

**Fisheries and Aquaculture Panel**  
**Governor's Commission on Narragansett Bay and Watershed Planning**  
**Phase I Report – March 4, 2004**

**Statement of the Problem**

The ecological health of Narragansett Bay and its watershed has a significant impact on the fisheries and aquaculture industries. The closure of large sections to commercial shellfishers, either permanently or temporarily, obviously removes a significant portion of harvestable bottom from the industry and thereby limits the economic value of the harvest. Furthermore, when temporarily closed shellfishing areas are reopened, there is a rush to harvest what is available and the sudden glut of product means that the price paid for the product declines. The shellfish aquaculture industry is de facto prohibited from expanding into the closed areas because product grown there could not be sold (disregarding for the moment the issue of user conflicts and permitting problems even if the water were clean).

The connection between the Bay's health and finfish populations is less direct. Many of the Bay's finfish are migratory species that suffer mortality in other areas of their range. One important species that may be affected by the water and habitat quality of the Bay is winter flounder. Although most species of fish in the Northeast have populations that are rebounding, and even some populations of winter flounder are starting to come back in other areas, the winter flounder population in Narragansett Bay continues to be depressed. The fact that commercial fishing of winter flounder in Narragansett Bay has been prohibited since 1989 suggests that environmental quality, rather than overfishing, may be the cause of the depressed population. The occurrence of a large fish kill in Narragansett Bay in August, 2003, as a result of a short-term anoxia event, was a stark reminder that oxygen depletion can quickly kill schooling species that congregate in enclosed areas. However, this panel is concerned that less obvious manifestations of environmental quality, such as longer-term hypoxia in the deeper waters of the Bay, may affect fish and shellfish populations over the long term.

One of the problems this panel has faced is that the State's ability to monitor both fish and shellfish populations and the environmental factors that may affect them has declined in recent years for budgetary reasons. We have therefore been unable to establish firm connections between the populations and the environment.

The gentrification of the shoreline in Rhode Island creates another problem for the fisheries and aquaculture industries. The docks and marinas that have traditionally provided the "working waterfront" are becoming increasingly (and potentially prohibitively) expensive for those who work on the water. The laws of supply and demand dictate that those who can afford slips for expensive recreational boats will eventually squeeze out those who use the slips for working boats and need to minimize their costs. In addition, loss of parking space for commercial fishermen in Galilee, as well as loss of fish processing capacity, means that, when fish stocks rebound (as the haddock are already doing), the shoreside infrastructure for the Rhode Island fishing industry to succeed will be lacking. Finally, public access to the shoreline is apparently increasingly being illegally blocked by landowners, so that recreational fishers are stymied in their efforts to reach the water. Preservation of the working waterfront and of shoreline access is a high-priority issue for commercial fishers, recreational fishers, and

aquaculturists. The Panel feels that it will be critical to remind the public of the economic value of commercial fishing, recreational fishing and aquaculture, and to project the increased economic value of these activities if the health of Narragansett Bay and its watershed is improved.

Finally, the issues of increasing competition for limited resources and differences of opinion as to how those limited resources are allocated among user groups continue to stymie both effective management of fisheries resources and the growth of aquaculture. These issues have been around for decades and will continue to block real progress unless better mechanisms of dispute resolution are developed.

### **Background information**

A wealth of information exists to provide background on fisheries and aquaculture in Rhode Island. The Narragansett Bay Summit in 2000 produced two white papers, one on fisheries, one on aquaculture, that can be downloaded from <http://www.nbep.org/summit>. In addition, in November, 2003, the Department of Environmental Management (DEM) prepared three management plans, one for the finfish fishery sector, one for the shellfish fishery sector, and one for the crustacean fishery sector, that can be downloaded from <http://www.state.ri.us/DEM/topics/mftopics.htm>. DEM also prepared in March, 2002, a document entitled "Stock status of marine resources and summary of fisheries management in Rhode Island", which can be downloaded from the same web site. The Coastal Resources Management Council produces an annual report on aquaculture in Rhode Island and these can be downloaded from <http://www.crmc.state.ri.us/pubs/index.html#handouts>. CRMC documents and information on the Rhode Island Aquaculture Initiative can be obtained from the CRMC site <http://seagrant.gso.uri.edu/research/rhodyaquaculture/rhodyaquaculture.html>.

The Fisheries and Aquaculture Panel was formed to include representatives of government, non-governmental organizations (NGO's), academia, commercial fishing, recreational fishing, and aquaculture (see membership list in Appendix 1). Using guidance from the Commission Steering Committee, the Panel members provided input electronically on the priority issues for the group that they were representing. In many cases, Panel members tried to answer the questions posed by the Steering Committee (Where are we? Where do we want to go? How do we get there?), with regard to their own entities (this input is provided in Appendix 2). On February 12, 2004, the Panel met at DEM's Marine Fisheries Office at Fort Wetherill to discuss the input provided and to try to agree on major priority issues and possible solutions (meeting minutes are in Appendix 3).

One of the main characteristics of Rhode Island waters is that a large number of people want to use them for a variety of purposes, so that there are user conflicts galore. Those engaged in fishing and aquaculture have perhaps used the Bay for the longest period of time and have argued and fought over the question of private leases of a public resource for most of that time. In the past few years, through the good will of many people on both sides, mutual respect and a willingness to work together have developed between these groups. This is an extremely welcome development and one that must continue. One outcome of the Panel discussion was that both groups face the challenge of increasing costs for shoreside facilities, because those using the shore and waters for recreation and tourism have driven up prices for marina slips, etc. This issue can provide

fishers and aquaculturists with an opportunity to further work together to preserve the working waterfront. The issue of the fishery resources themselves and their allocation among the various sub-groups of fishers is subject to the jurisdiction of the Marine Fisheries Council and was not considered by the Panel with one exception. It was recognized by all that in order for the MFC to be effective in conflict resolution it is critical to restore the decision making power of that body so that it maintains credibility.

### **Analysis**

The Panel grappled with making the connection between the ecological health of Narragansett Bay and the economic health of the fishery and aquaculture industries. Although the August, 2003, fish kill might have been expected to weigh heavily on the minds of Panel members, no one specifically identified that acute event as a particular problem for the industry. In general, Panel members were more concerned about the more chronic, longer term, and perhaps more insidious problems with the health of the Bay. The commercial shellfishing industry could expand to harvest areas that are now permanently closed if the reasons for closure were eliminated (i.e., if the Bay were cleaned up). Also, because temporary closures and reopenings lead to a kind of boom-and-bust cycle, where harvesters move en masse into a newly reopened area and bring large quantities of clams to market simultaneously, commercial quahoggers would have more stable prices if areas were open all the time. Price stability was the subject of considerable discussion as it impacts the profitability and marketability of all fishery products landed in Rhode Island. A variety of options should be investigated to try to make fisheries landings more stable. The industry has lost market share in the national quahog production (mostly to aquaculture further south), but can argue for higher prices based on product quality (better taste, longer shelf life). To the extent that the supply of Narragansett Bay quahogs can be stabilized (through Bay clean-up) and more markets developed as a result of more stable supply, prices can also be expected to stabilize. The current quahog transplant program (in which clams are taken from closed areas under DEM supervision and transplanted to clean areas from which they can be harvested after an appropriate period of time) is good for the commercial fishers under existing conditions; however, a clean Bay without closed areas would be a more advantageous situation.

The shellfish aquaculture industry in Rhode Island, primarily oysters but also some clams, has been growing in recent years, but is still small compared to the fishing industry. If closed areas of Narragansett Bay could be reopened permanently in a cleaner Bay, the industry would have the opportunity to expand further by leasing areas that were formerly closed. Whether the opportunity is realized or not will depend on whether the aquaculture industry and other users of the Bay can work together to solve the problem of where to site the aquaculture ventures. Again, the economic growth that could result from an expanded industry would be a desirable outcome for the State.

Given that high nutrient levels appear to be a major problem for the Bay, the Panel felt that a significant effort should be made to investigate the possible reduction of nutrient levels by increasing shellfish production through both public enhancement and private aquaculture. Oysters and clams are both filter feeders, removing phytoplankton from the water. Phytoplankton organisms take up nutrients from the water in order to grow. As long as the shellfish are removed from the water and sold, nitrogen can

effectively be taken out of the water. People in Maryland have compared the costs of removing nitrogen from the water via improved sewage treatment plants vs. via increased shellfish production. A similar exercise should be conducted for Narragansett Bay. The State could pay for a hatchery to produce seed clams to stock out around the Bay; as those clams grew to harvest size, they could be taken by commercial quahoggers. Alternatively, private aquaculturists could buy their own seed and raise clams or oysters on private leases until they were ready for harvest (this option would not require State investment).

Although it is easy to argue that shellfish fisheries and aquaculture would directly benefit economically from a cleaner Bay, the Panel had great difficulty establishing direct linkages between the Bay's ecological health and fish populations. Part of the problem is that most of the fish that live in the Bay do not spend their whole lives there, as the clams and oysters do, but migrate in and out; thus, they might be adversely impacted by overfishing or environmental conditions in other states. Another major part of the problem is that we do not have sufficient data to link environmental variables to the fish populations in a comprehensive way. URI has conducted trawl surveys at two locations in Narragansett Bay and Rhode Island Sound since 1959 and shown that winter flounder populations are affected by changes in water temperature. Unfortunately, given the current interest in oxygen levels (anoxia, hypoxia), we must admit that there is not a similar long-term database on oxygen levels around the Bay, especially in deeper waters where the hypoxia problems would be most likely to occur. Every commercially important living resource in the Bay suffers from the problem of insufficient data on environmental quality impacts. For example, the lobster fishers worry about chemical runoff from land affecting lobster populations. Furthermore, the State's commitment to monitoring both its living resources and the environmental variables on which they depend has declined over the years. One of the Panel members pointed out that each Rhode Islander used to contribute about 25 cents per year to support the State's fisheries programs; that is now down to about 10 cents. It is extremely unfortunate that an industry (both commercial and recreational) whose economic value to the state (direct and with multipliers) is worth hundreds of millions of dollars is so poorly supported by the state. The good news is that DEM personnel acquire additional funds annually from federal sources. The bad news is that those funds are not sufficiently stable to support long-term monitoring programs.

If the State of Rhode Island is going to be serious about cleaning up Narragansett Bay, especially if it hopes to improve the economic value of the fisheries and aquaculture industries by doing so, it needs to develop a first-class monitoring program to document the positive changes and to establish relationships between environmental quality and living resources. We realize that the Monitoring Panel is addressing this issue. From our perspective, what is needed is not just restoring monitoring efforts that have been lost. We need to start with a clean slate and design a monitoring program to meet current and future requirements.

Commercial fishers, recreational fishers, and aquaculturists are all concerned about access to the waterfront. Marina operators have increasing costs, so the ability of wealthy recreational boat owners to pay high prices for slips is welcomed. If a marina that serves both recreational and commercial boats is sold, the new owners may have to raise rates to those affordable only by the recreational boat owners (or they may want to

develop new residential units rather than operate a marina). In a similar vein, since parking for the Block Island ferry has been expanded at Galilee, there is little space left for commercial fishers to park. And recreational fishers report increasing difficulty in using public access locations (e.g., private residents put rocks across a public access ways to prevent legitimate automobile access and many towns have eliminated or restricted parking near public access points).

The Panel suggested a number of options to address preservation of the working waterfront. In general, there is a need to provide affordable access to the water for people who work on the water, just as there is a need to provide affordable housing in a community for people whose families have lived and worked there for years. The legalities and economics of this subject were beyond the knowledge of the Panel members, but it was felt that individual towns should probably provide dock space at reduced rates to commercial boats (an alternative might be subsidies to private dock owners or expanded mooring opportunities).

The Panel also considered that the state now lacks sufficient fish processing capacity for the increased catch that is already coming (due to rebounding fisheries) and that could potentially come (due to a cleaner Bay). A recent very strong year-class of haddock will soon be entering the commercial fishery. Rhode Island boats will go out to catch them, but if the capacity is not here to process them, those boats will unload their catch at other ports and Rhode Island will lose the economic value of that catch, along with the shoreside jobs associated with processing and marketing. Similarly, if we are able to restore the winter flounder fishery to Narragansett Bay and generally increase both fishery and aquaculture production in a cleaner Bay, we will need expanded processing capacity. Part of this issue is the high cost of waste disposal and effluent treatment by processing facilities, so those factors will have to be considered.

It would be extremely helpful to the commercial fisheries and aquaculture industries, as well as to recreational fishing, if the general public could be educated about the economic value that these activities provide to the state and how that value could be expanded with a cleaner Narragansett Bay. An updated estimate of current economic value is needed, as is an estimate of expanded economic value due to environmental clean-up.

One of the very specific charges to the Panel was the establishment of a Cooperative Fisheries Research Program involving government, academia and industry. This was a priority for former DEM Director Jan Reitsma and the current DEM interim leadership has agreed to carry it forward. URI and DEM signed a memorandum of understanding (MOU) in 2003, but that cooperation needs to be expanded to industry and any other government agencies or academic institutions that wish to participate. Meetings were held with industry in June, 2003, to identify priorities for research (copy available as part of Panel input in Appendix 3). The Panel agreed that a concerted effort should be made to establish this program by the end of March, 2004, by adding the necessary industry associations and others to the MOU.

## **Recommendations**

1. Using existing documents and networks, expand the current DEM/URI MOU to include fishing industry associations and other interested parties by the end of March, 2004.

2. The fishing and aquaculture industries rely on a healthy Narragansett Bay and therefore recommend and support initiatives to improve water and habitat quality throughout the Bay and its watershed.
3. Establish a first-class program for monitoring of Narragansett Bay environmental quality and its living resources.
4. Investigate the use of increased shellfish production and harvest, through some combination of public and private aquaculture, to reduce nutrient levels in the Bay.
5. Preserve the working waterfront, as well as shoreline access for recreational fishers, through some combination of strategies that still need to be identified.
6. In order to educate the public, provide current economic value due to fishing and aquaculture activities in the state and project increased economic value if the Bay is cleaned up.
7. Continue the cooperation and dialogue that can lead to increased aquaculture production in the state.
8. Increase support for natural resource management of recreationally and commercially harvested species of finfish, shellfish and crustaceans.

## **Appendix 1**

### Members of the Fisheries and Aquaculture Panel:

David Alves, Coastal Resources Management Council  
David Bengtson (Chair), University of Rhode Island  
David Borden, Department of Environmental Management  
Priscilla Brooks, Conservation Law Foundation  
Kathy Castro, University of Rhode Island  
Al Conti, Snug Harbor Marina, Rhode Island Marine Trades Association  
Ron Gagnon, Department of Environmental Management  
Art Ganz, Department of Environmental Management  
Mark Gibson, Department of Environmental Management  
Ken Ketchum, RI Commercial Fishermen's Association  
Mike Marchetti, RI Lobstermen's Association  
Mike McGiveney, RI Shellfishermen's Association  
Steve Medeiros, RI Saltwater Anglers Association  
Bob Rheault, Moonstone Oysters  
Tim Scott, Roger Williams University  
Bill Silkes, American Mussel Harvesters  
John Torgan, Save the Bay

## Appendix 2

### Input received from Fisheries and Aquaculture Panel as of 2/1/04

I have now received input from three more panel members in the fisheries area, so we have a little more balanced perspective (we now have five fisheries, five aquaculture inputs). I added them to the previous document, so the whole thing is now here in one place (new inputs are from panelists C, D, and E). Panelist E has provided a document from a meeting last June on cooperative fisheries research that I think will be a big help to us, as that is a specific part of our charge

Some of you responded to the questions of a) current status (where are we?), b) direction (where do we need to go?), and c) means (how are we going to get there?). Others provided lists and explanations of their priority issues. Another approach was to focus on the issues of water quality, monitoring and habitat. I've included all types of responses here, with some minimal editing.

### Fisheries

#### Panelist A (answering a-b-c questions)

- a) current status can easily be supplied by DEM marine fisheries staff
- b) Although most of the fish that we are allowed to catch here in Rhode Island are mandated coastwide quotas, I favor ensuring that those quotas are spread out so that a maximum of citizens can enjoy them
- c) This may involve facing some tough decisions. Our state will never see an increase in our share of the coastwide fishery without being able to prove that we deserve more. In order to prove this, our F&W division must be able to conduct more surveys, but this costs money (which they don't have). More money could translate into more fish for Rhode Islanders.

#### Panelist B (listing priorities)

- 1) Characterize the industry, that is who fishes, how, where, when and what do they catch. This will be available with full implementation of the RI Fisheries Information System (RIFIS). It is an electronic, web-based dealer reporting system in which every dealer-licensed fisher transaction would be captured and reported to the Division of Fish and Wildlife. It is currently being adopted by major RI dealers but limited by DFW staff support. Full implementation will require state funding and FTEs when federal funds run out.
- 2) Observer Program- Monitoring fishing activities with onboard observers is essential for conducting cooperative research programs and for documenting discards and practices in the fisheries. The state does not have a program and it will require funding and FTE or contractual workers.
- 3) Cooperative Research- Industry working cooperatively with government agencies and academia to solve various problems. Areas of research include raised footrope trawls, mesh selectivity on trawl and gillnets, unvented pot surveys for lobster. Funding is

available through federal sources but need triad institutional arrangement to be developed.

4) Port Development and Shoreside needs- Commercial fleet losing ground to tourism and economic development interests. Docking and offloading infrastructure crumbling, limited areas for parking and gear stowage. Processing/marketing sector diminished. Needs state funding.

**Panelist C** (answering a-b-c questions)

A. Current status: Water quality is deteriorating and is causing " fish Kills" at a unheard of severity. Declining water quality and nutrient loading mixed with wet warm weather formed the massize deoxygenation of areas of the bay. Although steamers and small fish were lost, there doesn't seem to be a major effect on the hard shell clam industry.

B. Prioritize and identify the reasons for this.

C. Set obtainable goals with short and long term approaches. Go for the low hanging fruit and move up the tree. Understand and articulate what can and should be accomplished. In my end we would encourage public aqua projects to help clean the water and stimulate both the recreational and commercial fisheries. Set limits on Marina expansions into clean water. Encourage docking availability for the commercial fisheries.

**Panelist D** (answering a-b-c questions)

A. Some stocks seem to be on the road to recovery, whereas some seem to be on the decline. We must be careful not to place the blame on the decline of the stocks on overfishing alone. The taking of Winter Flounder has been banned commercially in the Bay since 1989, and this is one of the stocks of concern. We need to look at water quality and other environmental factors as reasons why stocks such as these are not recovering.

B. We need to start keeping closer tabs on the water condition in the Bay. There are many factors contributing to the quality of the water, such as chlorine from sewage treatment plants, fertilizer and weed killer from lawn runoff, chemicals used for insect control, and discharge from older outboard motors.

We need to keep tight control on how many commercial fishing licenses are issued and we need to find out where the fishing effort is coming from.

C. This is the biggest challenge that we face. We must work at getting the sewage treatment plants up to speed with the safest and most modern ways for treating sewage, such as ultra violet treatment in lieu of chlorine. Keeping tight control of fishing effort by implementing electronic reporting systems at the dealer level would be a big start.

**Panelist E** (providing a copy of a report held last June on what we now call the Cooperative Fisheries Research Program)

**Fisheries Research Workshops**

Sponsored by

RI Sea Grant Fisheries Extension Program  
URI Fish, Fisheries, and Aquaculture Initiative

**Composite Summary of Meetings held on June 4, 2003 and June 25, 2003**

**Purpose of the workshops:** To begin a discussion about research needed to support fisheries management efforts in the state, and to explore ways that RI DEM, researchers at the University of Rhode Island, and members of the fishing community can better coordinate their efforts in this area.

**Summary of Major Discussion Points:**

**I. Research Needed to Support Fisheries Management in Rhode Island**

Major items:

Suggestions from RI DEM:

- Natural history data for all exploited species
- More refined stock assessment data
- Multi-species community analyses and multi-species quota optimization studies
- Shellfish transplant analyses
- Data compilation and analyses to track fishing effort and participation in fisheries
- Assessment of social and economic impacts of management alternatives
- Analyses of trends in ecosystem

Suggestions from URI research community:

- Gear research [to reduce bycatch problem]
- Basic water quality monitoring of Narragansett Bay and nearshore waters
- Development of social and economic baseline information for regulatory impact analyses
- Study of how DEM is using the resources they have available to manage the state's fisheries
- Expansion of trawl survey work [collaborative approach with scientists, managers, and fishermen]
- Monitoring of changes in species populations and study of the implications this has for management measures

Suggestions from fishing industry:

- Better documentation of fish recovery
- Identification of critical habitat areas
- Expanded trawl surveys
- Bycatch related research [gear and management alternatives]
- Development of database to support ecosystem approach to management
- Modeling of different management scenarios incorporating all pertinent factors

**II. Research Priorities:**

- There was general agreement that a core research program focused on the attainment of baseline data across all disciplines [biological, economic, social] was a top priority. Once that is established it could serve as the foundation for assessing trends in the fisheries and ecosystem, and ultimately for impact analyses of various management options.

### **III. Ways to Promote Better Communication, Collaboration, and Cooperation Among URI, DEM, and Fishermen Regarding Fisheries Related Research:**

- Understaffing, mistrust, lack of every day communication, and high overhead costs associated with the URI system were mentioned as reasons why there is not better collaboration and cooperation.

Suggestions on ways to improve this situation:

- Development of List Serv to communicate regularly on research projects and needs
- More informal gatherings so people can get to know each other
- Establishment of a DEM office on East Farm Campus [or office space within DEM for a University representative] to promote communication
- Development and signing of a Memorandum of Understanding between RI DEM and URI Sea Grant Program
- Development of a collaborative research program involving fishermen

### **IV. Funding Options and Mechanisms:**

Major Points:

- Collaborative funding opportunities are available.
- Researchers at URI need input from DEM managers on what research products are most needed. This is helpful in soliciting funding.
- The Research Steering Committee of the New England Fisheries Management Council track available proposal requests.
- URI Sea Grant Program has access to Smarts Output List Serv, which can be used to search for grants in particular subject areas.
- The Research Trust being developed [fishing industry] could serve as a vehicle for taking an issue and distributing funds.
- The development of a collaborative research plan that lays out long term goals and priorities would best position everyone involved in procuring funding.

### **V. Other Points:**

- This initial discussion should be expanded to include other academic institutions and interest groups.

### **VI. Next Steps:**

Suggestions:

- Development of a collaborative research plan
- Workshop to review and comment on ACCSP data collection project being working on by DEM
- Examination and assessment of research programs already in place
- Development of a document listing who is working on what regarding fisheries research
- Development and signing of a MOU between DEM and URI Sea Grant Program
- Outreach to fishermen organizations to bring them into the process

- Issuance of an Executive Order by the Governor requesting DEM to explore ways to work with URI and other academic institutions regarding fisheries research

## Aquaculture

### Panelist F (answering a-b-c questions)

A) current status:

80% oysters

20% clams

not counted:

public sector stock enhancement

water garden suppliers

aquarium fish

B) where do we need to go

1) diversification of species cultured

2) improved profitability for existing growers will rapidly bring new entrants and more jobs and expansion of production by existing producers

3) broaden horizons as to what is acceptable (eg. Sm scale cage culture in ponds, more than 5 acres in bay or 3 acres in ponds, aq in eelgrass areas)

4) work towards equity among users of the marine resource (why is aquaculture only allowed if there is no other current use ? What is the “best” use of the public resource?)

5) improve public perception

6) encourage privatization of public aquaculture projects

7) encourage private use of public lands such as Quonset, Jerusalem, FW lakes, University Facilities

C) how do we get there

1) continued financial support for new species trials; demonstration projects for techniques and species that work or might work

2) continue DEM Ag. marketing assistance for established growers; summer intern program for cheap labor; get some process engineers, hydraulic engineers, boat designers and materials handling experts to come out with growers and examine how we do things and suggest improvements; enforcement of brand identity regs - dealers in other states are violating trademarks but there is no way of enforcing; examine regulatory and reporting burdens - every year I have several man days of paperwork and several thousand dollars of bills relating to permits and leases all on Jan 1.; enforcement of existing laws protecting growers from theft - assurance from enforcement that this will occur; Maintain infrastructure for processing and transporting product; Access to boat slips or moorings (and pricing) is rapidly becoming a crisis for new growers; commercial access to waterways is inadequate; health insurance and boat insurance and product liability insurance is quickly becoming prohibitive

3) examine real vs perceived environmental threats and modify exclusions as appropriate

4) continued dialog among users

- 5) public education/extension / outreach on benefits / methods; press releases, letters to the editors; organize tours of farms for public and regulators
- 6) longer term contracts for production of species purchased by state would lend predictability - a missing element - which would encourage bidding by local producers. Bid preferences to local producers would encourage local producers. Local production would be preadapted to our environment.

**Panelist G** (answering a-b-c questions)

- a) – current status: The DEM and CRMC have established coordinated permit review programs for dredging applications and aquaculture applications. Each agency has a single point-of-contact that works together with the applicants to streamline the process. There is a pre-application stage, a permit review process, and a reporting and monitoring process. The DEM also has a single point-of-contact for large projects that require multiple program reviews such as the Providence River Dredging project.
- b) - direction, where do we need to go: Information sharing and early coordination on projects are areas that can be improved. Agency staff conduct independent reviews and at some point, may end up sharing information. I think the gathering and sharing of information by the different disciplines involved, (water quality, habitat assessment, fishery impacts) can be better planned and coordinated and will result in faster and better decisions.
- c) - means, how are we going to get there: There is a monthly process at the staff level to review water dependent applications involving the DEM, CRMC, NMFS, ACOE and others (The Programmatic General Permitting or PGP meetings). A similar process could be used at a senior level to review projects and policy issues, develop plans for sampling, research and data gathering, etc.

**Panelist H** (listing priorities)

I would place my aquaculture priorities as 1) diversify; 2) amplify; 3) marketing

**Panelist I** (considering WQ, monitoring and habitat)

Water Quality: We need to approach this area in a comprehensive manner from where the inputs originate and stop them there. We know this information; all we need is the political will to do something about it. Monitoring: I'm not too sure about this, it implies that we can control the environment, which I don't think is true. Maybe we ought to concentrate our efforts on monitoring the inputs, then that might equate to public pressure, thus the political will to do something about it. If we monitor anything else it implies we can fix the problem, which is a lie. We might consider testing clams before the transplants so we don't get the same problem they had in NY. Habitat: Maybe we ought to try to educate the populace that the bay is not there strictly for their use and abuse. It's not a sewer where we can dump whatever we want. People should take personal responsibility for their actions and realize that their consumer choices have reactions on the environment. That every rich littoral land owner does not need a dock, that every marsh isn't ready to be turned into a shopping mall, and we all can't move to the shore and commute to Providence.

**Panelist J** (answering a-b-c questions)

CURRENT STATUS

The traditional shellfisheries for hard clams, oysters, steamers and mussels are in decline as measured by landings. Landings from shellfish aquaculture are increasing but are still very small. This dearth of supply forces “dealers” to source shellfish from away in order to stay in business. It also precludes any opportunity to brand RI shellfish.

There are a number of reasons that affect both production sectors of the shellfish industry. Chief among them are:

1. Compromised water quality, which closes productive shellfish waters to both the public fishery and aquaculture.
2. Access to a working waterfront.
3. Introductions of non-native species that compete for food and space as well as prey upon commercially valuable species.
4. The fragmented nature of the industry.
5. The perception of the industry as not being economically and politically important.

DIRECTION

Decide if part of the vision for Narragansett Bay is to increase and sustain commercially viable shellfish harvests from the public fishery and aquaculture. If in fact this is true then a clear statement of this goal in measurable terms (landings) should be part of the findings of this commission.

The vision for aquaculture should not be limited to small shellfish leases in inshore waters. We need to keep our minds open to innovative technologies, all possible species targeting different markets and offshore waters. Water leases should be tailored after land leases that the State enters into to encourage business development.

STRATEGY

The vision has to be articulated by this and future Governors to all Rhode Islanders on a regular basis. Perhaps it should become law and a charge of the Joint Committee on the Environment to review all existing and proposed legislation in the light of this vision.

Additionally, the following events should happen:

1. The industry should align itself with all user groups that share the vision in order to become a larger political force.

2. DEM should conduct annual stock surveys of all commercially valuable shellfish in open and closed waters.
3. Values should be established for the resources in closed waters and compensation from the parties compromising the water quality should be sought. A war chest should accumulate and could be used to continue the aggressive pursuit of water quality compromisers. These monies could also be used to support a minimum price for shellfish landings.
4. The State and Towns should set aside a certain percentage of dock space for commercial shellfishers at affordable prices.
5. Identify the non-native species that are already present and characterize their impact on the commercial shellfisheries. Develop strategies to mitigate these impacts and prevent future introductions.
6. A shellfish industry association should be formed. At a minimum it should include the RI Shellfish Association, the Ocean State Aquaculture Assoc., shellfish dealers, and key seafood restaurants in the state. This group would accomplish task number one in this list as well as engage in marketing and public relations for the shellfish industry. The goal would be more supply, higher prices and an improved public image.

## Appendix 3

### **Governor's Panel on Fisheries & Aquaculture**

Minutes of the 12 February 2004 Meeting  
DEM Office at Fort Wetherill

Present: David Bengtson (Chair), David Beutel, Timothy Scott, Michael McGivney, William Silkes, Daid Alves, Alan Desbonnet, Arthur Ganz, David Borden, Robert Rheault, Kenneth Ketchum, Julianna Wyman, Al Conti, Steven Medeiros, Mark Gibson, Ron Gagnon

The meeting was called to order at 9:06 AM

Dr. Bengtson led the meeting with an overview of the history of the panel and its charge (see handout for details). In general, the charge of the panel is to develop a report to the Governor on Fisheries and Aquaculture in Rhode Island that describes 1) Current status, 2) Future expectations and 3) What is needed to meet those expectations.

Dr. Bengtson opened a discussion about existing information that could serve as the Current Status element, noting in particular:

- White papers on Fisheries and Aquaculture in Rhode Island from the 2000 Narragansett Bay Summit
- DEM management reports
- CRMC annual reports

It was noted that all these documents are available on line at the web sites of the respective agencies. Input was requested regarding the availability of other useful information not noted above. Added to the above were:

- Stock status reports from DEM
- Rhode Island Aquaculture Initiative mapping outputs
- Shellfishermen's Association restoration initiative information

Dr. Bengtson noted that he will be taking the output of this meeting to the Steering Committee on the 25<sup>th</sup> of February.

Dr. Bengtson then opened a dialogue about the Future Expectations element to be produced by this panel, noting that based on panelist input via email, shoreline access and shoreside facilities appears to be a concern for both aquaculturists and fishers, both commercial and recreational.

Dr. Rheault suggested the panel consider establishing a given percentage of dock spaces be allocated for commercial use only as marina infrastructure is necessary to the future of fisheries and aquaculture in the state.

- Mr. Conti stated that land costs on the shore are exceedingly high, as are costs of insurance and property taxes, and if a marina is sold it is often nearly impossible to pay a mortgage based on slip fees. The end result is marinas will be lost over time (i.e., land sold for residential development), further limiting access. This needs to be addressed somehow, perhaps by mimicking farm acquisition or low cost housing programs.

- Mr. Ganz suggested looking into the model of community dockage, such as that provided at Apponaug, which was town property and the shellfishermen cooperatively maintained the dock.
- Mr. Alves suggested looking at Thomaston, ME as an example from New England. They have zoned waterfronts for commercial use only.
- Mr. Ganz noted that while the case for access must be made at state levels, local communities are where the decisions are made and town governments should be in the loop access issues. Dr. Bengtson suggested Regional Councils could be a point of contact in this regard.
- Mr. Silkes agreed that access needs to be preserved, stating that laws need to have the teeth to do so. He also suggested exploring the idea that marinas might be “subsidized” for the difference between the reduced rate charged to fishers and farmers and the market rate.
- Mr. Ketchum pointed to the parking issue in Point Judith as an example of limiting access. If the Block Island ferry service would adopt offsite parking and shuttle services, parking could be made available to tourists and fishermen.
- Mr. Ganz suggested looking into the expansion of moorings as a way of increasing access, though they would have to come under harbor management plan authority, which might be difficult.
- Mr. Alves noted that it might be possible, given the political will, for CRMC to require a given percentage of dock space be allocated for commercial use. Mr. Conti rebutted that that could be burdensome or unacceptable as commercial and recreational uses often do not mix well.
- Dr. Rheault suggested dry dock/stacked storage be considered as an option as it is used successfully elsewhere.
- Mr. Borden stated that it is not just boat access, but access to shoreside processing infrastructure and its expansion. As fisheries landings expand (especially the huge year-class of haddock that will soon be recruited to the fishery), as they are projected to do in the future, RI does not have existing processing facilities to meet demand, nor does it have ready access to new sites. As such, jobs and boats will move elsewhere to areas that can meet the processing demands of the future and RI will be the loser if the problem is not addressed.
- Mr. Ketchum noted that 75% of the boats running from Point Judith take short trips only, and it would not be feasible to have them relocate to Quonset due to the extra travel time which would result in several lost trips per month.
- Mr. McGivney suggested moving the Block Island ferry service to Quonset (where there is already a high speed ferry service to Martha’s Vineyard) would be a viable option that should be recommended by the panel.
- Mr. Alves suggested that most people do not understand the value of the fisheries industry in the state, and that this needs to be brought out so that support for access can be built. Mr. Gibson suggested using the NE Fisheries Council statistics to develop current value, and then use that to project future value to the state. This can then be used to show the need for the preservation and enhancement of access for fisheries. Mr. Borden said this should then be compared to current spending on fisheries to show the huge disparity. Mr. Conti noted that, since 75% of recreational

boats are used for fishing, this needs to be factored into the value equation, making it larger still.

- Mr. Silkes noted that Quonset would not be a likely site for future processing expansion due to the difficulty of using existing sewer capacity. This might be easier to address at Point Judith. Mr. Borden agreed Point Judith might be easier, but not necessarily easy.

Dr. Bengtson opened a dialogue regarding the issue of the Ecological Health of Narragansett Bay and its fisheries, noting the panel should focus on the impacts of an unhealthy bay on fisheries and aquaculture. Other panels will address major issues like sewers, etc. Issues of both ecology and economy need to be considered and addressed by this panel.

- Mr. Ganz suggested the panel review the economics of opening and closing shellfish beds, and how that works to destabilize market prices.
- Mr. McGivney suggested expansion of the transplant and seeding programs, and much should be made of the programs ability to improve habitat and ecosystem health as well as product flow and sustainability of a traditional lifestyle. He also noted that the 4 to 1 multiplier effect of the transplant program should be publicly pointed out. Dr. Rheault noted that the multiplier effect is roughly the same for aquaculture operations.
- Dr. Rheault suggested looking at the New York model of privatizing shellfish transplant programs.
- Mr. Conti questioned if transplant programs could be funded from license fees by creating a “revolving fund”. Mr. Ganz noted that that had been tried in the past and had been ruled upon as illegal.
- Mr. Borden suggested that transplanted shellfish could be relayed to aquaculture operations for depuration, then let into the market as needed to create stability. Mr. McGivney stated this has been discussed at length, and in general, shellfishermen do not like this idea and would not be supportive of it as they fear it will change the current way the “common fishery” operates and would put them at a disadvantage. Dr. Rheault suggested the shellfishermen could do it themselves rather than involved aquaculturists, who might not be interested anyway.
- Mr. Silkes suggested prices could be stabilized by state subsidy rather than by subsidizing the transplant program. Rather than pay fishers to harvest from closed waters and move clams to management areas for future harvest, the State could buy clams when the market drops below a predetermined price. These clams would be planted into management areas that would open when the market price permits. Mr. Alves suggested it might not be the role of the government to control the market in that fashion. Dr. Rheault stated it was his opinion that such a subsidy would be a losing proposition, and that with the market glutted with shellfish as it already is, what is needed is an expanded market, not a subsidy. Mr. Silkes agreed that an expanded market is the preferred option.
- Dr. Scott asked whether or not recent bad press over fish kills have hampered the demand and/or prices for RI shellfish. Mr. McGivney stated yes, but more so in product perception, which of course then influenced prices and marketability. He further stated that expansion of the transplant program could work to improve the

overall perception of RI shellfish product in a positive way, as well as adding market stability.

- Mr. Alves suggested that the panel elaborate on the fact that a clean environment has value, not just in fish and aquaculture products, but also in “non-extractive” values of the bay. He noted this is currently not done, or at least not effectively, and would go far to build a better perception of the bay the products grown and harvested from it.
- Dr. Rheault suggested relating the benefits of aquaculture to the costs of nitrogen removal in the bay, comparing it to the costs of sewer infrastructure expansion. He noted that the dollar values calculated could be staggering, and would no doubt be a shock to most people.
- Mr. Ganz suggested that ecological health be recommended as a common theme throughout the work of all the various panels.
- Dr. Bengtson suggested linking ecological health and ecological benefits to a marketing campaign to squeeze the most good out a good concept.
- Mr. Silkes questioned how we define ecological health of the bay. Is it related to shellfish and fish landings? To water quality? Dr. Bengtson noted that EPA and others have struggled with a definition of ecological “health”, defining it as the absence of “disease”, since they don’t necessarily know what the actual parameters are that indicate health, as we do with humans.
- Dr. Rheault suggested the development of some metrics that could be applied to assessing bay health.
- Mr. Ketchum stated that the conversion of summer to year round homes is one of the major problems impacted bay ecosystem health, and that this needs to be brought out in a report to the Governor.
- Mr. Gibson noted that winter flounder have been impacted by a variety of events, such as over fishing, increased water temperatures and increased extent of bottom water hypoxia. Dr. Rheault queried why the salt ponds populations are making a come back, but not the bay. Mr. Gibson noted it was unclear, but they see spawning success but no return of 1<sup>st</sup> year fish, suggesting that there is some ecosystem or habitat problem in the bay. Similar trends are seen with other resident demersal species, but not in those of seasonal migrants. This is something the panel may want to detail. Mr. Borden noted that large patches of hypoxic water also move around the bay during summer, and the impacts to the bay from these events are largely unknown, but could be expected to be significant.
- Mr. McGivney suggested better policing and enforcement locally, as even small events like feeding ducks and geese increase nitrogen flow into small bays.
- Mr. Borden posed that if \$1 million were given for fisheries and aquaculture enhancement, what is the priority for spending? Mr. Silkes said it would depend on the definition of ecological health of the bay. Mr. Ketchum said that a bay wide monitoring program should be funded.
- Dr. Scott suggested that the main heading from this panel be Ecological Health, and that Access and Regulations be major subheadings.

Dr. Bengtson requested suggestions for what should be recommended by this committee to the Governor.

- Mr. McGivney suggested continuation of funding for clam transplant and seeding programs.
- Mr. Ganz suggested developing preservation areas, such as MPAs, to promote ecological health. Mr. Ketchum noted that MPAs have not been proven to work when the rest of the related ecosystem is not in good health. For example, an MPA for winter flounder spawning would be fruitless if 1<sup>st</sup> year flounder are not being found and the reason why is not known.
- Dr. Rheault suggested consideration of “no cost” activities. In addition, he thought that better enforcement of existing regulations was required rather than development of new regulations. He cited work in Maryland that explores the idea of using shellfish (either cultured or natural populations) to filter the water of phytoplankton and therefore remove nitrogen from the environment, as an alternative to the cost of building or modifying sewage treatment plants to remove nitrogen. He will further investigate the economics of this.
- Mr. Gagnon suggested combining CRMC and DEM to promote streamlining in permitting. Mr. Alves noted that that might not be a workable solution, particularly given current budgets in existing agencies. It could be that in that model DEM would end up with more work and less money.
- Mr. Ketchum suggested giving back authority and power to the RI Marine Fisheries Council. Most agreed this was a good idea.
- Mr. Borden suggested a first rate water quality monitoring program be developed. All agreed this was a good idea. He further noted that DEM has a boat and money to do this for a 1 year period. Mr. Ganz suggested that continued funding for this monitoring be requested, and that a mandate to monitor nitrogen be developed. He further suggested that existing bacterial monitoring programs could be the venue for implementation. Mr. McGivney suggested creation of an oversight group to coordinate all monitoring. Mr. Gibson stated that such a group should be primarily scientists that could link monitoring to ecosystem health. Mr. McGivney also suggested that such a group made recommendations for addressing problems. Dr. Rheault stated that the Pew Commission has pointed to nonpoint source pollution as the number 1 problem to coastal ecosystems, and that the panel recommend giving DEM back the resources to deal effectively with this issue. Mr. Borden noted that a separate panel is addressing monitoring, and that this panel ought to support their recommendations. Dr. Bengtson questioned the role of volunteer monitoring, and Mr. Ganz noted that volunteers are great, but money is still needed for analysis. Furthermore, agencies cannot utilize volunteer data in enforcement or regulation, limiting the value of the collected data.
- Mr. Ketchum suggested continuation of funding for DEM’s computerization of licensing data, as well as other monitoring data.
- Dr. Bengtson noted that someone needs to work up the economic data to show that funds must be allocated to these efforts over the long term, not just for a year or two.
- Mr. Silkes suggested that monitoring efforts not focus solely on economically valuable species, but on others as well, including invasive species. Mr. Borden responded that DEM has resources for a one year effort in that direction, but the panel should recommend continued funding or else one year’s worth of data is not worth very much.

- Dr. Bengtson suggested the development of an interdisciplinary group to address how to preserve a “working waterfront”. This group would need to identify mechanisms (zoning, easements, etc.) to keep access open and to expand access for product processing needs. Borden stated this group should directly address the issue of commercial dock access and seafood processing capacity.

Dr. Bengtson opened a dialogue about the Cooperative Fisheries Research Program.

- Mr. Beutel reported that the MOU between DEM and URI is in place, but needs to be expanded to include CRMC, Roger Williams University, fishery associations, etc. He further noted that cooperation is already occurring, and has for some time, but the MOU formalizes that cooperation. Dr. Kathy Castro will be requested to take on the initiative of getting other partners to sign onto the MOU, and to have an official signing ceremony by the end of March. The Fisheries Center at East Farm will be the hub for cooperative activities.

Dr. Bengtson opened a dialogue regarding the expansion of the aquaculture industry.

- Dr. Rheault suggested that there is a need to expand the dialogue between users groups to define where aquaculture can occur along the coast without major conflict, and to better discuss how to make the industry grow.
- Mr. Silkes cited the Governor’s interest in a marine life science technology park at Quonset and noted a need to include fish, pharmaceutical and other interests in that dialogue as they can and should be a part of the future of aquaculture in the state. He further noted that pharmaceuticals in particular could have a major role in the future growth of aquaculture.
- Mr. Conti stated there is a need to expand aquaculture and fisheries facilities into upland areas around the state, not just at Quonset.
- Mr. Borden queried what was the largest impediment to the future growth of aquaculture?
  - Dr. Rheault said profitability—unless interested parties see that a reasonable living can be made, they are reluctant to enter. Mr. Silkes suggested the panel develop a monetary goal for the future growth of aquaculture, for example \$20 million by 2008. This would then tie into goals for improving water quality, access, etc. in order to attain that goal.
  - Mr. Silkes said shoreline access might be limited, and that future growth will have to look offshore, particularly as new technology develops. Mr. Borden suggested considering zoning of the shoreline for aquaculture so that much of the NIMBY objections could be pulled out of the permitting process.
  - Numerous persons agreed that better education of the public and political leaders about fisheries and aquaculture is needed to remove biases and misconceptions. Mr. McGivney suggested better signage is needed around docks to point out the existence of Pump Out Stations, No Discharge Zones, Don’t Feed The Ducks, etc. Mr. Ketchum suggested a map showing fish trap sites be provided to boaters at marinas. Ms. Wyman pointed out that the Panel had discussed the issue of water quality for a full hour, but had not specifically recommended that we support water quality improvements with

the expectation that they would lead to improved fisheries and aquaculture.  
The Panel agreed that such a statement should be made.

Dr. Bengtson concluded the meeting with a few closing remarks regarding process, and that contact would be made via email regarding upcoming meetings.

The meeting was adjourned at 12:05 PM.