aquatic Nuisance Species Task Force (NEANS) have matrices of regulations for invasive marine species.

### 4. How do we convey the concern of marine invasions to local industries that may be at risk of introducing invasive species to our local waterways?

**Responses:** Need to educate both the industry and the consumer.

Begin by making sure that invasive species managers and advocates agree on outreach approach and messages.

Important to recognize cultural differences when developing outreach messages and materials.

Difficult to convey the importance of biodiversity to diverse populations. Teaching invasive species message at schools may help to overcome language and cultural barriers.

Companies may be able to offer simple creative solutions to minimize the risk for invasive species introductions, such as using wet newspaper instead of fresh seaweed as packing material.

When suggesting new industry practices, good to provide alternatives and incentives. Consider green certification programs, some businesses want to be eco-friendly.

## **Break-Out Group #3: 2003 Northeast Rapid Assessment Survey of Intertidal Habitats**

**Moderators:** Judith Pederson, MIT Sea Grant and Jan Smith, Massachusetts Bays Program

### **1) What sites should we sample and how should we choose them?**

**Responses:** The 2003 rapid assessment survey has a larger region to cover than the previous survey - perhaps we should split up the team in order to cover more area at one time. Need all experts at each site and the drive from NY to NH may waste time

Have collectors other than the taxonomists bring the samples to a base laboratory. The National Estuary Programs (NEP) may be able to help in the collection process and can set up base camps at local laboratories.

Generally, the taxonomists want to view the site - it helps them to understand which types of organisms may be found there.

Because it takes approximately 1.5 – 2 hours per site, two sites should be chosen for each day. Both study sites and reference sites are needed.

Selection for sites should consider gradient of disturbance – eelgrass bed versus artificial substrates. Should look for signs of human impacts and recognize that a site that appears to be pristine may actually be impacted.

Sites should have good access and available parking.

If possible, involve the local media during collections.

Sites should be based near potential vectors for introduction. Potential vectors to consider when selecting sites include: shipping, aquaculture, fish markets, recreational fishing (bait), transportation, research laboratories, cruise ships, and yachts.

### **2) What habitats should be monitored and why?**

**Responses:** Select several habitat types – a few consistent types from site to site. Habitats should include previously studied habitats and new habitats. May wish to repeat sites that were done before – useful in comparing data over numerous years.

Soft sediments have not been sampled. The challenge with this habitat type is that they need to be sampled during low tide. Instead of wasting high tide, may also wish to sample fouling subtidal communities and salt marshes.

Should consider exposure to wave action when selecting site.

May also wish to collect macroalgae and submerged aquatic plants.

Consider making the sampling quantitative with some standardized collection methods.

### 3) Who should be part of the sampling team and what training is needed?

**Responses:** Teams should include taxonomic experts, support staff, and apprentices. Graduate students make good apprentices. Limit # of people on each trip – space, people management.

*Potential taxonomic experts:*

Amphipods - John Chapman  
Ascidians - Gretchen and Charlie Lambert  
Bryozoans – Bob Wollaston  
Crustaceans, Mollusks – Jim Carlton, Larry Harris  
Gelatinous plankton – Barb Sullivan, Jack Costello  
Hydroids – Dale Calder  
Polychaetes - Leslie Harris, Kevin Eckelbarger  
Sponges – someone from the Smithsonian?

*Other invasive experts:*

Kersten Wasson, Judy Winston, Derek Davis, Darcy Longdale, Ed Ruppert, Martine Villalard, Art Matheson, Sara Cohen, John Whitman, Ken Sebens, Jeff Leviton

*Other resources:*

Divers - Robert Miller

### 4) What methods should we use?

**Responses:** We should agree on 4-5 techniques and standardize them. Consult with taxonomists on sampling techniques.

Prepare site before experts arrive so minimal time is wasted.

Samples need to be presorted by phylum or class. Should conduct presorting training with collectors.

Some organisms will need to be identified on site because they do not preserve well in the voucher jars.

Important to look for smaller things that are not immediately obvious.

Experienced students may be able to deal with the quantitative depth in sediment.

Equipment that needs to be located and borrowed:

bottom grabs, scrapers, plankton nets, camera for photo documentation and CD, equipment for soft bottom transects - to create a matrix, specialized tools like “John Chapman’s super scraper 6000,” equipment for graveling and grass sampling, coolers with labels for storing samples, glass jars and liquids for library of preserved sample

*Thanks again* to all of our conference sponsors and participants! We hope you enjoyed Eyes on the Estuaries: Preventing and Detecting Marine Invasive Species in the Northeastern United States.

We leave you with this final thought

“If you can’t beat ‘em, eat ‘em.”

- Michele L. Tremblay, Northeast Panel of the ANS Task Force



*Jim Straub of Massachusetts Department of Environmental Management enjoying a Hydrilla and ham sandwich.*