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Governor's Task Force on the Planning and Development of Marine Aquaculture in Maine

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**GOVERNOR'S TASK FORCE
ON THE PLANNING AND DEVELOPMENT
OF MARINE AQUACULTURE IN MAINE**

Report and Recommendations

January 30, 2004

**Governor's Task Force
on the Planning and Development
of Marine Aquaculture in Maine**

Report and Recommendations

January 2004

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This report would not have been possible without the extensive input and support that the Task Force received throughout the six month process. As a group of volunteers without in-depth knowledge of aquaculture, we depended on staff, SAP members, experts and members of the public for input and insight. The Task Force would like to thank the members of public who offered written and oral testimony and to the experts who served on panels or offered written comments on specific topics. Special gratitude goes to the members of the SAP who watched our marathon discussions; offered critique, clarifications and advice; and, despite contradictory opinions, were able to work together to prepare a cohesive response to our draft port. The input from the SAP was a critical part of the Task Force process. Finally, but my no means the least, acknowledgement and thanks goes to the outstanding staff of the Department of Marine Resources and the State Planning Office/Maine Coastal Program and Bruce Stedman of Resolve, Inc., who prepared agendas, organized panels, summarized complex issues, kept us focused on the topic at hand, forced us to meet our deadlines, took copious and detailed notes, and drafted both the Task Force and SAP report. Without their assistance, this report would not have been possible.

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Additional copies of this report and the Executive Summary are available by calling Deirdre Gilbert of the Maine Department of Marine Resources at 207-624-6550. A complete record of Task Force proceedings, background papers, etc. is available from at: <http://www.maine.gov/dmr/aquaculture/aqtaskforce/aqtfhomepage.htm>

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I. EXECUTIVE SUMMARY

In August 2003, the Task Force on the Planning and Development of Marine Aquaculture in Maine began its fact finding and deliberations to determine how to balance the range of potential uses of state waters and plan for the growth of marine aquaculture while considering all applicable scientific data and all reasonable constraints and opportunities. Over the course of the next six months, the Task Force and its associated Stakeholder Advisory Panel held several meetings and conference calls to gather information from experts and the public to be used in developing a set of recommendations. The recommendations in this report are directed to the Joint Standing Committee on Marine Resources and include changes to Maine law, regulatory language, and various policies of the Department of Marine Resources (DMR). The Task Force put considerable effort into developing a Vision for Marine Aquaculture with the intention that this vision be embraced by both the legislative and executive branches of Maine state government. This vision statement, once adopted, can provide a foundation on which the public, government agencies, and the industry can base future decisions about the development of marine aquaculture in Maine.

The full report of the Task Force provides a vision for marine aquaculture in Maine and proposes a series of guiding principles to be considered in the development of aquaculture in the future. Sections of the report provide background information on the history and current status of aquaculture in Maine, along with a summary of the state and federal regulatory structures currently in place. Recommendations from the Task Force are sorted into five themes: Bay Management; Leasing Process; Impacts of Aquaculture on Other Uses; Ecological Health; and Information, Research, and Industry Promotion. A total of 95 individual recommendations are included in the report, some of which will require further vetting and input through the legislative and regulatory review processes.

In its discussions of Bay Management, the Task Force determined that the concept of bay management may have broad applicability for managing multiple uses of the Maine coast in discrete areas, but that the implementation of bay management solely to aquaculture is not appropriate at this time. Instead, the Task Force is recommending the initiation of an effort to define the concept of bay management and assess its potential utility to the state of Maine for managing a broad range of activities along the coast.

The Task Force made numerous, detailed recommendations to improve the leasing process and reaffirmed the decision-making authority within the DMR. While agreeing that the commissioner of the DMR should retain final decision-making authority on the granting of leases, the Task Force recommends that there be more consideration given to the concerns of the local community, and it has developed recommendations to assure that members of the local community and other users of the coast have an opportunity to convey their concerns to the DMR prior to the final decision.

Recognizing that there is potential conflict between aquaculture and many of the other users of the coastal waterways, the Task Force reviewed and made recommendations to improve the leasing criteria and best management practices for aquaculture facilities to

minimize noise and visual impacts. The Task Force also took steps to assure that the DMR will consider the impact to wildlife and the scenic value of many of Maine's conserved lands.

The issues relating to the ecological impacts of aquaculture are numerous and complex. The Task Force reaffirmed that there is the potential for negative impact on the environment, and that there needs to be a robust and efficient monitoring program to ensure that these impacts are limited and reversible. There has been significant recent work by the Board of Environmental Protection to develop a discharge permit for finfish aquaculture facilities, and the Task Force has recommended that the DMR and the Maine Department of Environmental Protection coordinate their efforts to implement and review the criteria put forth in this new permitting process. The Task Force believes that the careful application of this permit, along with industry participation and agency oversight, will result in a satisfactory system of check and balances to eliminate the possibility of long-term adverse impacts on the environment.

Finally, the Task Force recognized the conflicting nature of the DMR roles as both regulator and promoter of the aquaculture sector and, while retaining the regulatory oversight of the aquaculture industry within the DMR, the Task Force recommends moving the product promotion and industry promotion functions to the Department of Agriculture and the Department of Economic and Community Development. Not only will this help address public perception issues related to the decision-making for leases, but it is likely to enhance the ecological and economic sustainability of the industry. In addition, the Task Force is recommending new efforts in scientific research and public education related to aquaculture.

The attached report of the Task Force on the Planning and Development of Marine Aquaculture in Maine contains detailed information on each of these issues, including background information, a description of how each issue was studied, a listing of findings for each theme, and the final recommendations. Those interested in aquaculture are urged to read this report in its entirety. The Task Force acknowledges that this review and the set of resulting recommendations is one step in the process of improving the governance and implementation of aquaculture. Many of these recommendations will require legislative action and others will be reviewed through the Administrative Procedures Act policies, both of which provide for public input. The Task Force urges members of the public to participate in these processes, in hopes that this report helps to inform the discussions that will ultimately result in sound and reasonable policies for marine aquaculture in Maine.

Recommendations:

IV. Maine's Aquaculture Industry: Characteristics and Trends

IV.1. In addition to the recommendations found elsewhere in this report, which are all at least in part based on the above findings, the Task Force recommends the adoption by the state of the following vision and value statements to help guide its future relationship with the aquaculture industry:(language for proposed statutory change is provided in Appendix A.1, section 3)

Maine's Vision for Marine Aquaculture

Marine aquaculture is an important and compatible element in Maine's diverse coastal economy. Aquaculture contributes to satisfying global market demands and benefits local communities and the public interest by producing high quality products, providing economic opportunities, and operating in an environmentally sustainable fashion. Maine's planning and regulatory process is adaptive, inclusive and fair, and supports the growth of the industry in an economically competitive and environmentally sustainable way.

Principles for Marine Aquaculture

- 1. A working waterfront is critical to Maine's coastal future. Marine aquaculture will be part of Maine's working waterfront.**
- 2. Aquaculture will be one of many uses of Maine's coastal environment that can be accomplished so as to be compatible with other activities such as commercial fishing and in harmony with natural resources.**
- 3. Marine aquaculture will be practiced in an environmentally sustainable fashion and will not cause permanent ecological damage.**
- 4. Maine's aquaculture leasing program will model integrity in all aspects of its operation.**
- 5. The State of Maine will encourage local participation in aquaculture permitting decisions.**
- 6. Maine's aquaculture laws and regulations will provide flexibility to address change while recognizing both the need for regulatory stability, and for stability in the use of the public resource.**
- 7. Maine's aquaculture leasing process will provide for open communication amongst stakeholders.**
- 8. Maine's aquaculture monitoring program will feature state-of-the-art environmental monitoring.**
- 9. Marine aquaculture can only flourish with high water quality.**
- 10. Marine aquaculture offers the potential to bring substantial economic value and diversity to the state and its communities.**
- 11. The State of Maine will create a welcoming environment for a range of investments in marine aquaculture.**

12. The State of Maine will encourage the development of locally-owned and Maine-based operations.
13. The State of Maine will provide and encourage incentives for innovation in marine aquaculture.

VI. Bay Management

VI.1. After extensive public input and considerable deliberations, the Task Force was divided on the issue of bay management. Due to the enormous complexity of and disagreement about the nature, scale, process and detail of bay management the recommendation of the Task Force is to not proceed with implementing bay management specifically for aquaculture at this time.

VI.2. The Legislature should charge DMR to convene a group specifically to study bay management. That group should utilize the values and information collected, discussed, and debated by the Task Force. There are two topics the group should investigate: 1) how best to define bay management, and 2) whether this concept can meet the needs of Maine people.

VI.3. The state should encourage industry cooperation to protect fish and shellfish health and biosecurity, such as that practiced in Cobscook Bay for finfish.

VII. Assessment of the Leasing Process

A. Administrative Procedure Act (APA) Lease Process

1. Formality of the Lease Process

VII.1. DMR should continue to use a formal APA process for aquaculture leasing.

VII.2. DMR should continue to work proactively to inform the public on the lease process to make it less intimidating.

VII.3. DMR should provide more informal opportunities for information exchange (see A.2 of this section).

2. Local Input Prior to Application Submission

VII.4. A mandatory scoping session should be held before an application is submitted (language for proposed changes to regulations is provided in Appendix A.2).

3. Public Information and Communication

VII.5. The Task Force recommends that DMR work with Sea Grant and the Maine Coastal Program to update the existing aquaculture information brochure and circulate it widely.

VII.6. DMR should develop a set of information posters that provide information on the lease process, particularly the decision criteria, to be used at the lease hearings and scoping sessions.

VII.7. DMR should use the scoping session as an opportunity for informal education about the leasing process.

4. Conflict Resolution Procedures

VII.8. DMR should identify mediation resources, make a list available to all parties involved in lease-related conflicts, and update the list annually.

VII.9. Conflict resolution should be a voluntary option for interested parties to pursue, outside the existing lease process.

B. Role of Municipal Government in the Leasing Application and Approval Process

1. The Timing and Adequacy of Municipal Involvement in the Lease Process

VII.10. The pre-application meeting should be held in the municipality with the harbormaster and/or a municipal official, the applicant and DMR. (language for proposed changes to regulations is provided in Appendix A.2)

VII.11. A pre-application scoping session will be held. (language for proposed changes to regulations is provided in Appendix A.2)

VII.12. Jurisdiction over leasing in subtidal areas should remain with the state.

2. Mooring Fees

VII.13. Title 38, Chapter 1, §3 should be amended, consistent with the above findings, to clarify that municipalities do not have authority to determine the location of moorings associated with aquaculture lease sites, or charge mooring fees within the boundaries of aquaculture leases. (language for proposed statutory change is provided in Appendix A.1, section 11)

3. Intervener Status

VII.14. DMR should create a form letter that is sent by DMR to the municipalities with the completed application that includes a box to be checked if the municipality would like intervener status.

VII.15. At the pre-application meeting in the municipality, DMR should explain the opportunity for intervener status to the municipality.

4. Intertidal Leasing

VII.16. Amend the language of 12 M.R.S.A. §6673. (language for proposed statutory change is provided in Appendix A.1, section 10)

5. Municipal Input on Lease Decisions

VII.17. A municipality should be permitted to recommend that the Commissioner establish certain conditions on a proposed lease and the Department shall consider any conditions recommended and provide a written explanation to the municipality if the condition is not imposed. (language for proposed regulatory change is provided in Appendix A.2, section 2.37(2))

C. Decision Criteria for Granting Leases

1. Noise and Light

VII.18. Amend the statutory language to omit the charge to the Department to “quantify” impact and to add language regarding mitigation. (language for proposed statutory change is provided in Appendix A.1, section 6)

VII.19. Regulations should set forth required mitigation measures for noise and light. (language for proposed regulations regarding noise and light is provided in Appendix A.3)

2. Visual Impact Criteria

VII.20. Create regulations that set forth limitations on height, size, mass and color of buildings and equipment. Structures that exist or are under construction at the time of enactment of the rule are exempted from the height restriction for their useful lifetime. (language for proposed regulations regarding visual impact criteria is provided in Appendix A.4)

VII.21. DMR should not adopt the method used in Chapter 315 (Code of Maine Rules) in aquaculture lease siting.

3. Sufficiency of Existing Decision Criteria

VII.22. Amend the statute to reflect that the Department will take the number and density of all aquaculture leases in an area into consideration in evaluating the lease under the decision criteria. (language for proposed statutory change is provided in Appendix A.1, section 6)

VII.23. DMR should not consider the view of riparian landowners in making lease decisions.

4. Final Decision-Maker

VII.24. Retain the current system in which the Commissioner makes the final lease decision.

VII.25. Move activities related to development of the aquaculture industry from DMR to DECD and promotion to the Dept of Agriculture (see section X, language for proposed statutory change is provided in Appendix A.1, sections 1 and 2).

D. Lease Renewals and Transfers

1. Procedure for Lease Renewals and Transfers

VII.26. Delete the statutory requirement for an adjudicatory hearing upon five or more requests for both a renewal of a lease and a transfer of a lease. (§6072(12) and (12-A), language for proposed statutory change is provided in Appendix A.1, sections 7 and 8)

VII.27. Rather than an adjudicatory hearing, upon five or more requests DMR will hold a scoping session. The Department will provide 30 days for people to request a scoping session or to provide comment. (language for proposed statutory change is provided in Appendix A.1, sections 7 and 8)

VII.28. The Department shall have the discretion to hold a hearing for a renewal or a transfer if it deems it necessary. (language for proposed statutory change is provided in Appendix A.1, sections 7 and 8)

2. Fees for Renewal and Transfer Applications

VII.29. DMR should amend the regulations to assess a reasonable fee for renewal and transfer applications, following the completion of the comprehensive fee review that DMR has undertaken.

E. Administrative Issues

1. Lease Acreage Limit

VII.30. Increase the maximum lease acreage to 500 acres. (change 250 to 500 in §6072(2.E.), (12), and (12-A), language for proposed statutory change is provided in Appendix A.1, sections 4, 7, and 8)

VII.31. Create incentives for those who remain under a certain acreage through tiered rental fees (see rental fee section).

2. Enforcement

VII.32. DMR should assess the results of the new enforcement initiative. (Appendix E: Enforcement Protocol)

VII.33. The Task Force supports more funding for a greater enforcement effort.

3. Lease Fees and Fines

VII.34. Lease rental fees should be changed and should vary, depending on the activity on the site. A tiered rental fee system should be established which correlates rental fees with the type of activity and the size of the lease. Any changes to lease fees should only be considered as part of DMR's complete review of all aquaculture fees and should not be unduly burdensome.

VII.35. All aquaculture leases should contain monetary penalties for lease violations. DMR should develop a schedule of penalties for lease violations.

4. Time Period of Site Review

VII.36. Eliminate the established time period of April 1st to Nov. 15th within which the Department may conduct its site visit. (Delete the time period from §6072 (5-A), language for proposed statutory change is provided in Appendix A.1, section 5)

VII.37. DMR is encouraged to conduct site visits during times appropriate to characterize conflicting uses or the ecological significance of the site.

5. Polyculture Application

VII.38. DMR should create a written definition of the practice of polyculture.

VII.39. Reasonable incentives for the expansion of polyculture type leases should be developed.

F. Experimental Leases

VII.40. Amend the statute to eliminate the requirement for a public hearing upon five or more requests. (language for proposed statutory change is provided in Appendix A.1, section 9)

VII.41. DMR will provide a 30 day comment period on proposed experimental leases. Upon 5 or more requests, DMR will hold a public scoping session. The Department will have discretion to hold a public hearing, if it deems necessary. (language for proposed statutory change is provided in Appendix A.1, section 9)

VII.42. DMR should amend the regulations to allow an applicant to define the start date as any date within 12 month of approval of the experimental lease application. (add to lease regulations section 2.64(7): The term of an experimental lease shall run from a date chosen by the applicant, within 12 months of the date of the Commissioner's decision, but no aquaculture rights shall accrue in the lease area until the lease is signed)

VIII. Impacts of Aquaculture on Other Uses – Tourism, Recreation, Conserved Lands And Commercial Fishing

A. Tourism

VIII.1. The Task Force recommends that state agencies with responsibility for tourism, marine resources and coastal planning work to foster a collaboration between tourism and aquaculture, two important elements of Maine's natural resource-based economy. To this end, the Maine Coastal Program at the State Planning Office should work with the existing Working Waterfront Coalition (a diverse group of government, industry and nonprofit groups with an interest in the conservation of Maine's marine-related economy) to develop an informational campaign aimed at coastal residents and visitors. The theme of the campaign should revolve around the many benefits of Maine's multi-use waterfronts and provide information of interest to the traveling public about the sights and sounds associated with Maine's working waterfront. The Maine Coastal Program should also consult with the Maine Department of Economic and Community Development, Office of Tourism and the Maine Tourism Commission to ensure a high quality campaign. Outreach materials should have broad appeal for use at tourism businesses, visitor centers and municipal offices.

B. Recreation

None at this time.

C. Conserved Lands

VIII.2. Amend 12 MRSA Chapter 605 Section 6072 (7-A) (F), to read as follows:

F. The lease does not unreasonably interfere with public use or enjoyment within 1,000 feet of beaches, parks, docking facilities owned by federal, state or municipal governmental agencies or certain conserved lands. For purposes of this paragraph, “conserved lands” shall mean a) land in which fee ownership has been acquired by the local, state or federal government in order to protect the important ecological, recreational, scenic, cultural or historic attributes of that property or b) land that has been protected through fee ownership or conservation easement with funding from the Land for Maine’s Future Program.

SPO shall maintain a list of conservation lands as defined above. DMR will request this information from SPO prior to the pre-application scoping session (a modification to the leasing process recommended elsewhere in this report, language for proposed statutory change is provided in Appendix A.1, section 6)

VIII.3. Adopt regulations that provide standards for assessing the impact of a proposed aquaculture facility on the public use and enjoyment of conserved lands.

D. Commercial Fisheries

VIII.4. Lease site review window should be removed to enable DMR to conduct reviews when fishery potential is greatest. (Note: this may require multiple visits, language of proposed statutory change is provided in Appendix A.1, section 5)

IX. Ecological Health

A. Nutrient Enrichment

IX.1. Support research to study and assess whether specific relationships exist between finfish aquaculture and phytoplankton community shifts, HABs, and benthic algae (see Section X.B, recommendation 2b). Additional studies should be supported to determine if aquaculture discharges can be managed through polyculture or other means.

IX.2. Explore incentives in the leasing process for aquaculturists to employ methods such as polyculture to reduce nutrient enrichment.

IX.3. The Task Force requests that the Legislature charge DEP to review discharge permits to marine waters to ensure that cumulative impacts from all sources to the receiving water are considered.

IX.4. Maine should continue to support efforts by DMR and DEP to remove all sources of pollution along Maine’s coast.

B. Organic Enrichment (Solids)

IX.5. DMR and DEP should continue to manage aquaculture in a manner that will maintain a diverse benthic species composition and confine impacts to the immediate lease area.

IX.6. Support applied research with the industry to develop effective Best Management Practices, standards, and monitoring regimes.

C. Toxic Contaminants / Therapeutants

IX. 7. DMR and DEP should continue to monitor the environment for the presence of toxic contaminants and ecological impacts.

IX.8. DMR and DEP should continue participation in USFDA environmental studies on Slice TM.

IX.9. Maine should be especially careful to avoid impeding professional veterinary practices to prescribe and use medications in a timely manner and explore new drugs while safeguarding surrounding species.

D. Shellfish Impacts

IX.10. DMR should conduct a “screening study” that emphasizes “worst case” conditions to assess what, if any, impacts shellfish aquaculture is having in Maine.

E. Invasive/Non-Indigenous/Exotic Species

IX.11. Define “indigenous” as organisms known to occur or to have occurred in an area.

IX.12. Include genetically modified organisms (GMOs) as defined by the International Council for Exploration of the Sea (ICES) as “non-indigenous” or new species.

IX.13. DMR should develop a definition for “area” or “waterbody” in an ecological context.

IX.14. DMR should review the list of currently approved species to ensure that undesirable organisms are removed until scientific reviews are complete.

IX.15. Management of species movements should be made as requests arise so that the most current information on biology and ecology is employed.

F. Wild Atlantic salmon

IX.16. The State of Maine should work to ensure that Maine's aquaculture regulatory and husbandry practices are compatible with the Recovery Plan for Atlantic Salmon.

IX.17. The Governor and the Legislature should request Congressional support for closer collaboration and cooperation with federal services.

IX.18. The Governor should insist on full participation of state, federal and industry sectors on the research on marking, tagging and identification.

IX.19. Support research into wild smolt emigration routes and pathways of exposure to assess risk from salmon farms.

IX.20. The Governor should require equitable treatment of all salmon aquaculturists, public and private, to implement permit conditions. (e.g. genetic testing, marking, fish health, and reporting be part of any permits for public hatcheries rearing Atlantic salmon)

G. Wildlife Interactions

IX.21. Support research into the impacts on wildlife, esp. nesting birds, and to identify causes of and develop practices to avoid adverse impacts.

IX.22. Encourage and support collaborative research between industry, state and federal wildlife agencies.

H. Monitoring

IX.23. DMR should continue to implement the FAMP funded by a harvest tax. Explore and update other fee schedules to fund hearings officer and pathologist positions.

IX.24. DMR and DEP should coordinate the MEPDES and FAMP monitoring provisions to avoid redundancy and use FAMP data to the maximum extent possible to cover MEPDES requirements.

IX.25. Encourage industry to participate in ambient water quality monitoring.

IX.26. The Legislature should require the DEP to evaluate the new MEPDES permit monitoring requirements for value and efficacy by 2005 and adjust as necessary.

IX.27. The legislature should charge DEP and DMR to coordinate any user fees and funding mechanisms they develop so as to minimize the cost of environmental monitoring without compromising the quality of the monitoring programs.

IX.28. The legislature should require the DEP and DMR to review the combined costs of their monitoring and environmental impact assessment programs and consider alternatives designed to achieve the same level of vigilance at lower cost.

X. Information, Research and Industry Promotion

A. Public Information

X.1. DMR should convene several appropriate organizations to develop a public information plan. Primary organizations that should be invited to the discussion include:

**Department of Marine Resources
Maine Aquaculture Innovation Center (MAIC)
Maine Aquaculture Association
Maine Coastal Program
University of Maine Sea Grant Program**

Secondary organizations that should also be invited to participate include:

**Finance Authority of Maine (FAME)
University of Maine School of Marine Sciences
Island Institute
Coastal Enterprises Inc. (CEI)
Marine Educators Association
Gulf of Maine Research Institute
Maine Dept. of Education
Maine Dept. of Agriculture, Food and Rural Resources
Cobscook Bay Resource Center
Downeast Institute for Applied Marine Research & Education**

Charge the above group to identify areas where public information is needed and develop a plan to address these information needs. The group should consider the following categories of education needs:

- **Regulatory:** Inform the public about the regulatory structure (state and federal) and how to participate in the leasing process. Inform the public on the progress of specific lease applications and permits (See recommendations in section on leasing, Section VI (A) (3).
- **Environmental Concerns:** Inform the public about issues such as Endangered Species Act listing of wild Atlantic Salmon, ecological concerns, and husbandry.
- **Legislative Actions:** Inform the public about upcoming bills, public hearings, and resulting changes to statute or regulation.
- **Publicity About Industry:** Inform the public about new tenants in incubators, new research facilities, grant awards, small business success stories, innovations, research breakthroughs, etc.
- **K-12 Education:** Reprint and distribute MAIC high school curriculum, and provide teacher training on the curriculum, increase aquaculture presence in high school math/science activities such as the National Ocean Sciences Bowl, statewide science fair, etc.
- **University Education:** Encourage the University and Community College System to enhance and more aggressively promote their aquaculture degree programs, and establish links between their programs.

The planning group should identify practitioners to carry out these activities and seek funding to support the implementation of these education initiatives. The Task Force recommends specifically that:

- Printed materials used to inform the public and municipalities on the leasing process should be updated; and
- Recreational/hobby aquaculture should be encouraged as a way to engage and educate the public about aquaculture.

X.2. The Governor and legislative leaders should encourage the Maine Congressional Delegation to secure funds for aquaculture public information.

X.3. Ensure that the Department of Economic and Community Development's (DECD) promotion of aquaculture includes a public affairs function, duties to include:

- Communication with the public, the industry and the legislature about leasing, regulatory and policy issues regarding aquaculture;
- Solicitation of public and industry input and feedback on policy ideas under consideration;
- Distribution of press releases, organization of press conferences as appropriate:

- Convening of focus groups, meetings and forums to bring together diverse interests as needed; and
- Develop regular vehicles for communication (email lists, e-newsletters, etc.) between the department and constituent groups.

B. Research

X.4. The Governor, the Legislature and industry should strongly voice their support and expedite the recently initiated plan for the Maine Institute for Aquaculture at the University of Maine. The proposed Institute would greatly strengthen aquaculture research for Maine and address many of the findings of this Task Force.

X.5. DMR and the University of Maine should convene a group of research organizations, industry representatives, and pertinent NGOs for the purposes of setting priorities for aquaculture research, determining which species have the most potential for development and should be the focus of research efforts, and accessing bond funds to support aquaculture research. Specifically, this planning group should:

- a. Use the 2003 Gardner-Pinfold study and other references and resources as a guide in determining which species have the most potential for economic development in Maine; and**
- b. Consider research needs, including those that were identified by the Aquaculture Task Force in their deliberations:**
 - Ecological impact studies (nutrient carrying capacity, modeling of nutrient loading, assessment of monitoring needs, predictive nutrient loading based on biomass in the pens, risk assessment associated with PCBs (and other toxins) in farmed fish, Eutrophication studies – proportionate contribution from discharging aquaculture, impact of shellfish aquaculture on primary productivity, predictive capacity for benthic impacts);
 - Gear/Husbandry technology and development (improved anti-escapement gear, improved tagging technologies, alternative feed development to minimize the use of forage fish);
 - Genetics and stock development (breeding for disease resistance and growth); and
 - Socio-economic studies (cost/benefit to coastal communities, market research, value added/niche markets).

X.6. The DMR should convene a formal annual meeting between representatives of research institutions, industry, and pertinent NGOs to review aquaculture priorities and foster communication and collaboration between these two groups.

X.7. Ask the University of Maine to add an aquaculture seat on the Agricultural Advisory Council. This will help ensure that there is adequate faculty and focus on aquaculture.

X.8. Encourage the University of Maine's School of Marine Science to fill their shellfish aquaculture position as soon as possible.

C. Industry Development and Product Promotion

X.9. Lead responsibility for development of the aquaculture industry should be moved to the Department of Economic and Community Development (DECD) as part of its business development and science and technology programs. (language for proposed statutory change is provided in Appendix A.1, section 1)

X.10. Lead responsibility for market promotion of aquaculture should be moved to the Dept. of Agriculture (DAFRR) to become part of their market development and product promotion programs and benefit from USDA financial support. (language for proposed statutory change is provided in Appendix A.1, section 2)

X.11. Recognizing that DECD staff possesses economic development resources and DAFFR possesses agriculture promotion resources but both DECD and DAFFR lack aquaculture industry expertise, DECD should take the lead in forming an Aquaculture Industry Development Working Group with committed participation from the Maine Aquaculture Innovation Center, the Maine Aquaculture Association, and DMR. The charge of the Aquaculture Industry Development Working Group would be to advise and provide technical expertise to the DECD on aquaculture development and DAFFR aquaculture promotion, develop aquaculture business incentives, link aquaculture with existing business support programs and services, and find funding or reallocate resources for a grant writer and a business development specialist in aquaculture.

X.12. The legislature should continue to support the Maine Aquaculture Innovation Center and the DMR in their work to provide technical support and develop Maine's aquaculture industry.

X.13. The legislature should continue to support the Maine Technology Institute in its work to provide research and commercialization grants for aquaculture.

X.14. DECD should convene business development meetings between the state and multi-national salmon firms to determine what they need to encourage local entrepreneurs to grow fish for them and what they need to continue fish processing in Maine. Examples of possible incentives:

- Increase number of acres a single company can lease (so they can support a processing plant in Maine);
- Find ways to encourage and enable owner-operator finfish businesses; and
- Explore traditional business support programs such as tax incentives, tax credits, employee training, etc.

X.15. The Department of Agriculture should engage in product promotion activities that will result in Maine aquaculture products being recognized as sustainably produced, superior quality products in the Northeast region.

These activities should include:

- Initiating a study to test the acceptance of a sustainable certification program for Maine finfish and shellfish products; (MAA is already seeking grant funds to do this. Also, Nova Scotia is preparing to study this.)
- Featuring finfish and shellfish aquaculture in “Get Real, Get Maine” and Maine Bureau of Tourism promotional campaigns;
- Writing regular press releases about innovation and business success for Maine aquaculture businesses. Focus this effort on Maine media outlets including local weeklies, local television and regional papers;
- Linking to the nutrition education network(s) in Maine and the medical community to educate consumers about the health benefits of consuming seafood; and
- Promoting and encouraging the Maine Aquaculture Training Institute in their effort to train new shellfish aquaculturists.

X.16. DECD should provide the tools and support needed by aquaculture entrepreneurs to succeed in their businesses. These include:

- Linking aquaculture entrepreneurs to existing small business services and training programs. Where possible, programs should be customized to fit the needs of aquaculture producers, as has been done in customizing the Fastrac business course for farmers;
- Providing matching funds to entrepreneurs to allow them to attend conferences, visit aquaculture sites in other parts of the world and get training in culture methods. Exploring ways that Sea Grant, the Maine Technology Institute and the Maine International Trade Center could fund this effort;
- Initiating research trade missions to mussel production areas in Canada and Europe as a way of expediting rope cultured mussel production in Maine. Research trade missions for other species should be considered, as well;
- Ensuring that affordable access to the water is available on a coast-wide basis to those building aquaculture businesses; (MAA and MAIC are participating in the Working Waterfront Coalition that provides public outreach and policy development on this issue.)

- Exploring the concept of developing “Lighthouse Zones”, meaning specific tax incentives or tax credits for those investing in aquaculture; and
- Provide micro-loans or grants to stimulate entry into the business and support start up companies.

X.17. DMR and IF&W should encourage the development of aquaculture techniques for wild stock enhancement.

II. INTRODUCTION

In the past few years, marine aquaculture has become an issue of great public importance, with controversy surrounding its impact on the environment, existing fisheries, recreation, tourism, and conserved lands. A variety of complex issues surround marine aquaculture in Maine including changing economics, changing demographics, new court opinions and uncertainty affect the public's view and perception of aquaculture. Further, the industry itself continues to face challenges as a result of new permitting requirements related to facilities determined to be discharging pollutants into the surrounding water, and the implementation of management practices which will minimize escapement and related impacts to the wild Atlantic salmon which was recently listed as an endangered species.

While these challenges are a significant factor which must be considered by the business community in assessing the potential for investment in this sector, there is evidence that aquaculture is an increasingly important provider of food protein for the world. The Fisheries and Agriculture Organization (FAO), among others, have documented that world seafood consumption continues to increase while capture fisheries landings are on a downfall. This increasing demand for seafood is resulting in the proliferation of all types of mariculture around the world and the United States is a significant consumer of cultured seafood. With its excellent water quality, and proximity to significant markets, Maine can be an ideal location for some types of aquaculture provided that it is practiced in a sustainable fashion and that conflicts between users can be addressed.

The early and volatile conflicts between traditional fisheries and aquaculture have diminished. Today's conflicts reflect the changing social and economic fabric of the Maine coast, primarily the increase in second home development and people retiring to the Maine coast. This sector is a powerful economic force in coastal communities as a driver of construction activity. Many retirees and vacationers choose Maine because of its rugged beauty and recreational opportunities. Thus their interests can conflict with the harvesting and commercial uses of coastal resources. This creates the potential for conflict between the growing sector of new residents of coastal communities whose livelihood may not be tied to the coastal economy and those residents and business owners whose livelihoods depend on commercial use of Maine's marine resources.

This report of the Task Force on the Planning and Development of Marine Aquaculture in Maine to the Joint Standing Committee on Marine Resources and the Legislative Council is in fulfillment of L.D. 1519 "Resolve: To Establish a Task Force on the Planning and Development of Marine Aquaculture in Maine." The Resolve directed the Task Force to study and prepare recommendations on how "to balance the range of potential uses of state waters and plan for the growth of marine aquaculture" in Maine.

To fulfill the charge from the Legislature, the Task Force examined subjects ranging from the legal implications of Maine's public trust doctrine and its affect on the leasing of submerged lands for aquaculture, to the implications of the recent court case that mandates fallowing of lease sites for the curtailment of disease, to the significance of

recent economic trends such as the loss of process jobs to Canada, to understanding the fear expressed by members of the public about aquaculture, to the technicalities of how to assess scenic impact, to struggling with the concept of “bay management.” Despite a rigorous meeting schedule and the dedication of the Task Force to perform its duties, many of these topics deserved far greater study than constraints on the Task Force allowed. The Task Force studied, discussed, and debated each of these wide ranging issues to the fullest extent allowed by constraints of time, resources and current knowledge on given topics. The recommendations contained herein represent the best collective thinking of the diverse Task Force members.

Paul Anderson, Director of the Maine Sea Grant Program, chaired the 11-member Task Force, which met from August 2003 to January 2004. During the six months, the Task Force held nine working sessions; hosted four public meetings in Eastport, Blue Hill, Damariscotta, and Brunswick; and conducted several conference calls. Expert testimony from within and outside the state was gathered on a variety of topics related to marine aquaculture in Maine. To make sure that the variety of interests concerned with marine aquaculture were adequately considered in the Task Force deliberations, the Legislature established a Stakeholder Advisory Panel (SAP) to “provide information to the task force at the solicitation of the task force and to review and provide comment upon the draft report ...” (Sec. 8). Members of the SAP attended the Task Force meetings, providing both formal presentations, informal comments and written comments on the numerous and varied topics deliberated by the Task Force. A detailed description of the Task Force’s process is included in Appendix C.

The Resolve required the SAP to review the draft report. Appendix H provides a description of their process, their recommendations and the Task Force’s response. Their review proved invaluable and provided the Task Force with insightful comments on the draft recommendations. The Task Force carefully considered all the comments offered by the SAP, including the minority and individual opinions. Written responses, however, were only provided for the consensus and majority opinions. This final report reflects consideration of their comments and the subsequent changes.

III. BACKGROUND

In approaching its work to address the topics outline in the Resolve (LD 1519), the Task Force felt that it was important to establish a common vision amongst themselves for the future of marine aquaculture in Maine. The Task Force began working on their vision statement at their first meeting, held in August 2003 in Eastport. At each meeting the Task Force continued to refine its vision, and also added the principles to which they felt that marine aquaculture must adhere. Both the vision and the principles were viewed as dynamic documents throughout the Task Force's process and were not finally adopted until December of 2003.

Maine's Vision for Marine Aquaculture

Marine aquaculture is an important and compatible element in Maine's diverse coastal economy. Aquaculture contributes to satisfying global market demands and benefits local communities and the public interest by producing high quality products, providing economic opportunities, and operating in an environmentally sustainable fashion. Maine's planning and regulatory process is adaptive, inclusive and fair, and supports the growth of the industry in an economically competitive and environmentally sustainable way.

Principles for Marine Aquaculture

- 1. A working waterfront is critical to Maine's coastal future. Marine aquaculture will be part of Maine's working waterfront.**
- 2. Aquaculture will be one of many uses of Maine's coastal environment that can be accomplished so as to be compatible with other activities such as commercial fishing and in harmony with natural resources.**
- 3. Marine aquaculture will be practiced in an environmentally sustainable fashion and will not cause permanent ecological damage.**
- 4. Maine's aquaculture leasing program will model integrity in all aspects of its operation.**
- 5. The State of Maine will encourage local participation in aquaculture permitting decisions.**
- 6. Maine's aquaculture laws and regulations will provide flexibility to address change while recognizing both the need for regulatory stability, and for stability in the use of the public resource.**
- 7. Maine's aquaculture leasing process will provide for open communication amongst stakeholders.**
- 8. Maine's aquaculture monitoring program will feature state-of-the-art environmental monitoring.**
- 9. Marine aquaculture can only flourish with high water quality.**
- 10. Marine aquaculture offers the potential to bring substantial economic value and diversity to the state and its communities.**
- 11. The State of Maine will create a welcoming environment for a range of investments in marine aquaculture.**

- 12. The State of Maine will encourage the development of locally-owned and Maine-based operations.**
- 13. The State of Maine will provide and encourage incentives for innovation in marine aquaculture.**

IV. MAINE'S AQUACULTURE INDUSTRY: CHARACTERISTICS AND TRENDS

Issue Summary

Over the last two decades there have been significant changes within both the aquaculture industry itself and the political, social and regulatory context in which it operates. In trying to balance the range of potential uses of state waters, a public asset held in trust for the benefit of the people of the state of Maine, and plan for the future development of the this industry that depends on the use of this public asset, it is important to understand these changes as well as to identify current trends within both the industry and its context. Key questions include the following: What is its current economic value to the state's economy? What are its potential growth prospects? What are limitations on that growth? What are the external economic impacts of such growth? and What is the appropriate role for the state of Maine with regard to this industry?

How this Issue was Studied

The Task Force gathered information about the industry from public testimony and from data available through the Maine Department of Marine Resources and the Maine State Planning Office.

In addition, the Task Force was presented with two economic studies. Maine Aquaculture Innovation Center (MAIC) commissioned a study that was conducted by Planning Decisions, Inc. of Portland and Hallowell. DMR commissioned a separate study conducted by Gardner Pinfold Consulting Economists, Ltd., of Halifax, Nova Scotia. This study provided a quantitative assessment of the economic impact of marine aquaculture in Maine and a quantitative assessment of the aquaculture viability and growth projections for eight species. (A summary of the findings of the Gardner Pinfold study is included in Appendix F. A copy of the full report is available from the Maine Department of Marine Resources.) Neither economic study was peer reviewed.

Findings

Based on the information it gathered, including the Gardner Pinfold study and the report commissioned by the Maine Aquaculture Innovation Center conducted by Frank O'Hara, (Planning Decisions, Inc.) the Task Force makes the following findings:

Current status:

1. Maine's marine aquaculture industry has two distinct sectors: finfish (salmon) and shellfish (oyster and mussels).
2. Maine's finfish sector is a small part of a much larger, highly consolidated global industry. Maine salmon farms supply less than 5% of the US market, and represent less than 1% of salmon produced worldwide. Currently, processing facilities, feed and equipment are supplied from outside of Maine and Maine's

industry is primarily a grow-out operation that supports Canadian and Norwegian firms.

3. Maine's shellfish aquaculture industry consists of mussel, oyster, hard clam, soft-shell clams, and surf clam culture. Shellfish culture is primarily an owner-operator industry with a high enough profit margin to be viable on a small scale.
4. The total value (sales revenue) of aquaculture production in Maine is currently estimated at \$57 million, with salmon accounting for 95% of this. This represents a decline from the late 1990s, when higher salmon production and prices resulted in a \$75-80 million industry.
5. Over the last 10 years finfish aquaculture has annually produced the second highest sales revenue of all Maine fisheries. In 2002, those revenues were as follows: lobster- \$207M; finfish aquaculture (salmon)- \$30M; groundfish- \$22.5M; shellfish (clams, mussels, and mahogany quahogs)- \$19M; shellfish aquaculture -\$3M.
6. In 2003, the Maine aquaculture industry provided 330 jobs (finfish sector: 225; shellfish: 105) with an estimated payroll of \$20.3 million.(Gardner, 2003)
7. Compared with other economic sectors that rely on the state's coastal resources, aquaculture's economic impact is modest. Tourism contributes \$2.8 billion, Marine Transportation \$2.7M, Living Marine Resources \$382M, Marine Construction \$44.9M, and Marine Minerals \$14.9M to the marine economy. Aquaculture contributes .1% to Maine's Gross State Product (Colgan, 2002 and Gardner, 2003).
8. The finfish sector industry is centered in Washington County, in Cobscook and Machias Bays, although there are also finfish aquaculture operations as far west as Blue Hill Bay in western Hancock County. The shellfish sector is centered in the Damariscotta River estuary where much of the oyster production takes place, although there are mussel and oyster aquaculture facilities in various locations along the mid-coast area.

Trends: Finfish

1. The finfish aquaculture industry in Maine has changed from an industry of small owner operator fish farms in the 1980's to an industry in 2003 that is largely consolidated in three multinational aquaculture corporations that grow and process aquaculture products in other places in the world.
2. Farm raised salmon, the primary finfish product, has moved in the marketplace from a high-priced niche product to a low priced global commodity.

3. Disease, particularly the infectious salmon anemia (ISA) virus, has presented significant problems for the industry, causing economic loss, and prompting new husbandry practices and processing arrangements.
4. Processing facilities of Maine's salmon aquaculture products have shifted to Canada because of fish health issues and economies of scale.
5. Direct employment in the salmon finfish sector has declined from approximately 1000 in the late 1990's to approximately 225 currently, caused by both a shrinkage of the industry as well as increased automation.
6. The state's original vision of finfish aquaculture as a major economic development strategy for Washington County that would provide fishermen a new economic activity to supplement declining wild fisheries revenues has not been realized. Likewise the goals of a 1997 strategic plan for the aquaculture industry prepared by the Maine Department of Marine Resources during the administration of Governor Angus King to triple aquaculture's contribution to the state's economy (to \$192 million) and double the number of aquaculture-related jobs (to 1620) have yet to be realized.
7. Over the last few years, as the salmon finfish industry has attempted to shift some of its growout operations to new lease sites further westerly along the coast, most notably to Blue Hill Bay, it has encountered stiff local resistance based on perceived conflicts with existing economic uses of those coastal resources, concerns about water quality impacts, and visual and noise impacts.
8. Conflicts with public efforts to restore the wild salmon stocks to Maine's historic salmon rivers has also generated some opposition to the salmon finfish aquaculture industry, while legal issues associated with the Maine industry's compliance with the federal Clean Water Act have also presented obstacles to the industry's development.
9. Globally, there is evidence of continuing growth both in aquaculture production and in demand for aquaculture products, especially if wild capture fisheries continue their decline. Salmon finfish aquaculture production in other countries (Norway, Chile) with larger and more developed industries provide intense competition to Maine's relatively small industry yet the United States is a large market for aquaculture products that provides opportunity for the Maine industry.
10. Many forces will determine the future of salmon finfish aquaculture in Maine, and most are beyond the influence of state government. Although it has not proven to be a "silver bullet" economic powerhouse, it is reasonable to project that salmon finfish aquaculture will continue to be one element in a diverse array of economic uses of the state's coastal economy. The state should thus provide the opportunity for this economic sector while both ensuring its compatibility with

other existing and potential uses of the public's coastal resources and protecting the quality of those resources.

11. Finfish aquaculture in Maine is not limited to only growing salmon. A number of other new and promising species may emerge that can further the expansion of finfish production at sea. These species may include halibut, haddock, and cod, among a number of others.

Trends: Shellfish

1. Shellfish aquaculture, particularly the oyster industry, continues to develop on a small scale, owner operator basis.
2. Although there have been conflicts around individual siting decisions, shellfish aquaculture has not generated the same degree of public opposition as finfish aquaculture, in part because the small scale of the operations allow them to fit more easily with other coastal uses and because no external food inputs occur.
3. Shellfish growers see enough growth in demand to support their small-scale operations for the next 10-20 years, with many planning expansion of their production.
4. The shellfish aquaculture industry continues to develop steadily and holds continued promise as an element of Maine's coastal economy that is compatible with other uses and provides a high value product. In the past five years, training programs have increased employment in both the oyster and mussels sectors. The state should continue to help provide opportunity for this use of the public's coastal assets.

Recommendations

IV.1. In addition to the recommendations found elsewhere in this report, which are all at least in part based on the above findings, the Task Force recommends the adoption by the state of the following vision and value statements to help guide its future relationship with the aquaculture industry: (Appendix A.1, section 3)

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- 13. The State of Maine will provide and encourage incentives for innovation in marine aquaculture.**

V. State and Federal Law Relating to Submerged Property and Riparian Rights, and the Adequacy of such Law to Address Current Issues Relating to the Use of Maine's Coastal Waters

Background

The federal Submerged Lands Act (SLA)¹ clarifies the seaward boundaries of coastal states and their rights of ownership and management of living and non-living resources on these submerged lands and in supervening waters. Under the SLA, Maine has title to submerged lands from the mean low water mark to three nautical miles. To date, aquaculture proposals in Maine have been located in near shore waters or in the intertidal zone, as opposed to within or near federal waters outside of three nautical miles.

The Public Trust Doctrine provides that public trust lands, waters and living resources are held by the State in trust for the benefit of all the people, and establishes the right of the public to fully enjoy these areas for a wide variety of public trust uses, including navigation, fishing, and fowling.

Maine's Submerged Lands Act 12 MRSA §1862 allows the State (Department of Conservation) to enter into leases for a specific term to place structures (piers, wharves, docks) that promote commerce, navigation, or other productive uses of the waters. The responsibility for issuing leases for aquaculture facilities is explicitly granted to the Department of Marine Resources under 12 MRSA Chapter 605. Both agencies may only enter into lease arrangements if they determine that the use meets standards that relate to the protection of certain public trust-related uses.

The submerged lands leasing processes of DOC and DMR have many similarities:

- Decision-making authority rests with the agency;
- Criteria consider many of the same factors related to protection of certain public trust-related uses;
- Fees are charged;
- Notification is conducted in a similar fashion. Riparian owners, harbormasters and towns are routinely consulted;
- There is public comment period; and
- Appeals of decisions are made to Superior Court.

There are several differences in the way the Department of Conservation leases submerged lands and the manner in which DMR considers proposals to lease public lands for aquaculture facilities:

- DOC limits their decision whether to issue a lease for a given piece of bottom to whether it will unreasonably interfere with navigation, fishing, and other marine uses, or the ingress and egress of riparian owners. DOC does not

¹ 43 U.S.C. § 1301-1315

consider environmental issues associated with activities on proposed leases; The Department of Environmental Protection provides that review under the Natural Resources Protection Act.

- DOC does not use an adjudicatory process under the Administrative Procedures Act.
- Public hearings are not required; DOC sometimes piggybacks on municipal hearings (see bullet below).
- Uses or facilities proposed at lease sites sometimes fall under municipal jurisdiction and require municipal permits. If municipal approval for projects is not received, the project cannot go forward, even if the state has granted a submerged lands lease.
- DOC can require applicants to provide compensation if public uses of submerged lands have been restricted, although this provision is rarely used.

Riparian owners are afforded certain “rights” under a variety of laws – their rights of ingress and egress are protected under submerged lands leasing and aquaculture leasing laws, they are granted preferential consideration for aquaculture leases (Title 12 MRSA Section 6072 Subsection 8) and for moorings (Title 38 MRSA Chapter 1 Section 3.) Riparian owners are considered interested parties and are notified of lease applications under both DOC and DMR processes. However, besides protection of ingress and egress, there are no other special considerations afforded riparian owners as part of submerged lands leasing. In *Harding v. Commissioner of Marine Resources*, 510 A.2d 533(1986) the Supreme Court in Maine upheld the granting of an aquaculture lease by DMR. The appeal charged that DMR failed to consider diminution of private property value that allegedly occurred due to the granting of the lease. The Court concluded that DMR must apply statutorily defined criteria when making lease determinations, which did not include consideration of the effects on private upland values. The Court, in that case, also found that private land values were not a public use entitled to protection under the public trust doctrine.

Resources Used by the Task Force

The Task Force invited public testimony on the topic of the public trust and submerged lands leasing. They also received a compilation of previously published articles and papers on these topics from Dr. Alison Reiser, Professor, University of Maine School of Law. A panel discussion on these topics was held at the Task Force’s meeting of October 16, 2003 and included Jeff Pidot, Assistant Attorney General for the State of Maine, and Dan Prichard, Director of Submerged Lands Leasing Program, Bureau of Parks and Lands at the Department of Conservation.

Conclusion

The Task Force was asked to consider the adequacy of existing state and federal laws to address competing uses of Maine’s waters and to address concerns of riparian owners. The Task Force conducted an overview of the state’s public trust responsibilities, compared DMR and DOC statutes, regulations and processes and discussed pertinent

Federal law. These state and federal laws provide a complex legal construct for state management of submerged lands. The existing framework requires the state to consider and protect certain public trust-related uses of submerged lands such as fishing and navigation.

The Task Force heard many members of the public voice concern about the lack of consideration of private property rights and concerns about interference with views from private property and the potential negative effects on adjacent private business enterprises. However, case law in Maine (*Harding v. Commissioner of Marine Resources*, 510 A.2d 533(1986)) upheld aquaculture leasing as an acceptable use of state waters and directed the state to consider public uses rather than private property interests during the leasing process. The Task Force was advised that, under the public trust doctrine, it would be legally problematic to (recommend that the Legislature) add to the list of statutory criteria to include purely private land value interests in making a decision about the use of public trust resources.

Other sections of this report document the Task Force's deliberations on scenic character and other natural values, which *are* public values that could be considered in the leasing process through changes to state statutes. The reader is directed to other sections of this report (Section VII – Visual Impacts; Section VIII – Conserved Lands) that include recommendations that, if implemented, would improve the consideration of public uses during the leasing process.

VI. BAY MANAGEMENT

Issue Summary

In recent years, there has been increasing interest from residents of several of Maine's coastal communities in a "bay management" approach to aquaculture; that is, a proactive approach to facility siting and planning based on an analysis of ecological carrying capacity, competing uses, and community values. This interest has been reflected in legislation introduced during the 1st session of the 121st Legislature, and in individual projects that are underway along Maine's coast by local conservation and stewardship organizations.

The Task Force undertook an examination of the concept of bay management, exploring both how it has been used in other parts of the world, as well as how proponents in Maine envision its application. Many people have referenced the fact that various forms of bay management exist in places like Ireland and New Brunswick. Representatives from both Ireland and New Brunswick appeared before the Task Force to explain how bay management has been approached in their countries.

In both the Irish and Canadian models, bay management is essentially cooperative agreements amongst industry members to ensure good communication and good fish health practices. In Ireland, bay management was initiated through a program called "Single Bay Management" under which finfish producers implemented integrated management practices (rather than therapeutic treatments) to control disease and parasites. As examples, they adopted single generation sites, coordinated lice treatments, etc. In some bays, Single Bay Management has been expanded into C.L.A.M.S. – the Coordinated Local Aquaculture Management System. These plans have been extended to include the shellfish sector, and have integrated the management practices of various species and sectors. C.L.A.M.S has ensured information exchange between all sectors, not just one group of growers.

Similarly, in New Brunswick, bay management is being implemented through the Bay of Fundy Site Allocation Policy. Here, the bay management areas are determined through a combination of oceanographic studies, relative currents, water exchange, and ownership of sites. The bay management program has provided a framework to restructure the salmon industry with a focus on fish health and environmental sustainability. It includes the designation of exclusion and controlled growth areas.

In Maine, the Maine Aquaculture Association has developed the Finfish Bay Management Agreement, an overarching legal document that will provide the guidance for local bay management plans. The Finfish Bay Management Agreement contains a statewide mission statement, and a common set of technical definitions. It establishes the minimum subject areas to be addressed in local bay management plans, and establishes the minimum operational standards and guidelines. Again, this form of bay management is geared toward improving industry communication and improving fish health management. In addition, the operational standards and guidelines address biosecurity

protocols, integrated pest management, waste management and disinfection protocols. A local Bay Management Agreement for Cobscook Bay, in compliance with the Finfish Bay Management, has been developed and agreed to by industry members.

In certain areas of the coast, the Task Force heard a call for bay management in Maine. However, it soon became clear that what is being requested here is very different than the models in place elsewhere in the world, or the efforts in which the Maine industry has been engaged. Instead, this interest in bay management is driven by a desire for increased local input into the decisions regarding all uses of the local waters. There is not a clear agreement regarding how this management framework would be structured, and what its function would be relative to the existing lease process. Some proponents view bay management as a planning exercise, which at its completion, might provide a resource inventory and show areas where a local community would view aquaculture to be acceptable, based on ecological and/or social considerations. Other proponents view bay management as taking the form of a bay-wide review board. This might be a multi-stakeholder body that would react to individual lease applications by offering local information as to the suitability of the proposed site. Such a body would provide input to DMR such as information on locally important scenic and recreational areas, information on fine scale oceanographic features, and issues related to “social carrying capacity.” Such an approach would allow for fuller assessment of cumulative impacts than current regulation and could be proactive rather than reactive. In some cases, the Board is viewed as advisory to the DMR Commissioner, who would retain decision-making authority, in other cases, the Board is viewed as the ultimate decision-making body.

There are multiple perceptions held by members of the public regarding the current leasing system that are driving the interest in bay management. These perceptions include:

- The state is managing public trust waters inappropriately and exhibits a bias towards meeting state policy goals regarding development of the aquaculture industry;
- Opportunities for local participation in the lease process are not sufficient;
- The lease process is too formal, which further impedes local participation;
- There is an unreasonable amount of uncertainty regarding the extent and type of aquaculture that will be permitted in the future;
- Local concerns do not carry enough weight in the decision regarding whether or not to grant a lease;
- The existing lease process fails to view bays holistically, responding instead to lease requests on an ad hoc basis; and
- The existing lease process is not conducive to systematic data collection that can be used in the consideration of future lease requests.

Several other examples of governance in Maine were considered as potential models for bay management, including the State’s municipal shellfish conservation program, municipal comprehensive planning, lobster zone councils and river corridor commissions; none were seen as adequate models for bay management.

The Task Force explored different versions of bay management and worked through the implications of various structures. Discussion also focused on whether bay management would be confined to aquaculture, or whether it should include all uses of a bay, such as commercial fishing, recreational uses, etc. This is a complex issue; there is a lack of clarity on how bay management would work, and a lack of existing models.

At least one member of the Task Force felt strongly that local groups should be empowered to develop bay management on a voluntary basis, according to guidelines established by the State. At least one member felt strongly that it is premature to allow bay management to proceed and that it might well create more problems than it solves. The majority of the Task Force found themselves somewhere in the middle and were very optimistic that the recent and proposed changes to the leasing process and site criteria will go a long way to address the issues raised by proponents of bay management.

How this Issue was Studied

The Task Force received presentations on bay management from representatives from Ireland, New Brunswick, and Maine, as well reports documenting each of these structures. They explored the biological carrying capacity questions of bay management through discussions with a panel composed of University of Maine oceanographers and biologists, and through shellfish reports developed for the West Coast. A panel of members of the Maine “Bay Management Coalition” also presented information to the Task Force.

Findings

1. Under the current lease system the consideration of local and regional knowledge and issues is limited to the decision criteria and their application to a specific lease site.
2. Several of the issues raised by proponents of bay management are being addressed through recently implemented revisions to the lease process (e.g. the community scoping meetings, which were added to the leasing regulations in February 2003). The Task Force has also developed additional recommendations for further modifications to the leasing process (Section VII), as well as increased outreach and educational efforts (Section X) that will go even further to alleviate the above concerns.
3. A well-designed, well-executed approach to bay management could offer benefits that modifications to the existing lease process may not. These include:
 - If local stakeholders had a formalized role in the leasing process beyond the opportunity to testify at public hearings, they would be more inclined to participate;
 - Local stakeholders would be able to provide more detailed ecological and social information than the State can collect;
 - The comprehensive collection of local information would result in an improved decision-making process for future lease requests.

- Decentralization of the planning process would include a broader representation of local interests;
 - The Department might be better able to consider the bay-wide implications of each lease application; and
 - Bay management could be applied to other use conflicts in state waters.
4. If not properly constructed, bay management could be detrimental to the aquaculture leasing process, and could jeopardize the state's protection of the public trust. Concerns that the Task Force heard include:
- If not carefully structured, bay management could be used locally to override larger, statewide public trust issues and/or to exclude aquaculture from an area;
 - The jurisdiction of any multi-stakeholder group will need to be limited to ensure that the legitimate needs and concerns of growers are adequately represented in a multi-stakeholder group, particularly if no aquaculture exists in an area;
 - A new level of review may prolong an already lengthy lease application process;
 - Bay management may exacerbate the situation it was designed to mitigate by adding another layer of review to an already complex process; and
 - The financial costs of staffing and administering one or more bay management efforts could be extensive.
5. Bay management means different things to different people, and the Task Force was unable, given time constraints, to develop a working definition of the term. Ideas about bay management ranged from bay planning (issue identification, inventory, and recommendations) to bay management (providing advice and/or decision-making). The Task Force also debated whether bay management should be limited to just aquaculture. Most Task Force members felt strongly that any bay management effort should apply to all public trust uses. Others were comfortable with the initial efforts focusing on aquaculture. There are many questions that would need to be answered before bay management could be implemented. For example:
- Is bay management an *a priori* planning exercise or reactive to specific lease requests?
 - What is the incentive for communities to participate in bay management? Greater standing in the lease process, the obligation of DMR to take into consideration the information presented in the plan, or some limited decision-making authority?
 - How are the boundaries of the bays to be managed determined - ecologically, or adhering to political (municipal) boundaries?
 - How is membership in the bay management committee/board determined - appointed by DMR, the municipalities, or another body?
 - How will representation on the committee or board be ensured – prescribed seats, or different on a bay-by-bay basis, depending on stakeholder composition?

- Is the bay management committee/subcommittee providing information only on topics in the existing decision criteria, or is this viewed as an opportunity to influence the decision in ways that are not provided for in the existing criteria?
 - Is there a need for the adoption of the plan by a formal body (town meeting, selectmen, or town council) in order to ensure that the recommendations reflect a broader public policy and not just a small interest group?
6. The Task Force agreed that if bay management is pursued in the future, it should not be mandated, but directed on a voluntary basis in those regions that have an interest.
 7. The Task Force agreed that it would be necessary to have statewide standards that would have to be met by any bay management exercise. The Task Force was not afforded the time necessary to develop these standards and meet their statutorily required deadline.
 8. The Task agreed that in no case should the development of a bay management plan be used as a reason to institute a moratorium on new lease applications.

Recommendations

VI.1. After extensive public input and considerable deliberations the Task Force was divided on the issue of bay management. Due to the enormous complexity of and disagreement about the nature, scale, process and detail of bay management the recommendation of the Task Force is to not proceed with implementing bay management specifically for aquaculture at this time.

VI.2. The Legislature should charge DMR to convene a group specifically to study bay management. That group should utilize the values and information collected, discussed, and debated by the Task Force. There are two topics the group should investigate: 1) how best to define bay management, and 2) whether this concept can meet the needs of Maine people.

VI.3. The state should encourage industry cooperation to protect fish and shellfish health and biosecurity, such as that practiced in Cobscook Bay for finfish.

VII. ASSESSMENT OF THE LEASING PROCESS

Issue Summary

The process by which state water is leased for the conduct of marine aquaculture is a very important aspect of the Task Force's review of marine aquaculture in Maine. The Task Force heard comments from both the public and the industry criticizing the lease process. Some of the concerns heard by the Task Force include the formality of the process, the nature of public involvement in the process, and the sufficiency of the decision criteria used by the Commissioner when determining whether or not to grant a lease.

Additionally, the Task Force heard concerns regarding the reactive nature of the current lease process, i.e., that the Department considers leases on a case-by-case, the process is not based on planning, and does not consider the cumulative impact of the lease decisions. The Task Force also heard that the new fallowing requirement for disease control has created a need on the part of leaseholders to obtain more lease sites. In addressing these and other concerns, there is a need to balance the simplicity of the process with adequate public participation. The ultimate goal is a streamlined process that is more inclusive for all parties.

How this Issue was Studied

The Department submitted several written documents to the Task Force to explain the current lease process, to compare the DMR process to that of other agencies, to analyze external issues that affect the lease process, and to propose regulations regarding the new decision criteria of noise, light and visual impacts. DMR's aquaculture hearing officer, aquaculture environmental coordinator and his assistant gave an oral presentation to the Task Force on the lease process and answered questions posed by Task Force members and the Stakeholder Advisory Panel. Staff from the Department of Environmental Protection and Department of Conservation submitted written documents, gave oral presentations and answered questions regarding their respective permitting processes, i.e., Site Law permitting, visual impact assessment under Chapter 315 (Code of Maine Rules) and Submerged Land leasing. Several SAP members and members of the public submitted written and oral comments regarding the lease process. A brief summary of the content of those comments is provided within each category below.

Outline of Lease Process Analysis

The Task Force undertook a very thorough analysis of the lease process and has developed specific recommendations on the various pieces of the lease process that should be changed. The structure of their analysis is as presented below:

- A. Administrative Procedure Act (APA) Lease Process
 - 1. The Formality of the Lease Process
 - 2. Public Information Prior to Application Submission
 - 3. Public Information and Communication
 - 4. Conflict Resolution or Mediation Procedures
- B. The Role of Municipal Government in the Leasing Application and Approval Process
 - 1. Timing and Adequacy of Municipal Involvement
 - 2. Mooring Fees

3. Intervener Status
4. Intertidal Leasing
5. Municipal Input on Lease Decisions
- C. Decision Criteria and Granting Leases
 1. Noise and Light
 2. Visual Impact
 3. Sufficiency of Existing Criteria
 4. Final Decision-Maker for Lease Applications
- D. Lease Renewals and Transfers
 1. Procedure for Lease Renewals and Transfers
 2. Fees for Renewal and Transfer Applications
- E. Administrative Issues
 1. Lease Acreage Limit
 2. Enforcement
 3. Lease Fees and Fines
 4. Time Period for Site Review
 5. Polyculture
- F. Experimental Leases

A. Administrative Procedure Act (APA) Lease Process

1. Formality of the Lease Process

Issue Summary

As required by current Maine statute, public hearings held to receive information regarding a proposed lease are adjudicatory hearings, conducted in the manner provided under the Maine Administrative Procedure Act (APA), Title 5, chapter 375, subchapter IV. The Task Force heard from some members of the public that this requirement results in a lease process that is too formal and intimidating to both the applicant and the general public. Some people have found that it is difficult to understand the opportunities that exist to provide input on the proposed lease. Some commented that at the public hearing, people who want to provide testimony may not know what information can be used by the Department to make the decision regarding the proposed lease (i.e. the decision-criteria, 12 MRSA §6072 sub-§7-A). This has led to situations where people feel that even though they had the opportunity to speak, they were not heard, and their input was not valued. The Task Force also heard that the existing lease process is intimidating to the lease applicant, especially where the lease is particularly controversial. It is frustrating to applicants when people claim that there was no notice of their application, when in fact it was advertised in all of the local newspapers and riparian owners have received direct notice. The Task Force considered the relative merits of the APA process, in comparison to other permitting models such as the Department of Environmental Protection's Site Law permitting, and the Department of Conservation's Submerged Lands leasing program.

Findings

1. The current lease process has undergone several recent statutory (September 2003) and regulatory (February 2003) changes.
2. Because these changes are relatively recent, their effect has not been fully realized.
3. Benefits of the APA process include the creation of a thorough record on which the Department can base its decision, ample opportunity for the public to participate by asking questions of witnesses and providing testimony, and a structured, orderly proceeding to handle contentious issues.
4. The formality of the APA process reflects the seriousness with which the rights and obligations conferred by the lease are reviewed.
5. A proposed pre-application scoping session (A.2 of this section) will provide an opportunity for a more informal information exchange.

Recommendations

VII.1. DMR should continue to use a formal APA process for aquaculture leasing.

VII.2. DMR should continue to work proactively to inform the public on the lease process to make it less intimidating.

VII.3. DMR should provide more informal opportunities for information exchange (see A.2 of this section).

2. Local Input Prior to Application Submission

Issue Summary

At this time, DMR waits until an application has been deemed complete to hold the scoping session and notify riparian owners. In addition, the current hearing process allows for comment on a particular lease application only after a site has been selected. An earlier opportunity for input may allow the applicant to better address local concerns. The Task Force heard from many members of the public that they have felt that they did not receive enough advance notice of the proposed lease in order to participate effectively. They also heard that if the public is not made aware of a lease proposal until the application is complete, the ability for local input to provide direction to the applicant is reduced. Also at issue is the fact that an applicant cannot change the contents of an application after it is complete in order to meet a concern of a member of the public.

Findings

1. Public involvement prior to the submission of an application will benefit all involved by identifying issues early and allowing for flexibility in the proposal.
2. Moving the scoping session² so that it occurs prior to, rather than after, the application is submitted would allow for public input early in the process and may

² The “scoping session” is an informal public meeting, the basic purpose of which is to familiarize the general public with the proposal, and to allow the public an opportunity to provide the applicant with additional local information and to ask questions of the applicant and the Department.

result in avoiding a contentious proceeding if changes are made to the proposal prior to submitting the application.

Recommendations

VII.4. A mandatory scoping session should be held before an application is submitted (language for proposed changes to regulations is provided in Appendix A.2).

3. Public Information and Communication

Issue Summary

There is still a considerable amount of confusion among the general public regarding the lease process, i.e. how it works, what the criteria are for issuing a lease, how they can participate in the process, etc., especially in areas where few or no leases have been granted.

Findings

1. There is a need to inform the public regarding the specifics of the leasing process and opportunities for participation.
2. People who wish to provide testimony on a proposed lease may not understand the criteria that DMR is required to use in determining whether or not to grant a lease.
3. There is a need to inform the public regarding the roles of state and federal agencies in regulating aquaculture.

Recommendations

VII.5. The Task Force recommends that DMR work with the University of Maine Sea Grant Program and the Maine Coastal Program to update the existing aquaculture information brochure and circulate it widely.

VII.6. DMR should develop a set of information posters that provide information on the lease process, particularly the decision criteria, to be used at the lease hearings and scoping sessions.

VII.7. DMR should use the scoping session as an opportunity for informal education about the leasing process.

4. Conflict Resolution Procedures

Issue Summary

The Task Force considered whether it would be beneficial to recommend that interested parties seek alternative dispute resolution to try to resolve outstanding issues prior to the hearing.

Findings

1. There are issues that arise during the leasing process that may be able to be resolved outside the DMR process, through voluntary alternative dispute resolution.
2. Conflict resolution procedures may be helpful in reducing subsequent litigation.

Recommendations

VII.8. DMR should identify mediation resources, make a list available to all parties involved in lease-related conflicts, and update the list annually.

VII.9. Conflict resolution should be a voluntary option for interested parties to pursue, outside the existing lease process.

B. Role of Municipal Government in the Leasing Application and Approval Process

1. The Timing and Adequacy of Municipal Involvement in the Lease Process

Issue Summary

Currently, municipalities are not involved in the lease process until an application is received and determined complete by DMR. This provides a town with multiple committees little time to react to the pending lease application. Some municipalities and local residents would like municipalities to be granted some jurisdiction in the lease decision-making process.

Findings

1. Information a municipality may have could save the applicant and DMR time and resources if it is considered earlier in the process.
2. Earlier participation of municipalities in the hearing process may help address concerns regarding lack of municipal jurisdiction over subtidal leasing.

Recommendations

VII.10. The pre-application meeting should be held in the municipality with the harbormaster and/or a municipal official, the applicant and DMR. (language for proposed changes to regulations is provided in Appendix A.2)

VII.11. A pre-application scoping session will be held. (language for proposed changes to regulations is provided in Appendix A.2)

VII.12. Jurisdiction over leasing in subtidal areas should remain with the state.

2. Mooring Fees

Issue summary

The Task Force discussed whether a municipality could and/or should charge mooring fees for boat, vessel, or structural moorings³ within the lease boundaries. The SAP member representing the municipalities recommended allowing the municipalities to charge fees for moorings based upon the acreage of the lease area. The Harbormasters Association recommended that mooring fees for aquaculture leases should conform to the particular area's fee schedule without the loss of revenue to the town, similar to rental moorings. There were concerns expressed that the use of elevated fees for moorings would be used to exclude aquaculture. Some members of the public commented that towns receive money from aquaculturists in other forms of revenue.

Findings

1. There is inconsistency along the coast with regard to how municipalities treat moorings for aquaculture sites, i.e., whether they charge mooring fees and how much they charge.
2. Leaseholders pay rental fees to the state for the lease.
3. In some towns, leaseholders pay other fees to municipalities such as personal property taxes on equipment, fees for use of docks and piers, and boat mooring fees.
4. Allowing municipalities to charge fees for moorings within the boundaries of the lease site would result in the leaseholder paying a municipality for the use of the State's submerged lands, when he or she is already paying the State an annual rental fee for the lease.
5. Exorbitant fees for moorings could be used as tool for excluding aquaculture.
6. Under current Maine statute, harbormasters may issue mooring permits for boats and vessels.
7. Under current Maine statute, municipalities do not have jurisdiction over structural moorings used to secure aquaculture sites.

Recommendation

VII.13. Title 38, Chapter 1, §3 should be amended, consistent with the above findings, to clarify that municipalities do not have authority to determine the location of moorings associated with aquaculture lease sites, or charge mooring fees within the boundaries of aquaculture leases. (language for proposed statutory change is provided in Appendix A.1, section 11)

³ Note the distinction within this section between structural moorings, used to secure the equipment on the lease site, and boat and vessel moorings.

3. Intervener⁴ Status

Issue summary

Currently, municipalities are granted intervener status upon request. The SAP member representing the municipalities suggested that municipalities be given automatic intervener status, without having to request it. It appears that at least some towns are not aware that they can request intervener status. DMR staff commented that the primary concern about automatically granting intervener status without an affirmative action by the town is that the State would be conferring upon them a legal status that they may not wish to have. It is unusual to have an intervener who doesn't have an intention to participate in the lease hearing. It could also unnecessarily increase administrative costs.

Findings

1. Intervener status for municipalities need not be automatic, but should be made easy to attain.
2. The Department should take action to better communicate this option to the towns.

Recommendations

VII.14. DMR should create a form letter that is sent by DMR to the municipalities with the completed application that includes a box to be checked if the municipality would like intervener status.

VII.15. At the pre-application meeting in the municipality, DMR should explain the opportunity for intervener status to the municipality.

4. Intertidal Leasing

Issue summary

Within Maine's shellfish conservation statutes, §6673 permits a community actively engaged in a shellfish co-management program with the state of Maine the right to lease areas in the intertidal zone to the extreme low water mark within the municipality to individuals for the purpose of private shellfish aquaculture. This right became legal in 1911 when the Maine State Legislature passed a law giving selectmen within each town the right to lease up to one-quarter (25%) of the clam flats within its geographic limits, the other three-quarters left as common property for the public. At present, however, sufficient ambiguity exists within the law so that neither DMR nor Maine's coastal communities have a good understanding of how to affect a process that fundamentally enables individuals to farm clams on private leases rather than or in addition to, harvest

⁴ Intervener status is available to any person who is substantially and directly affected by the granting of an aquaculture lease application, and for any other agency of federal, state, or local government. An intervener is considered a party to the proceeding. Each party must provide copies of all correspondence with the Department to all other parties and is notified of all communications between the Department and other parties to the aquaculture lease proceedings. An intervener also receives a copy of the proposed decision and has 10 days to comment on the decision.

commercially these bivalves from wild, public beds. The current statute is poorly drafted and does not reflect the true intention of municipal leasing of flats. The Task Force and the Department agreed that municipalities with a shellfish conservation program should be given full authority to lease flats for aquaculture.

Findings

1. Municipal intertidal leasing programs could provide significant benefits to the State, municipalities, their residents and the general public.
2. The current statutory language is insufficient and the statute should be amended to reflect the legislative intent.

Recommendation

VII.16. Amend the language of 12 M.R.S.A. §6673. (language for proposed statutory change is provided in Appendix A.1, section 10)

5. Municipal Input on Lease Decisions

Issue summary

The Task Force heard from individuals who stated that DMR did not consider the concerns of municipalities and the people who live in the area, and that there should be greater local control over lease decisions, including the delegation of leasing authority (similar to the delegation of issuing moorings and management of shellfish flats) to local authorities.

Findings

1. Municipalities should have some role in the lease decision process that requires the Department to consider the municipality's concerns.
2. Municipalities should not have the power to veto a lease application.
3. Decisions relating to the use of a public trust resource, such as submerged lands, should remain with the State, and in this case with DMR.

Recommendation

VII.17. A municipality should be permitted to recommend that the Commissioner establish certain conditions on a proposed lease and the Department shall consider any conditions recommended and provide a written explanation to the municipality if the condition is not imposed. (language for proposed regulatory change is provided in Appendix A.2, section 2.37(2))

C. Decision Criteria for Granting Leases

1. Noise and Light

Issue summary

During the 1st session of the 121st Legislature, an additional decision criteria was added regarding the impacts of noise and light at the lease boundaries to address long-standing concerns about the external impacts of aquaculture lease sites. The Department sought input from the Task Force on proposed regulations, including in the case of noise, decibel limits to quantify the impact, as required in the statute. The commercial fishing industry expressed reluctance to establish a decibel level for an aquaculture activity that could easily be carried over to their industry. Some people felt that a lower decibel level is needed in quiet conservation areas. Members of the public commented that noise should be taken into consideration in the lease process, many not realizing the newly enacted statutory changes have added noise, light and visual impact as decision criteria.

Findings

1. DMR has developed proposed regulations in accordance with the new decision criteria that are intended to address concerns about the impacts of light from lease sites.
2. It is difficult to determine quantitatively noise impact from aquaculture facilities because ambient noise conditions are ever-changing.
3. Quantifiable noise levels would be difficult to enforce.
4. If a quantifiable noise level is accepted for aquaculture operations, legislation may follow that is directed at other coastal activities, including commercial fishing.
5. A more reasonable and enforceable approach to noise control is the mitigation of impacts through muffling, defined hours of operation, etc.

Recommendations:

VII.18. Amend the statutory language to omit the charge to the Department to “quantify” impact and to add language regarding mitigation. (language for proposed statutory change is provided in Appendix A.1, section 6)

VII.19. Regulations should set forth required mitigation measures for noise and light. (language for proposed regulations regarding noise and light is provided in Appendix A.3)

2. Visual Impact Criteria

Issue Summary

In Maine, several state statutes and regulations include provisions for consideration of scenic impacts and consideration of natural beauty during review of land development proposals. These include the Natural Resources Protection Act (Title 38 Chapter 3 § 480A-Z), the Site Location of Development Act (Title 38 Chapter 3 § 481-490), the

Shoreline Zoning Act (Title 38, Chapter 3 § 435-449) and the Subdivision Law (Title 30A, Chapter 187 § 4404-4407.)

Aquaculture facilities are not subject to regulation under any of the statutes mentioned above, and until recently, provisions to consider the potential visual impact associated with development of these facilities were not a part of the aquaculture leasing process. During the 1st session of the 121st Legislature however, an additional decision criteria was added to the aquaculture leasing statute regarding the visual impacts of aquaculture. The criteria will become effective upon development of new regulations by the Department of Marine Resources.

Many members of the public commented that visual impact should be taken into consideration during the lease process. Because of the recent nature of the Legislature's action on visual impacts from aquaculture and the fact that the DMR's work on creation of the standards via official rule-making had not yet begun, many people that appeared before the Task Force were unaware of these new provisions. Others who were aware, or became aware of the recent changes and proposed rules were concerned that they did not go far enough in a) identifying "special places" of statewide significance where aquaculture might not be compatible, and b) requiring an visual impact assessment for aquaculture facilities as part of the application procedure. Still others felt that views from private property were negatively impacted by aquaculture and that the leasing criteria should include consideration of the impacts on adjacent private property.

How this Issue was Studied

The Task Force reviewed the draft implementing regulations for visual impacts developed by DMR staff and sought input from the Stakeholder Advisory Panel on these draft rules. In addition to reviewing the draft rules (which include provisions for building profile, roofing and siding materials, color, and height of proposed aquaculture facilities), the Task Force, during its deliberations, considered at least two other methods for analyzing visual impact and discussed a variety of mitigation techniques.

Terrence DeWan, a consulting landscape architect, provided a tutorial for the Task Force on visual assessment techniques and accompanied the Task Force on a boat tour to discuss visual impacts and impacts on conserved lands. With DeWan's assistance, Maine Coast Heritage Trust submitted a white paper for the Task Force's consideration that proposed: a design assessment process, additional design standards, and the use of additional setbacks from the shoreline to mitigate potential visual impacts. MCHT also identified types of areas along the coast where visual impacts might be of special concern.

Judy Gates, a member of DEP's staff, gave a presentation to the task force on DEP's new rules (Chapter 315 of the Code of Maine Rules) governing the assessment and mitigation of impacts to scenic and aesthetic uses under the Natural Resources Protection Act. The Board of Environmental Protection recently adopted these rules – previously DEP staff and the Board struggled to interpret and effectively implement the standard in the NRPA concerning scenic and aesthetic uses.

Some SAP members, members of the public and several members of the Task Force were in favor of adopting an approach similar to DEP's rules for assessment and mitigation to scenic uses (Chapter 315 of the Code of Maine Rules), or a modified method that would include a simplified technique. Other members of the Task Force and the SAP and some members of the public commented that it would be difficult to apply in the marine environment, because Chapter 315 is concerned with protection of views as seen from publicly accessible areas and all aquaculture leases are located within public viewsheds when the facility is viewed from public waters. There was also discussion that use of the visual impact assessment might eventually inhibit the siting of other water-based industries and have a resulting negative effect on the working waterfront.

Findings

1. There is a widespread lack of knowledge that the Legislature has recently added a visual impact standard to the aquaculture leasing criteria and has directed DMR to develop standards for color, height, shape and mass of facilities.
2. Many of the concerns of members of the public regard the potential for impact on views of the water from privately-owned shoreline properties. The state's role in aquaculture leasing is to consider and protect public trust-related uses. Therefore, the Legislature should not add criteria to the aquaculture lease law that concerns protection of views from private property.
3. All aquaculture leases are within a public viewshed when viewed from the water. It is the impact on this view and other public viewsheds that DMR shall consider in determining visual impacts.
4. The new statutory criteria and proposed rules regarding visual impacts are sufficient to minimize the visual impacts of aquaculture leases as seen from the water and other public viewsheds. Therefore, a visual impact assessment such as that used in Chapter 315 of DEP's regulations need not be adopted by DMR.
5. Visual impact criteria should be designed so as to result in aquaculture activities having minimal visual impacts on the scenic landscape of the Maine coast, while allowing the practice of aquaculture along the coast.
6. The Task Force supports the recent addition of visual impacts to the decision criteria and supports the regulations proposed by DMR concerning height, size, mass and color. The proposed rules are designed to minimize visual impacts and mitigate visual concerns associated with aquaculture development.

Recommendations

VII.20. Create regulations that set forth limitations on height, size, mass and color of buildings and equipment. Structures that exist or are under construction at the time of enactment of the rule are exempted from the height restriction for their useful lifetime. (language for proposed regulations regarding visual impact criteria is provided in Appendix A.4)

VII.21. DMR should not adopt the method used in Chapter 315 (Code of Maine Rules) in aquaculture lease siting.

3. Sufficiency of Existing Decision Criteria

Issue Summary

The Task Force reviewed the decision-making criteria for granting leases to determine if any major issues were not being addressed. Members of the public commented on several issues that are not currently included as decision criteria, including impacts on property values, impacts on businesses on land, impacts on conserved lands, the economic value of aquaculture as opposed to other uses, etc. There was particular concern that the lease process does not allow for consideration of cumulative impacts and that it is reactive.

Findings

1. The Task Force determined not to recommend the following requests made by the public for inclusion into the decision criteria:
 - Private property values: As manager of the public trust, under current law, the Department cannot take impacts to private property into consideration in making an aquaculture lease decision (see Section IV).
 - The view of riparian landowners currently is not, and should not be considered a decision criteria. The new visual impacts changes to the statute and the regulations should be given time to be implemented.
2. The Department should consider the other aquaculture leases in the area when evaluating the application under the decision criteria.

Recommendations

VII.22. Amend the statute to reflect that the Department will take the number and density of all aquaculture leases in an area into consideration in evaluating the lease under the decision criteria. (language for proposed statutory change is provided in Appendix A.1, section 6)

VII.23. DMR should not consider the view of riparian landowners in making lease decisions.

4. Final Decision-Maker

Issue Summary

The Task Force discussed whether the final lease decision should be made by the DMR Commissioner, as is currently required in law or a larger Board made up of members of the public. Members of the public commented regarding the Commissioner's conflicting role as promoter and regulator and expressed concern regarding a perceived bias on the part of DMR in favor of the aquaculture industry. Some commented that there should be a decision-making board of members of the public. Although the Task Force discussed this concept extensively and some felt there may be some merit to the role of a citizen board in leasing, no agreement was achieved to adopt such a recommendation. An Assistant Attorney General gave a presentation to the Task Force on the Public Trust Doctrine that assisted the Task Force in making its determination on this issue.

Findings

1. The Commissioner has access to the knowledge and expertise to make competent decisions regarding aquaculture lease proposals.
2. The Commissioner is entrusted to manage a public resource and uphold the public trust doctrine and is the appropriate party to make a decision in accordance with those duties.
3. The dual role of regulation and industry development at DMR has resulted in blending of roles and responsibilities in the agency and has contributed to negative public perception of DMR's intentions when conducting regulatory review.

Recommendations

VII.24. Retain the current system in which the Commissioner makes the final lease decision.

VII.25. Move activities related to development of the aquaculture industry from DMR to DECD and promotion to the Dept of Agriculture (see section X of the report, language for proposed statutory change is provided in Appendix A.1, sections 1 and 2)

D. Lease Renewals and Transfers

1. Procedure for Lease Renewals and Transfers

Issue Summary

The current procedure for lease renewals and transfers requires the Department to hold a public hearing when five or more requests for a hearing are received. There were concerns expressed that opening a lease renewal to a hearing process is unfair to a leaseholder who has complied with the lease conditions and has invested in the business for ten years. Additionally, there was a concern for a need for some certainty in making an investment in aquaculture with regard to both a renewal and a transfer – that if you abide by all the conditions of your lease, you can continue your business. There was also a concern expressed that there may be a business need to transfer a lease, and that it should be a smooth process.

Findings

1. The requirement that a hearing be held upon five or more requests may result in providing an opportunity to unnecessarily make a leaseholder go through a long, expensive hearing to defend his or her operation.
2. The ability to smoothly transfer a lease is important from a business perspective.
3. The criteria for renewal and transfer are sufficient to leave the decision with the Commissioner without the need for a hearing.
4. A 30-day comment period should be provided, but a hearing is not necessary for transfers and renewals.

5. The Commissioner should retain the discretion to hold an adjudicatory hearing if he or she determines that one is necessary to obtain more information.

Recommendations

VII.26. Delete the statutory requirement for an adjudicatory hearing upon five or more requests for both a renewal of a lease and a transfer of a lease. (§6072(12) and (12-A), language for proposed statutory change is provided in Appendix A.1, sections 7 and 8)

VII.27. Rather than an adjudicatory hearing, DMR should be required to hold a scoping session on a lease renewal or transfer upon five or more requests. The Department will provide 30 days for people to request a scoping session or to provide comment. (language for proposed statutory change is provided in Appendix A.1, sections 7 and 8)

VII.28. The Department shall have the discretion to hold a hearing for a renewal or a transfer if it deems it necessary. (language for proposed statutory change is provided in Appendix A.1, sections 7 and 8)

2. Fees for Renewal and Transfer Applications

Issue Summary

DMR currently does not charge an application fee for renewal and transfer applications and this is a potential source of revenue for the Department that may be used to improve the lease process.

Findings

1. A fee assessed for the application for a renewal or transfer of a lease could assist with the administrative cost of processing the applications, such as staff time, mailings, and public notices in the newspapers.

Recommendation

VII.29. DMR should amend the regulations to assess a reasonable fee for renewal and transfer applications, following the completion of the comprehensive fee review that DMR has undertaken.

E. Administrative Issues

1. Lease Acreage Limit

Issue Summary

Currently the statute states that a person may not hold leases covering an aggregate of more than 250 acres. The Task Force heard concerns that new requirements for fallowing in the finfish industry has made it difficult to stay under the minimum acreage and have a

successful operation. Fallowing can limit the spread of infection, and provide an opportunity for the bottom beneath a net pen to recover from benthic impacts that may have occurred. Fallowing is therefore seen as a valuable management option that should be accommodated. A second argument in favor of increasing the cap on the total number of leased acres available to one individual was to improve the opportunity for vertically integrated companies, and improve economies of scale which may allow Maine to retain more of the processing sector. Finally, requirements under the MPDES permit are likely to result in finfish sites moving toward deeper, more exposed locations. Such sites will require more mooring space to securely hold net pens in place. Individuals opposed to increasing the lease acreage cap were mainly concerned that it would encourage a monopoly by one company, and push out the small farmer.

Findings

1. The requirement for fallowing has created a need for more lease acreage in order to have a successful operation.
2. An acreage cap may discourage larger firms from doing business in Maine.
3. There should be a system that allows for a larger amount of acreage to be held by the larger companies, while encouraging the smaller-scale farmers.

Recommendations

VII.30. Increase the maximum lease acreage to 500 acres. (change 250 to 500 in §6072(2.E.), (12), and (12-A), language for proposed statutory change is provided in Appendix A.1, sections 4, 7, and 8)

VII.31. Create incentives for those who remain under a certain acreage through tiered rental fees (see rental fee section).

2. Enforcement

Issue Summary

The Task Force discussed whether enforcement by DMR is sufficient to ensure that leaseholders are in compliance with their lease conditions, and that their property is being adequately protected. DMR informed the Task Force that until very recently, enforcement has been reactive, relying on citizen complaints. DMR is now beginning to require Marine Patrol Officers to annually inspect aquaculture sites.

Findings

1. DMR has developed a new initiative of annual inspections of leases by Marine Patrol.
2. DMR's current enforcement budget is not sufficient to provide an appropriate level of enforcement.

Recommendations

VII.32. DMR should assess the results of the new enforcement initiative. (Appendix E: Enforcement Protocol)

VII.33. The Task Force supports more funding for a greater enforcement effort.

3. Lease Fees and Fines

Issue Summary

The Task Force discussed whether the annual rental fee of \$50 per acre should be increased and whether fines should be assessed for lease violations. Members of the public commented that leaseholders pay a relatively low fee for the use of public waters. Others commented that leaseholders pay enough in rental fees, penny per pound under FAMP, and application fees. DMR is undertaking a comprehensive review of the entire fee schedule for aquaculture with DEP, including application, lease and monitoring fees, and developing a schedule of penalties for aquaculture lease violations.

Findings

1. Rental fee is low and should be increased, without being unduly burdensome.
2. Penalties should be assessed for lease violations.

Recommendations

VII.34. Lease rental fees should be changed and should vary, depending on the activity on the site. A tiered rental fee system should be established which correlates rental fees with the type of activity and the size of the lease. Any changes to lease fees should only be considered as part of DMR's complete review of all aquaculture fees and should not be unduly burdensome.

VII.35. All aquaculture leases should contain monetary penalties for lease violations. DMR should develop a schedule of penalties for lease violations.

4. Time Period of Site Review

Issue Summary

Currently, the period within which DMR can conduct a site visit is statutorily limited to April 1st to November 15th. This limitation was designed to ensure that the site would be visited during the biologically active time periods. However, it prevents DMR from visiting the site at other times that may be important to its evaluation, e.g. prior to the start of a fishing season. Members of the public commented that the Department does not visit a site at the right time to evaluate a particular aspect of the site. DMR commented that there are some sites that could be adequately assessed outside the time period and that the time period constraint often ties up the lease process.

Findings

1. The time period puts unreasonable constraints on the Department to process leases, and may delay the implementation of the lease for the applicant.

2. In some cases, the information necessary to evaluate a site should be obtained outside the established time limit (e.g. prior to the start of scallop season).
3. A pre-application meeting and scoping session will aid the Department in identifying issues that would guide the appropriate time for a site visit.

Recommendations

VII.36. Eliminate the established time period of April 1st to Nov. 15th within which the Department may conduct its site visit. (Delete the time period from §6072 (5-A), language for proposed statutory change is provided in Appendix A.1, section 5)

VII.37. DMR is encouraged to conduct site visits during times appropriate to characterize conflicting uses or the ecological significance of the site.

5. Polyculture Application

Issue Summary

There is a need to understand the distinction between a multiple species lease application and one that is intended for more than one species in a polyculture process. Polyculture is the integrated culture of two or more species whereby one species contributes to the growth of another (e.g. growing marine algae and / or mussels adjacent to a finfish cage). It is in the best interest of the state to promote the further use of polyculture in aquaculture.

Findings

1. A distinction should be made between a multiple species application and one that is for polyculture.
2. There is a potential benefit both economically and environmentally for the practice of polyculture and some incentive through the lease process should be considered to allow for its implementation and further practice.

Recommendations

VII.38. DMR should create a written definition of the practice of polyculture.

VII.39. Reasonable incentives for the expansion of polyculture type leases should be developed.

F. Experimental Leases

Issue Summary

There were some concerns expressed regarding the experimental lease process. Some feel the process is onerous and needs to be changed with regard to the public hearing requirement and the lease start date.

Findings

1. Experimental leases are short-term and are designed to encourage experimentation and thus the process for obtaining an experimental lease should be streamlined compared to non-experimental, or standard, leases.
2. The requirement for a public hearing if five or more people request a hearing is unnecessary.
3. Use of a public scoping session similar to what is recommended for other leases would be an effective way to inform the public on an informal basis.
4. Given that experimental leases for commercial purposes are non-renewable, the public will have a formal opportunity to comment if and when an experimental lease holder applies for a standard lease.
5. Given that experimental leases have a maximum term of three years, the start-date of the lease should be specified by the applicant after the lease is approved, in order to take advantage of the subject specie's biological calendar.

Recommendations

VII.40. Amend the statute to eliminate the requirement for a public hearing upon five or more requests. (language for proposed statutory change is provided in Appendix A.1, section 9)

VII.41. DMR will provide a 30 day comment period on proposed experimental leases. Upon 5 or more requests, DMR will hold a public scoping session. The Department will have discretion to hold a public hearing, if it deems necessary. (language for proposed statutory change is provided in Appendix A.1, section 9)

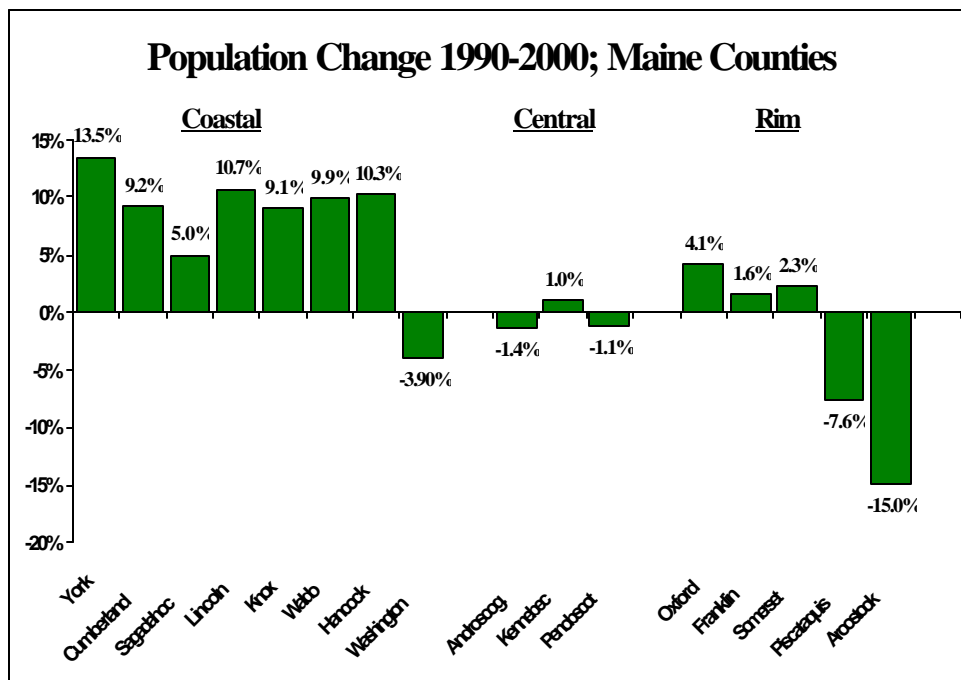
VII.42. DMR should amend the regulations to allow an applicant to define the start date as any date within 12 month of approval of the experimental lease application. (add to lease regulations section 2.64(7): The term of an experimental lease shall run from a date chosen by the applicant, within 12 months of the date of the Commissioner's decision, but no aquaculture rights shall accrue in the lease area until the lease is signed, language for proposed regulatory changes is provided in Appendix A.2)

VIII. IMPACTS OF AQUACULTURE ON OTHER USES – TOURISM, RECREATION, CONSERVED LANDS AND COMMERCIAL FISHING

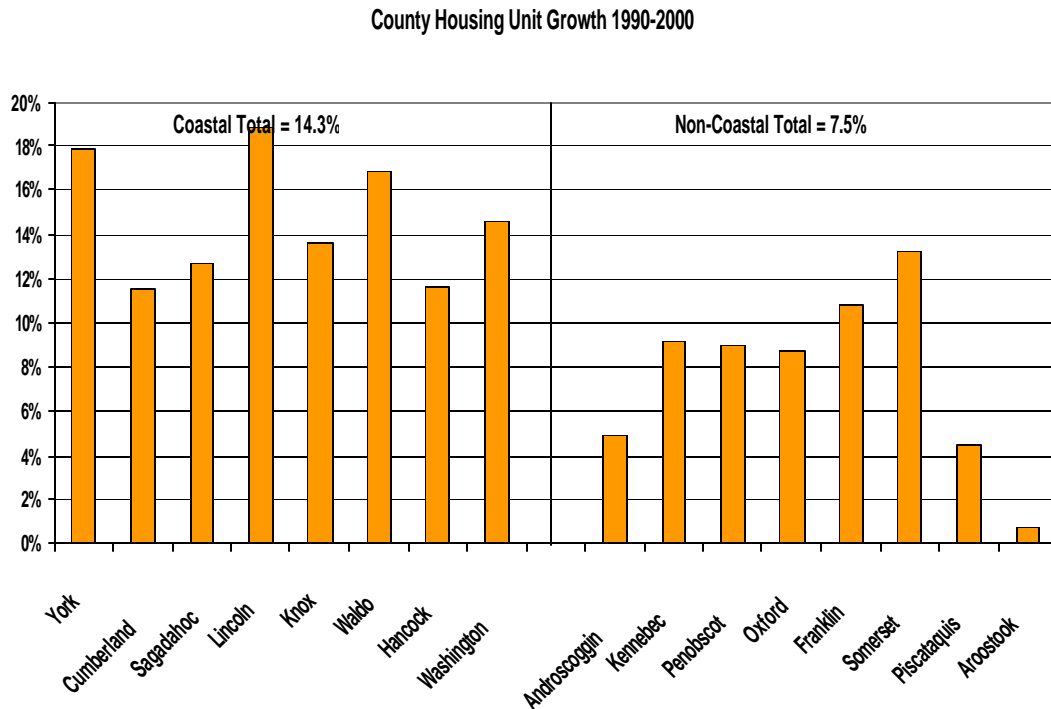
The Task Force was asked to evaluate the impacts that aquaculture facilities could have on other uses along Maine’s coast. In evaluating these potential impacts, the Task Force collected background information on demographics and coastal development. Some of this background information is presented here.

Changing Demographics Along a Changing Coast

By all measures, Maine is a rural state, and growth projections for the future are moderate. However, the coastal regions of Maine, particularly the southern and mid-coast areas, are already more densely settled and growing faster than the state as a whole. Maine’s coastal zone (defined as the municipalities and unincorporated areas that border tidal waters) comprises 12% of the State’s land area but is home to about 44% of the state’s 1.275 million population. Coastal municipalities have an average density over six times greater than the balance of the state (166 persons per square mile compared with 26 persons per square mile inland). Compared to inland Maine, the coast is a densely populated region with a thriving economy, yet it is not a homogeneous region by any means; population density and economic activity generally thin out from west to east along the coast. Between 1990 and 2000, the population of Maine’s coastal communities increased by 5.6%, about 30,000 people, while the remainder of Maine increased by about 2.9%, or roughly 17,000 people.

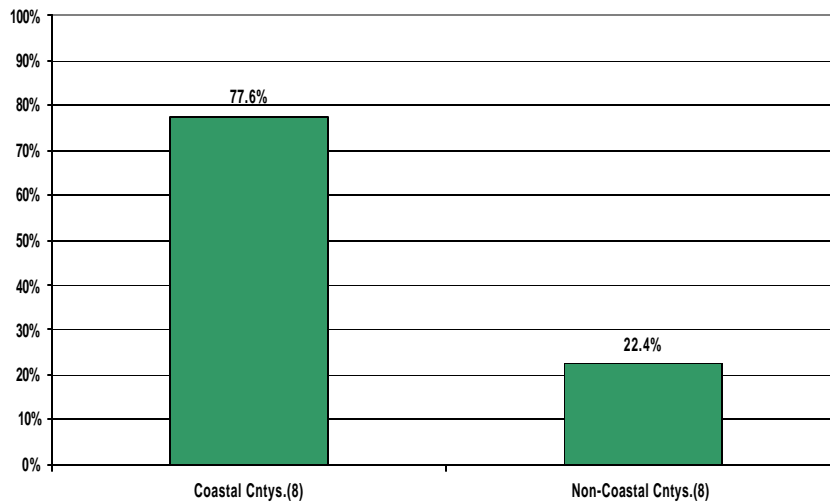


Coastal population growth and, equally important, the increase in second home development, is reflected in construction activity along the coast. According to the 1990 US Census, the eight coastal counties (not including Penobscot) had 306,712 housing units or 52.2 percent of the State total. Between 1990 and 2000 coastal counties saw an increase of about 14.3 percent or 43,840 units, while inland counties grew about 21,016 units or 7.5 percent.



Last but not least, the coast is the destination for most of the 8 million-plus people who visit Maine each year. Tourism is a large and vital component of Maine’s coastal economy, but research has not been sufficiently detailed to yield precise regional numbers. However, State lodging sales tax data provides a basis for rough approximations of tourist spending by region and county. According to Longwoods International, a Toronto-based tourism research firm, total tourist expenditures in Maine in 2001 were approximately \$5.6 billion. York and Cumberland counties alone likely account for about one-half of all Maine tourist spending (includes residents). Hancock, which contains Acadia National Park, accounts for another one-seventh of the State’s tourism market. Collectively, the eight Coastal counties account for about three-fourths of all Maine tourist expenditures.

Distribution of Taxable Lodging Sales 2002



Though this data about coastal population growth, housing development and tourism is instructive about population pressure along the coast, it only tells part of the story. A substantial portion of coastal population growth and construction, particularly on coastal properties, is the result high net worth individuals, families and retirees acquiring coastal property due to the quality of life such property provides. This increasing sector of coastal communities is a powerful economic force in coastal communities as a major driver of construction activity. This creates the potential for conflict between the growing sector of new residents of coastal communities whose livelihood is not tied to the coastal economy and those residents and business owners whose livelihood is dependent on commercial use of Maine’s marine resources.

A. Tourism

Issue Summary

Tourism is the state’s largest industry and its continued vitality is of critical importance to the health of the Maine economy. Tourism directly generates more than seven percent of Maine’s gross state product and over ten percent of employment.⁵ Tourism and aquaculture are two business sectors that are dependent on healthy and abundant natural resources. For aquaculture, good water quality is the primary concern. For coastal tourism, various features of the Maine coast – working waterfronts, small villages, islands, tranquility, beaches, scenery, sailing opportunities and the presence of countless other unquantifiable attributes are important to lure new visitors and retain repeat customers.

⁵ Maine Department of Economic and Community Development, Draft Recommendations for the Blaine House Conference on Natural Resource-Based Industries, 2003.

Currently, tourism operators and members of the public bring issues related to perceived impacts on tourism, scenic areas, etc. into the lease hearings. No criteria exist in the statute to consider economic or scenic impacts on uplands. In Section V of this report, it was noted that case law clarifies that the state is to consider only public uses of submerged lands when considering impacts on public trust resources. Two industry groups, the Maine Innkeepers Association and the Maine Restaurant Association have suggested that new criteria be added to the leasing process to allow consideration of the impact on shore side businesses.

How this Issue was Studied

The Task Force was asked to evaluate the impact of marine aquaculture on coastal tourism. Little to no empirical data exists that documents the impact of aquaculture on the tourism industry in Maine or elsewhere. Therefore, the Task Force relied on information provided at public meetings and solicited information from statewide organizations that represent multiple industry sectors.

The Task Force received input at public hearings from several proprietors of tourism related businesses. Much of the testimony presented at the Task Force's public hearing in Blue Hill was related to the scenic, recreational and inspirational qualities of the region. Written testimony was provided at the hearings by the Maine Innkeepers Association and the Maine Restaurant Association. At their November 6, 2003 meeting, the Task Force heard presentations from an invited panel comprised of representatives of the Maine Department of Economic and Community Development, the Maine Restaurant Association and the Maine Tourism Association. In preparation for the panel discussion the latter two organizations provided a letter of comment and a white paper, respectively, for consideration by the Task Force.

Findings

1. The Task Force was not able to quantify the effects of aquaculture on the tourism industry. There was no direct evidence of a negative effect on tourism, and some anecdotal evidence of positive impact. There was also anecdotal evidence presented about potential negative effects of aquaculture on tourism.
2. Within the tourist industry there is a polarization of opinions about aquaculture. Some sectors of the industry embrace aquaculture as a compatible activity that offers their touring customers an opportunity to learn about Maine's working waterfront, and proudly feature Maine-grown Atlantic salmon and shellfish on their menus. Others feel that visitorship will decline at their businesses due to the presence of an "industrial" facility in adjacent waters, and that visitors will not use beaches and other shoreside amenities due to perceived threats to water quality. Public testimony was received from several proprietors of tourist-dependent businesses citing a perceived negative impact should an aquaculture business be sited adjacent to their facility. Overall, the number of direct complaints to tourism industry groups about the potential for aquaculture to negatively affect tourism has been small.

3. The Task Force noted that most of the information presented to them about the negative effects of aquaculture on tourism were perceived impacts associated with potential future aquaculture development.
4. The Task Force heard from others during public meetings that coastal tourists, particularly recreational boaters (kayakers) visit aquaculture lease sites while touring. The Task Force noted that aquaculture and fishing play a part in providing the environment that travelers in Maine are looking for – active fishing villages and the presence of an intact working waterfront. The Task Force finds that there is an opportunity for synergism and partnerships between the tourism and aquaculture industry that can support collaborations. An educational campaign about Maine’s working waterfront (including aquaculture) could better inform visitors traveling in coastal Maine and would build support for multiple, compatible uses of the marine and shore side environs.
5. The Task Force did not consider it necessary to amend the leasing criteria to consider impacts on shore side businesses. Although the Task Force did hear concerns that aquaculture could potentially impact shore side businesses such as inns or restaurants, there is no empirical evidence to demonstrate that negative impacts will actually occur. Again, the Task Force also heard anecdotal accounts of shore side businesses promoting their proximity to aquaculture operations in order to attract kayakers. As noted earlier in this report (Section V); the Task Force also found that private land values were not a public use entitled to protection under the public trust doctrine. However, other recommendations of the Task Force related to mitigation of noise, light and visual impacts, if implemented, will act to mitigate effects on shore side businesses without the need for additional leasing criteria. Other recommendations concerning pre-application scoping sessions should help identify areas of potential conflict between aquaculturists and tourism interests prior to the formal application process.

Recommendation

VIII.1. The Task Force recommends that state agencies with responsibility for tourism, marine resources and coastal planning work to foster a collaboration between tourism and aquaculture, two important elements of Maine’s natural resource-based economy. To this end, the Maine Coastal Program at the State Planning Office should work with the existing Working Waterfront Coalition (a diverse group of government, industry and nonprofit groups with an interest in the conservation of Maine’s marine-related economy) to develop an informational campaign aimed at coastal residents and visitors. The theme of the campaign should revolve around the many benefits of Maine’s multi-use waterfronts and provide information of interest to the traveling public about the sights and sounds associated with Maine’s working waterfront. The Maine Coastal Program should also consult with the Maine Department of Economic and Community Development, Office of Tourism and the Maine Tourism Commission to ensure a high quality

campaign. Outreach materials should have broad appeal for use at tourism businesses, visitor centers and municipal offices.

B. Recreation

Issue Summary

The Task Force was asked to make an assessment of the impacts of aquaculture on recreational activities. This was an extremely broad area to examine as “recreation” can include waterside activities such as boating, swimming, fishing, hunting and landside activities such as recreating at coastal parks and other conserved lands along the shoreline. (See also sections on conserved lands and tourism)

How this Issue was Studied

The Task Force invited testimony about recreational impacts at their public meetings and invited the Stakeholder Advisory Panel member representing recreational issues (Pat Keliher, formerly of the Coastal Conservation Association) to address the Task Force at their meeting on November 6, 2003. Mr. Keliher submitted a white paper for consideration by the Task Force.

Findings

1. The current statute and regulations require that during the lease process, the Commissioner take into consideration the effect of the proposed activity on:
 - existing recreational navigation and fishing activity;
 - all water-related uses of the lease area; and,
 - the public’s use and enjoyment of parks, beaches and launching facilities.
2. Information submitted by the DMR hearings officer indicates that at least two leases have been denied (Bartlett Island, 1999 and Smith Cove, 2003) based on interference with existing recreational uses. Seven other denials have been based in whole or part on navigational concerns, and it is assumed that recreational boaters use these existing navigation areas.
3. The Task Force heard testimony that recreationalists (kayakers, recreational fishermen on guided excursions) are interested in aquaculture as a learning opportunity and seek out information about industry and visit site operations.
4. Based on the information presented, the Task Force found that the existing lease criteria are sufficient in evaluating and minimizing the impact of aquaculture on recreational uses and therefore no additional measures are needed at this time.

Recommendation

None at this time.

C. Conserved Lands

Issue Summary

Consideration of the impact of a proposed aquaculture facility on public recreation lands is currently limited to publicly-owned beaches, parks and docking facilities within 1000

feet of the proposed facility. Other conserved lands along Maine's coast have important ecological, recreational and/or scenic attributes and are protected through ownership by governmental agencies. These lands do not currently fall within the purview of the state's leasing criteria, yet the public enjoyment of these lands may be compromised by inappropriate siting or management of an aquaculture facility. Failure to consider the impact of a proposed facility on these lands may not only result in unnecessary harm to the ecological, recreational or scenic attributes of these lands, but also in a loss of public confidence in a leasing process that fails to consider the potential for such harm.

A variety of public lands are also protected for conservation purposes through ownership by non-governmental conservation organizations or by conservation easements held by governmental agencies and non-governmental conservation organizations. Whether these categories of conserved lands offer equivalent value for the public and warrant additional consideration during the leasing process was a topic of extensive discussion by the Task Force.

How this Issue was Studied

Task Force members invited Maine Coast Heritage Trust (MCHT) and their consultant, Terry DeWan (landscape architect) to present a primer on visual impact assessment techniques. This presentation was heard by the Task Force at their Blue Hill meeting on September 25, 2003. MCHT and Mr. DeWan also presented a proposal containing recommendations for consideration of conserved lands during the aquaculture leasing process.

On September 26, 2003, the Task Force took a boat trip around Blue Hill Bay and observed several conserved islands in the Bay and several aquaculture facilities. Task Force members went ashore on Hardwood Island and met with island owners regarding their experience having a salmon farm adjacent to their conserved property. Acadia National Park staff was also present on the field trip and later joined a panel discussion to discuss their interaction with DMR and lease applicants during the facility siting and leasing process and afterwards via cooperative agreements with aquaculturists.

Two DEP staff members addressed the Task Force on September 26th concerning DEP's new rules for evaluation and consideration of scenic impacts under the Natural Resources Protection Act.

Finally, members of the public spoke of the value of conserved lands and the need for additional protection of these lands during the facility siting process.

Findings

1. Since the adoption of the original lease criteria, public investment in conservation lands has significantly increased through the state's Land for Maine's Future Program and through other federal, state and local land conservation initiatives. A broad range of conservation lands beyond parks, beaches and docking facilities are now protected for public use and enjoyment and this trend continues along the coast.

2. Conservation lands and the use of public waters for aquaculture can both provide public benefits. The Task Force recognized that protection of the public benefits associated with conserved lands warranted a change in the current leasing criteria.
3. The Task Force had lengthy discussions about the range of conservation lands protected by public and private entities along the Maine coast. Conservation objectives, public access opportunities and the amount of public funds invested in the land differs widely from property to property. With the intention of focusing on only those lands that clearly offer maximum benefits to the public, the Task Force found that:
 - Conservation easements on privately-owned land by their terms cannot and do not restrict activities in the adjacent public waters. They also do not protect the water viewscape of the owner of that land. Consideration of the impact of a proposed aquaculture facility on that view should not fall within the purview of the consideration of the impact of a proposed aquaculture facility on conserved lands.
 - Privately owned lands protected by fee ownership and conservation easements that limit development make an important contribution to public and private land conservation goals. However, those that are not publicly-owned or those that have not received significant public funding through the Land for Maine's Future Program provide a less easily identifiable measure of public benefit.
 - The Land for Maine's Future Program, often works with non governmental organizations in land conservation partnerships. In addition to fee acquisition, LMF funds are used to purchase (or partially finance the purchase) of conservation easements, where fee ownership of the property rests with a non governmental conservation organization. Public access to LMF properties is guaranteed, and the lands are subject to management plans that protect the public's interest. Because of these attributes, properties acquired with LMF funds, regardless of ownership, should have consideration during the leasing process.
 - Publicly owned lands that are open to the public for their use and enjoyment and Land for Maine's Future properties, were found to be the only categories of conserved lands warranting additional scrutiny during the leasing process. Conserved lands in private ownership (with the exception of LMF properties) were seen as offering a less easily identifiable and therefore, secondary, level of public benefit.
4. Providing for consideration during the leasing process of the impact of aquaculture facilities on those conservation lands that offer the highest degree of public benefit will allow for problem-solving during the siting process, allow for adaptive solutions and provide incentives to make aquaculture facilities compatible with adjacent conservation lands. . If such compatibility cannot be achieved, then the respective public benefits of each must be weighed in the decision-making process.
5. The Task Force also discussed, at length, the current leasing criteria which limits the evaluation of the impact on public recreational facilities to an area within 1,000 feet

of the facility. Some members of the Task Force were in favor of removing the 1,000 ft. criterion, allowing the impact of a proposed lease to be evaluated regardless of its distance from public facilities. Testimony from aquaculturists and information from the Aquaculture Hearings Officer showed that this 1000 ft “zone” is typically avoided by those wishing to site a new facility. Therefore removing the 1000 foot restriction would remove an incentive for operations to automatically move outside the 1000 foot boundary. In many cases, however, siting an aquaculture facility close to shore rather than farther out can better protect the public’s use and enjoyment of adjacent public lands and facilities, especially when Maine’s convoluted shoreline offers opportunities to “tuck” facilities in closer to the shore, rather than siting them in exposed areas. The Task Force found that careful consideration is required in determining if an operation within 1,000 ft of publicly held conservation land does not interfere with public use or enjoyment.

6. Other modifications to the leasing process either already in effect, or proposed in other sections of this report, will help mitigate potential impacts on conserved lands.
 - a. Pre-application meetings and scoping sessions involving the members of the local community will help highlight potential conflicts with conserved lands that should be addressed in the leasing process.
 - b. Consideration of potential noise and light impact from aquaculture facilities will help address potential impacts on conserved lands.
 - c. A recent amendment to the lease criteria requiring consideration of the impact of aquaculture on significant wildlife habitat and on ecologically significant flora and fauna in surrounding upland areas will help address potential impacts on conserved lands that host important ecological resources.

Recommendations

VIII.2.Amend 12 MRSA Chapter 605 Section 6072 (7-A) (F), to read as follows:

F. The lease does not unreasonably interfere with public use or enjoyment within 1,000 feet of beaches, parks, docking facilities owned by federal, state or municipal governmental agencies or certain conserved lands. For purposes of this paragraph, “conserved lands” shall mean a) land in which fee ownership has been acquired by the local, state or federal government in order to protect the important ecological, recreational, scenic, cultural or historic attributes of that property or b) land that has been protected through fee ownership or conservation easement with funding from the Land for Maine’s Future Program.

SPO shall maintain a list of conservation lands as defined above. DMR will request this information from SPO prior to the pre-application scoping session (a modification to the leasing process recommended elsewhere in this report, language for proposed statutory change is provided in Appendix A.1, section 6)

VIII.3. Adopt regulations that provide standards for assessing the impact of a proposed aquaculture facility on the public use and enjoyment of conserved lands.

D. Commercial Fisheries

Issue Summary

The primary issue regarding coexistence of commercial fisheries and aquaculture is the cumulative loss of fishing bottom. The commercial fishing sector has expressed concern that fishing bottom changes over time while leases do not. Fishermen also noted that the DMR site review is inadequate - that it is conducted at times of the year when the fishery is not present. Loss of fixed gear (e.g. lobster traps) is also a concern, and concerns over chemical use are similar to those of the general public. Many fishermen acknowledge that as the industry grew, conflicts arose, some of which were resolved directly with industry members. Over time, the amount of conflict has decreased.

How this Issue was Studied

Commercial fishermen Bruce McInnis and Randy Newcomb participated in a panel discussion with the Task Force at their second Eastport meeting (November 20th). Bruce McInnis was President of Cobscook Bay Fishermen's Association (CBFA) and fished mainly for scallops and urchins. Randy Newcomb, also a member of CBFA, is a lobsterman who also fishes for scallops and urchins. The Task Force also heard from several commercial fishermen at the public hearings, particularly those held in Blue Hill and in Eastport. However, overall the Task Force was surprised that they received relatively little input on the future on aquaculture in Maine from members of the fishing industry, particularly from lobstermen, considering the size of this fishery and their competing use of bottom. The Downeast Lobstermen's Association (DELA) and the Maine Lobstermen's Association (MLA) were made aware of the Task Force meetings, and opportunities for participation.

One of the topics of particular concern to the commercial fishing industry was the Task Force consideration of a quantified noise limit for aquaculture operations. The commercial fishery representative on the SAP attended the SAP meeting in Belfast (October 3rd) and provided comment on the decibel limit proposal.

Findings

1. Commercial fishermen are generally concerned about the continued expansion of aquaculture.
2. Loss of fishing bottom and pollution are concerns most commonly heard from the fishing sector.
3. Because fisheries are dynamic, moving in location with season and years, fishermen are concerned that the site review is conducted at times of year when DMR staff could miss important fisheries resources.
4. Input from the commercial fishing sector indicates that historically conflicts have occurred; Maine and the industry have worked to resolve this as a major issue.

5. Traditional fisheries are protected from aquaculture in the current leasing process.
6. Fishermen expressed concern that if a quantified noise level is accepted for aquaculture operations, legislation may follow that is directed at commercial fishing.

Recommendation

VIII.4. Lease site review window should be removed to enable DMR to conduct reviews when fishery potential is greatest. (Note: this may require multiple visits, language for proposed statutory change is provided in Appendix A.1, section 5)

IX. ECOLOGICAL HEALTH

Aquaculture has the potential to cause undesirable impacts to surrounding ecological health and biological communities. Although there is limited evidence that marine aquaculture in Maine has caused any significant long-term impacts to the ecological health in the vicinity of farms, there is legitimate concerns that, without proper constraints and the use of prudent husbandry practices, aquaculture can cause significant short and long-term negative impacts on the environment. The most significant risk to the environment and biological communities comes from finfish aquaculture which, since there is active feeding of the animals, is considered to be causing a discharge to the water. To minimize the potential impact of discharges and other features associated with finfish aquaculture operations, the DMR implemented a rigorous monitoring program in partnership with the DEP over 15 years ago. This program, the Finfish Aquaculture Monitoring Program (FAMP) has been funded by a \$0.01/lb tax on landed Atlantic salmon and has provided a mechanism for regular assessment of the surrounding water quality and the benthos in the immediate vicinity of salmon pens. Using a combination of water sampling, benthic sampling, and video surveillance, the FAMP has provided baseline information for new installations, and has provided the basis for action by the agency and the farm operator to either improve husbandry practices or to relocate the pen to a more appropriate site. At present, a new waste permit to address discharges from marine finfish aquaculture facilities (Maine Pollutant Discharge Elimination System or MEPDES) is being implemented. This new permit will require more sampling however, at present, it is unclear how this new permit and monitoring protocol will be implemented by the State, how these permit conditions will relate to the FAMP, and what role the industry will have in the process.

How this Topic was Studied

A combination of white papers, expert panels, stakeholder discussions, comments from the public, field trips and laws, regulations and policies were studied and considered. The Task Force was especially interested in identifying problems and concerns specific to Maine and what changes to aquaculture regulations and management should be made to mitigate and/or prevent them.

A. Nutrient Enrichment

Aquaculture operations, by their nature, result in high concentration of animals in relatively close quarters resulting in higher levels of waste byproducts being discharged in an area. Although these nutrients occur naturally and are necessary for plant and microbial life, in excess, they can enrich the water column to a point where oxygen depletion, nuisance and harmful algal blooms, and species shifts cause undesirable impacts to other species and uses. Both finfish and shellfish aquaculture alter the nutrient dynamics of a waterbody, but finfish aquaculture has a greater effect than shellfish due to the fact that finfish culture requires an input of material (feed) not already present in the local system. Coastal nutrient enrichment due to

aquaculture emerged as a concern to the state over a decade ago and has been the focus of monitoring efforts.

Limited work has been conducted in Maine to assess the biological carrying capacity of the bays and to determine how much cumulative impact might be occurring when several operations occur in a given waterbody. Evidence from biological oceanographic studies indicates that in some locations such as Cobscook Bay, the greatest contribution of nutrients to our coastal waters comes from offshore in the Gulf of Maine. In other places, nutrient inputs are derived from anthropogenic sources that are delivered to coastal sites from riverine and other land-based sources. Aquaculture is just one of several other contributors of various nutrients to the coastal waters including: atmospheric deposition, non-point source runoff, municipal sewage treatment facilities, industries, watercraft.

Advances in oceanographic modeling may provide tools in the future for assessing the potential impact for aquaculture operations, but these models require the input of area-specific information that is expensive to acquire and not readily available. Therefore DMR relies on monitoring programs rather than models at this time.

Polyculture has the potential to reduce the impact of nutrient enrichment from finfish farming. Raising finfish that release nutrients alongside shellfish and marine algae that remove nutrients, results in less net loading to the environment. Polyculture in New Brunswick shows promise and could be applied here in Maine.

Findings

1. Nutrient enrichment from aquaculture is not currently causing ecological harm. However, there is insufficient data to determine whether nutrient enrichment may be causing effects such as shifts in phytoplankton community composition, increases in benthic algal production, and exacerbating harmful algal blooms (HABs).
2. Aquaculture is not the only source of nutrients to a waterbody. Private property owners, atmospheric deposition, municipal, recreational, and industrial discharges and even natural sources all contribute to the nutrient budget of a waterbody.
3. Aquaculture is dependent on clean water and is potentially vulnerable to other types of pollution. Certain areas of the coast are closed to aquaculture due to pollution.
4. The implementation of the MEPDES discharge permit will address nutrient enrichment from finfish aquaculture.

Recommendations

IX.1. Support research to study and assess whether specific relationships exist between finfish aquaculture and phytoplankton community shifts, HABs, and benthic algae (see Section X.B, recommendation 2b). Additional studies should be supported to determine if aquaculture discharges can be managed through polyculture or other means.

IX.2. Explore incentives in the leasing process for aquaculturists to employ methods such as polyculture to reduce nutrient enrichment.

IX.3. The Task Force requests that the Legislature charge DEP to review discharge permits to marine waters to ensure that cumulative impacts from all sources to the receiving water are considered.

IX.4. Maine should continue to support efforts by DMR and DEP to remove all sources of pollution along Maine's coast.

B. Organic Enrichment (Solids)

Both finfish and shellfish aquaculture result in organic material being deposited on the bottom. While shellfish deposition is mostly a result of active metabolism of naturally occurring phytoplankton, solids from finfish can appear considerable. The impact of organic loading has been the subject of many scientific studies which has resulted in the development of several predictive models. Impacts follow the classic Pearson-Rosenberg model of enrichment. First, the number of individuals and number of species increases followed by shift to a few opportunistic species in great numbers. Left unchecked, the system progresses to near azoic⁶ conditions. Researchers have found that impacts are generally confined to the area beneath the pens, and are temporary (on the order of months to several years) with recovery beginning immediately after organic loading is reduced. Rarely do the impacts extend more than tens of meters beyond the pen shadow.

Findings

1. Available evidence indicates that organic loading to the bottom from aquaculture is confined to the lease site, reversible and not serious.
2. Maine has in place policies, standards and permits to monitor for and prevent unreasonable adverse impact from organic enrichment.

Recommendations

IX.5. DMR and DEP should continue to manage aquaculture in a manner that will maintain a diverse benthic species composition and confine impacts to the immediate lease area.

IX.6. Support applied research with the industry to develop effective Best Management Practices⁷, standards, and monitoring regimes.

⁶ Azoic is a condition in which animal life is absent.

⁷ Best Management Practices (BMPs) are husbandry practices designed to maximize efficiency and minimize external impacts. In the case of finfish aquaculture, examples include the use of underwater cameras to monitor feed usage, regular inspections of nets to prevent escapement, etc.

C. Toxic Contaminants / Therapeutants

Because of the concentrated nature of husbandry, toxicity is an issue with virtually all forms of plant and animal husbandry, even organic husbandry (e.g . phytotoxin accumulation). Sources of toxic contaminants in Maine aquaculture include bio-concentration of contaminants from feed stock, feed additives, therapeutants, pesticides, antifoulants, disinfectants, petroleum and cleaning agents. Many of these chemicals are the very same ones used by recreational boaters and shorefront property owners and are discharged to the environment in municipal wastewater.

Contemporary husbandry practices and recent laws have reduced use of most of these chemicals in marine aquaculture. For example, tributyl tin has been banned for use as an antifoulant on nets. The recent adoption of integrated pest management techniques such as single year class management, fallowing, and vaccines by the industry have reduced the use of therapeutants.

Therapeutants

The use of Therapeutants in aquaculture in Maine is exclusively limited to the finfish industry. Unlike other countries, only four therapeutants are legal for aquatic use in the United States. Formalin (Formalin-F; Paracide-F; Parasite-S) and emmamectin benzoate (Slice) are approved to control external parasites and sulfadimeth-oxine and ormetoprim (Romet 30) and oxytetracycline (Terramycin, TM-100) are approved as antibiotics to control bacterial infections. Only Slice and Terramycin are used in Maine and both are administered through feed, and both are prescribed under the supervision of a veterinarian. Monitoring for these therapeutants in sediments to track accumulation has failed to find them at levels of concern. Timely treatment benefits both the health of the reared species and the environment as it results in overall less use of therapeutants. Monitoring, spill containment and cleanup plans for therapeutants and other chemicals and toxic contaminants are part of the new MEPDES permit. As an Investigational New Animal Drug (INAD), SliceTM is undergoing environmental tests by USFDA, DMR, and DEP to determine whether this therapeutant can become an approved drug. Two other compounds (Finquel and clove oil) are approved for use as anesthetics in aquatic veterinary medicine.

Dietary compounds including contaminants such as organochlorines and nutritional additives such as zinc have also been looked at in sediments here in Maine and shown not to be at levels posing undue biological risk.

Findings

1. Two kinds of therapeutants are used in Maine finfish aquaculture. One to treat parasites (SliceTM or emmamectin benzoate) and another to treat infections (Terramycin or oxytetracycline).
2. Therapeutants and pesticides are not known to be used by shellfish aquaculture.
3. Industry-wide, use of chemical therapeutants has decreased over the past 10 years due to vaccines and integrated pest management practices.

4. Oxytetracycline has not been detected in sediment under net pens. Slice™ has been found at low levels. Testing continues to determine whether levels are accumulating and is part of the MEPDES permit.
5. Drugs used in aquaculture are overseen by USFDA, EPA, MDEP and DMR and AVMA.
6. Copper, zinc and PCBs have also been tested in sediments under pens. Metals are below levels of biological concern. PCBs have not been detected.
7. The DEP MEPDES permit has testing requirements that will continue surveillance of various heavy metal contaminants such as zinc, copper, and therapeutants used by aquaculturists.
8. Maine's regulatory agencies need to acknowledge the environmental benefits of rapid response to disease and remove impediments to use of new therapeutants.
9. The Task Force is satisfied that the current process of oversight is both adequate and appropriate.

Recommendations

IX. 7. DMR and DEP should continue to monitor the environment for the presence of toxic contaminants and ecological impacts.

IX.8. DMR and DEP should continue participation in USFDA environmental studies on Slice™.

IX.9. Maine should be especially careful to avoid impeding professional veterinary practices to prescribe and use medications in a timely manner and explore new drugs while safeguarding surrounding species.

D. Shellfish Impacts

Ecological impacts from shellfish aquaculture have been reported from around the world. Two concerns, removal of phytoplankton and accumulation of solids, have been identified in comments to the Task Force. Other concerns such as the introduction of non-native species and interactions with wildlife are discussed separately.

As filter feeders, shellfish remove particulate matter (phytoplankton, zooplankton, and sediment) and dissolved organic matter from the water column (oligotrophication). Where shellfish are farmed in high numbers, there is the potential to directly compete with local biological communities for food. In Maine, however, shellfish aquaculture is not practiced at these extreme levels where depletion of phytoplankton has been detected.

Questions have been raised about bottom impacts, pseudofeces⁸ and oligotrophication. However these have not been identified as a problem in Maine.

Findings

1. Shellfish aquaculture does not appear to be causing unreasonable adverse impacts in Maine.

Recommendation

IX.10. DMR should conduct a “screening study” that emphasizes “worst case” conditions to assess what, if any, impacts shellfish aquaculture is having in Maine.

E. Invasive/Non-Indigenous/Exotic Species

Since aquaculture involves the movement of plants and animals across political and bio-geographic boundaries, the potential for introducing new species, diseases and parasites is a concern. Exotic or non-indigenous species may become invasive. If an introduced species occupies an unfilled ecological niche, lacks predators or diseases, they may grow unchecked to the detriment of indigenous species. Not all introductions become invasive or a nuisance, however. Aquaculture is not thought to have been responsible for the introduction of any present invasive or nuisance species (e.g. green crab, Asian shore crab, dead man fingers, sea squirt, etc.). It is widely acknowledged that a far greater threat is posed by the inadvertent introductions from recreational boating (fouling) and commercial shipping (fouling and ballast water). Several task forces (one here in Maine, one for New England, and another at the national level), Congress, and the Maine Legislature are dealing with the issue of exotic and invasive species on many levels.

Maine’s aquaculture lease law has the ability to regulate the species to be cultured. The movement of new species is addressed through Section 6071 of Chapter 24, Importing of certain marine organisms. Under this law,

1. "Nonindigenous species" means an organism belonging to a species that is not native to Maine, that is, that does not now exist naturally in Maine.
2. Permits are required to ... “introduce into coast waters a live marine organism...”
3. Permits are issued if the introduction will ...”not endanger the indigenous marine life or its environment.”
4. Public hearings are required for the introduction of new species.
5. DMR may adopt rules to regulate disease and parasites and impose specific conditions on the introduction of a nonindigenous species.
6. Species may be embargoed and condemned by the DMR Commissioner and,

⁸ Pseudofeces are the non-digestive tract waste products of shellfish (e.g. silt, non-edible algae, etc.). In some areas of the world where shellfish culture is more intensively practice than here in Maine, they have been found to accumulate in significant amounts.

7. The DMR Commissioner shall cooperate with other state and federal agencies.

Maine also has three Marine Fish Health Zones across which permits are required after veterinary approval to manage diseases and parasites.

Where concerns over introductions have emerged, the DMR has evaluated the risk posed by introducing new species. Recently, however, the issue of introducing species indigenous to Maine to areas of the coast where they are not known to occur has arisen. The Maine coast has an especially diverse set of habitats and contains many “isolated” embayments and estuaries. The biological communities there have evolved since glaciation to becoming somewhat unique while at the same time containing many ubiquitous species. It is unlikely that these introductions will become invasive given their history of non-invasive existence in Maine. Survival is determined in large measure by environmental conditions (e.g. temperature, salinity, etc.) and partially explains why many Maine species are not ubiquitous. If environmental conditions have not enabled the species to grow naturally, then there is less likelihood that the farmed organisms will thrive in the wild. Further, most areas of Maine have already been exposed to larval transport.

Findings

1. In Maine, no significant adverse impacts concerning invasive species or exotics have occurred as a result of aquaculture.
2. Inadvertent introductions from ballast water, recreational and commercial boats and natural dispersion pose the most serious threat.
3. Some species not indigenous to Maine (e.g. European oyster, northern quahog, rainbow trout, etc.) have been cultured in Maine for decades with no apparent adverse effect on local biological communities.
4. The definition of non-indigenous is relative. The issue of moving a new species into areas within Maine where they are not known to occur warrants investigation.
5. The transfer of organisms from one part of Maine to areas where it does not occur is of limited risk.
6. Movement of organisms within Maine warrants review and analysis to avoid movement of disease, parasites and ensure local compatibility.
7. Current lease decision criteria provide for review and prevention of adverse ecological impacts from the introduction or transplant of cultured organisms.

Recommendations

IX.11. Define “indigenous” as organisms known to occur or to have occurred in an area.

IX.12. Include genetically modified organisms (GMOs) as defined by the International Council for Exploration of the Sea (ICES) as “non-indigenous” or new species.

IX.13. DMR should develop a definition for “area” or “waterbody” in an ecological context.

IX.14. DMR should review the list of currently approved species to ensure that undesirable organisms are removed until scientific reviews are complete.

IX.15 Management of species movements should be made as requests arise so that the most current information on biology and ecology is employed.

F. Wild Atlantic salmon

The Gulf of Maine “distinct population segment” (DPS) of Atlantic salmon has been identified and listed as federally endangered. Eight Maine rivers are listed as having remnant populations. While it is generally agreed that salmon aquaculture did not cause the decline in wild Atlantic salmon, salmon aquaculture must take measures to minimize exposure of wild salmon to farmed salmon. The primary issues are genetic dilution, diseases and parasites, and intraspecific competition from escaped aquaculture fish.

The primary management tool to wild salmon restoration is limiting exposure to cultured salmon. This is done using a “belt and suspenders” approach; 1) preventing escapement and 2) ensure that all farmed fish are of North American origin if they do escape. If these are successful, then secondary considerations to wild salmon, e.g. disease and intraspecific competition, are neutralized. Separating salmon aquaculture from salmon rivers is practiced in Europe (e.g., Ireland and Scotland) to reduce the probability of escaped salmon from mixing with wild populations. Research is ongoing in Maine and the Maritimes to assess risks here. To date, emphasis in Maine has been to prevent escapement, manage sea lice and disease at low incidence, and identify farmed salmon so they may be removed if caught in the wild.

The effort to restore wild salmon includes participation at state (Atlantic Sea-Run Salmon Commission), federal (US Fish and Wildlife Service, National Marine Fisheries Service) and international (NASCO) levels. Two enforceable tools (DEP’s MEPDES permit and Army Corp Permit) have incorporated the following conditions:

- Prohibition of the intentional release of aquaculture fish;
- Phase out of existing non-North American stock;
- Genetic testing and reporting of all broodstock;
- Prohibition of transgenic salmonids;
- External marking to easily identify Maine aquaculture fish found in rivers;
- Marking by any means to identify fish to company hatchery or origin;
- A report on site-specific marking;
- Employment of a Containment Management System (CMS) with annual audits; and
- Reporting of escaped fish.

Findings

1. Many agencies and institutions are addressing issues related to wild Atlantic salmon and aquaculture.

Recommendations

IX.16. The State of Maine should work to ensure that Maine’s aquaculture regulatory and husbandry practices are compatible with the Recovery Plan for Atlantic Salmon.

IX.17. The Governor and the Legislature should request Congressional support for closer collaboration and cooperation with federal services.

IX.18. The Governor should insist on full participation of state, federal and industry sectors on the research on marking, tagging and identification.

IX.19. Support research into wild smolt emigration routes and pathways of exposure to assess risk from salmon farms.

IX.20. The Governor should require equitable treatment of all salmon aquaculturists, public and private, to implement permit conditions. (e.g. genetic testing, marking, fish health, and reporting be part of any permits for public hatcheries rearing Atlantic salmon)

G. Wildlife Interactions

Although interactions between commercial aquaculture and marine wildlife are noted in the literature, these impacts are not well documented in Maine. Issues center on human disturbance, acoustic harassment devices (AHDs), shooting, entanglement, and altering food-gathering behavior. Other than a joint DMR and University of Maine study on the interaction between seals and finfish aquaculture, studies of this type in Maine are rare.

The most common concerns in Maine are related to siting operations, especially but not only finfish, near eagle nests and seabird nesting colonies. Shellfish aquaculture is less of a problem due to its generally smaller size, less human activity, and lower visibility (submerged farms even less so). The DMR has no record, other than anecdotal, of shooting, entanglement, or harassment. Although some farmers have admitted to this in the past, better predator nets and “cleaner” husbandry (less food available) has reduced interactions.

Impacts to wildlife are considered in the leasing process and avoided. When an aquaculture lease is proposed, biologists from the Maine Department of Inland Fish and Wildlife, National Marine Fisheries Service, and the US Fish and Wildlife Service are given the opportunity to comment on the potential impact to wildlife with particular

attention paid to the list of Significant Wildlife Habitats. State wildlife biologists have stated that their biggest need is for more science and information to assess whether or not there is a problem in Maine.

Findings

1. Aquaculture is currently not known to be causing significant impacts to wildlife.
2. Proximity to physical human activity, noise, lights, and entangling material such as nets, are the primary factors of concern.
3. Programs, laws and procedures exist intended to address impact to wildlife.
4. Additional research is needed to better understand and assess the interactions between wildlife and aquaculture here in Maine.

Recommendations

IX.21. Support research into the impacts on wildlife, esp. nesting birds, and to identify causes of and develop practices to avoid adverse impacts.

IX.22. Encourage and support collaborative research between industry, state and federal wildlife agencies.

H. Monitoring

Monitoring environmental impacts of aquaculture in Maine has emphasized finfish due to its greater potential risk, however, in the last few years, shellfish impacts have also been investigated. Until recently the Maine Legislature exempted finfish growers from acquiring a waste discharge permit as long as it could be shown that water quality standards were attained. The Finfish Aquaculture Monitoring Program (FAMP) was a joint program between DEP and DMR developed to ensure that finfish aquaculture attained the goals of the federal Clean Water Act through the DEP Water Classification Program.

To cover the cost of monitoring equitably, a harvest tax (\$0.01/ pound) was imposed on production to fund the FAMP. This arrangement enabled the state to directly supervise industry-wide monitoring. This was not an enforcement program but provided information to the DEP (the agency responsible for water quality) who then worked with DMR and the industry to correct problems. The program used a tiered approach in that monitoring effort was proportional to environmental risk based on scale of operations and historical performance. The program continually evolved availing itself of new science and was endorsed by USEPA and Army Corps of Engineers.

In 2001, Maine was delegated responsibility for issuing federal wastewater discharge permits. An MEPDES permit was finalized in 2003 that contained monitoring provisions. Although many provisions are identical to those in the FAMP, there are additional requirements and techniques in the new permit. The added value of these

new tests has not been assessed but these additional requirements have significantly increased in the cost for monitoring.

Where FAMP can satisfy an aquaculture MEPDES permit it will do so. There is a bill before the Legislature proposing to eliminate the FAMP. Eliminating FAMP would reduce the DMR workload, however, it would also impact both the industry and the concerned public by removing the benefits envisioned by the Legislature when they established the program:

- unified and standardized program provided reliable and consistent data;
- required state regulators to be engaged in monitoring to understand the limitations and context of monitoring;
- advanced our scientific understanding of impacts;
- enabled predictive models to be built;
- enabled state regulators to provide technical assistance to farmers regarding environmental Best Management Practices; and
- annual reports on environmental conditions are produced and made available to the public.

Both agencies, DMR and DEP, can continue as they have in the past administering the FAMP as a joint project to ensure that water quality is protected. Which agency administers FAMP is less relevant.

Currently the FAMP fund supports one environmental monitoring position, half a pathologist position, and is scheduled to fully fund the hearing officer position beginning in 2005. The Task Force had concerns about the use of monitoring program funds to support these positions. Recognizing that the current difficulties with the state budget makes it unlikely that these positions could be funded in alternate ways in the near-term, the Task Force felt that DMR's comprehensive review of the fee structure should be used to examine other mechanisms for funding these positions.

Findings

1. The FAMP has provided an independent and robust surveillance program for the finfish aquaculture since 1991.
2. The Board of Environmental Protection recently developed the new MEPDES permit that contains more rigorous monitoring.
3. The Aquaculture industry is in a position to contribute some ambient monitoring data, however, there are distinct advantages to continuing a unified state managed monitoring program.

Recommendations

IX.23. DMR should continue to implement the FAMP funded by a harvest tax. Explore and update other fee schedules to fund hearings officer and pathologist positions.

IX.24. DMR and DEP should coordinate the MEPDES and FAMP monitoring provisions to avoid redundancy and use FAMP data to the maximum extent possible to cover MEPDES requirements.

IX.25. Encourage industry to participate in ambient water quality monitoring.

IX.26. The Legislature should require the DEP to evaluate the new MEPDES permit monitoring requirements for value and efficacy by 2005 and adjust as necessary.

IX.27. The legislature should charge DEP and DMR to coordinate any user fees and funding mechanisms they develop so as to minimize the cost of environmental monitoring without compromising the quality of the monitoring programs.

IX.28. The legislature should require the DEP and DMR to review the combined costs of their monitoring and environmental impact assessment programs and consider alternatives designed to achieve the same level of vigilance at lower cost.

X. INFORMATION, RESEARCH AND INDUSTRY PROMOTION

A. Public Information

Issue Summary

There is lack of knowledge, acceptance and support of aquaculture by some members of the general public and users of marine resources. This is, in part, due to little effort on behalf of the state and the industry to provide the public with ready access to information about aquaculture in Maine. Much of the published information about aquaculture relates to the situation in other parts of the world that may not accurately portray the aquaculture sector here in Maine. Consequently, some of the perception of aquaculture here may not be based on relevant information and there is a significant need to clarify some of this information so the public perception is based on factual information. The public has real and significant concerns about how aquaculture is being practiced and managed in Maine and there needs to be more sincere and transparent sharing of information by the industry and the agencies involved to ensure that the debate around the various issues is well informed.

Findings:

1. The Task Force noted that in many cases, the public did not have accurate information on how the leasing process works, criteria used in evaluating leases and aquaculture practices in general.
2. The Task Force also observed that there is public discomfort with DMR's dual role of regulating and developing the aquaculture industry.
3. The Commissioner of DMR is both the decision maker for aquaculture leases and a spokesperson for the industry.

Recommendations:

X.1. DMR should convene several appropriate organizations to develop a public information plan. Primary organizations that should be invited to the discussion include:

**Department of Marine Resources
Maine Aquaculture Innovation Center (MAIC)
Maine Aquaculture Association
Maine Coastal Program
University of Maine Sea Grant Program**

Secondary organizations that should also be invited to participate include:

**Finance Authority of Maine (FAME)
University of Maine School of Marine Sciences
Island Institute
Coastal Enterprises Inc. (CEI)
Marine Educators Association
Gulf of Maine Research Institute**

Maine Dept. of Education
Maine Dept. of Agriculture, Food and Rural Resources
Cobscook Bay Resource Center
Downeast Institute for Applied Marine Research & Education

Charge the above group to identify areas where public information is needed and develop a plan to address these information needs. The group should consider the following categories of education needs:

- **Regulatory:** Inform the public about the regulatory structure (state and federal) and how to participate in the leasing process. Inform the public on the progress of specific lease applications and permits (See recommendations in section on leasing, Section VI (A) (3).
- **Environmental Concerns:** Inform the public about issues such as Endangered Species Act listing of wild Atlantic Salmon, ecological concerns, and husbandry.
- **Legislative Actions:** Inform the public about upcoming bills, public hearings, and resulting changes to statute or regulation.
- **Publicity About Industry:** Inform the public about new tenants in incubators, new research facilities, grant awards, small business success stories, innovations, research breakthroughs, etc.
- **K-12 Education:** Reprint and distribute MAIC high school curriculum, and provide teacher training on the curriculum, increase aquaculture presence in high school math/science activities such as the National Ocean Sciences Bowl, statewide science fair, etc.
- **University Education:** Encourage the University and Community College System to enhance and more aggressively promote their aquaculture degree programs, and establish links between their programs.

The planning group should identify practitioners to carry out these activities and seek funding to support the implementation of these education initiatives. The Task Force recommends specifically that:

- Printed materials used to inform the public and municipalities on the leasing process should be updated; and
- Recreational/hobby aquaculture should be encouraged as a way to engage and educate the public about aquaculture.

X.2. The Governor and legislative leaders should encourage the Maine Congressional Delegation to secure funds for aquaculture public information.

X.3. Ensure that the Department of Economic and Community Development's (DECD) promotion of aquaculture includes a public affairs

function, duties to include (See recommendation X that would transfer responsibility for industry development to DECD):

- **Communication with the public, the industry and the legislature about leasing, regulatory and policy issues regarding aquaculture;**
- **Solicitation of public and industry input and feedback on policy ideas under consideration;**
- **Distribution of press releases, organization of press conferences as appropriate;**
- **Convening of focus groups, meetings and forums to bring together diverse interests as needed; and**
- **Develop regular vehicles for communication (email lists, e-newsletters, etc.) between the department and constituent groups.**

B. Research

Issue Summary

Research and Development has played a major role in areas where aquaculture has grown to be a significant economic contributor. Jurisdictions such as Norway, Chile, New Brunswick, British Columbia and Prince Edward Island share several common characteristics that are worth noting. In each case, resources were *focused on a single species* for which there were few unknowns about biological, site and equipment performance. Also in each case, *a significant and continuous investment in public research and development was made*, as a way of supporting the growth of industry. (Gardner Pinfold Economic Study, 2003)

Maine has not had a single species focus on research to support aquaculture. A wide range of research is needed in the areas of genetics, broodstock development, new species development, shellfish and finfish technology, developing new feeds and production technologies.

Greater focus on aquaculture research has begun in Maine with the establishment of a new aquaculture research facility in Franklin in 2001. This facility has the potential to become a nationally significant academic aquaculture research center. As of 2003, \$14m of federal funds have been allocated to this project, with more construction and staffing expected over the next five to ten years. Another initiative in the planning stages at Orono, the Maine Aquaculture Research Institute, would coordinate and focus resources on aquaculture topics of interest to the Maine industry.

Aquaculture is a “targeted industry” of Maine’s Economic Development strategy. The Maine Technology Institute and the Maine Aquaculture Innovation Center have funded a number of companies and research institutions to develop new production methods and technologies for the Maine aquaculture industry.

Through the University system and other research institutions in Maine, Maine has the opportunity to develop a more robust capacity to conduct scientific investigations to help develop improved technologies, better evaluate the ecological compatibility of aquaculture along our coasts, and to inform our decision makers. At present, the research activity in Maine is entrepreneurial and piece-meal and in need of better coordination.

Findings

1. The Task Force noted several suggestions for additional research made through public comments. Most of these suggestions focused on a need to better understand the impacts of aquaculture on the environment. (See Recommendation #1 below for a list of research themes)
2. There is a need to increase the priority level and funding dedicated for aquaculture at the University level.
3. Maine has limited resources for aquaculture research. It is critical that existing resources are deployed as effectively as possible.
4. There is a need for the research community and industry to have a regular forum for dialogue and review of research priorities.

Recommendations

X.4. The Governor, the Legislature and industry should strongly voice their support and expedite the recently initiated plan for the Maine Institute for Aquaculture at the University of Maine. The proposed Institute would greatly strengthen aquaculture research for Maine and address many of the findings of this Task Force.

X.5. DMR and the University of Maine should convene a group of research organizations, industry representatives, and pertinent NGOs for the purposes of setting priorities for aquaculture research, determining which species have the most potential for development and should be the focus of research efforts, and accessing bond funds to support aquaculture research. Specifically, this planning group should:

- a. **Use the 2003 Gardner-Pinfold study and other references and resources as a guide in determining which species have the most potential for economic development in Maine; and**
- b. **Consider research needs, including those that were identified by the Aquaculture Task Force in their deliberations:**
 - **Ecological impact studies (nutrient carrying capacity, modeling of nutrient loading, assessment of monitoring needs, predictive nutrient loading based on biomass in the pens, risk assessment associated with PCBs (and other toxins) in farmed fish, Eutrophication studies – proportionate contribution from discharging aquaculture, impact of shellfish aquaculture on primary productivity, predictive capacity for benthic impacts;**

- **Gear/Husbandry technology and development (improved anti-escapement gear, improved tagging technologies, alternative feed development to minimize the use of forage fish);**
- **Genetics and stock development (breeding for disease resistance and growth); and**
- **Socio-economic studies (cost/benefit to coastal communities, market research, value added/niche markets.**

X.6. The DMR should convene a formal annual meeting between representatives of research institutions, industry, and pertinent NGOs to review aquaculture priorities and foster communication and collaboration between these two groups.

X.7. Ask the University of Maine to add an aquaculture seat on the Agricultural Advisory Council. This will help ensure that there is adequate faculty and focus on aquaculture.

X.8. Encourage the University of Maine’s School of Marine Science to fill their shellfish aquaculture position as soon as possible.

C. Industry Development and Product Promotion

Issue Summary

Maine’s aquaculture industry has two distinct sectors: finfish (salmon) and shellfish. Maine’s finfish sector is a small part of a large, consolidated global industry. Three multi-national firms dominate Maine’s salmon industry. Maine’s shellfish industry is an owner-operator entrepreneurial industry with enough profit margin to be viable on a small scale. The development needs of these two sectors are very different.

Maine has made a minimal effort to develop aquaculture as an industry sector. State agencies have focused on creating a regulatory structure (leasing, monitoring, etc.) and not on business incentives for the aquaculture industry. There are general business development programs available, but no specific incentives have been developed for the aquaculture industry. Most of the industry development work has been done by the Maine Aquaculture Innovation Center, supplemented by the DMR and Maine Aquaculture Association. Sea Grant provides technical extension services to support aquaculture growers.

The state provides minimal product promotion for Maine aquaculture products. Aquaculture products haven’t been featured in Maine Tourism Bureau or Maine Dept. of Agriculture promotional programs. It should be noted that other jurisdictions have provided a wide variety of support to the development of aquaculture. Typical forms of support are grants, credit and loan programs, tax incentives and tax relief, government marketing programs, government training programs, physical infrastructure such as government hatcheries and government

equity positions in aquaculture businesses. In early stages of development, direct support in the form of grants and government-supported basic research is most needed. Once a species is established commercially, greater emphasis is typically placed on R&D and extension services.

Findings

1. In the finfish sector, more could be done to encourage processing and private growout businesses in Maine.
2. In the shellfish sector, there is a need to encourage entrepreneurs and to provide them with tools to help them succeed.
3. As regulator of the aquaculture industry, DMR is not the appropriate agency to lead economic development and promotion activities for the aquaculture industry.
4. There is a need to provide technical expertise to inform the economic development efforts for the aquaculture industry.

Recommendations

X.9. Lead responsibility for development of the aquaculture industry should be moved to the Department of Economic and Community Development (DECD) as part of its business development and science and technology programs. (language for proposed statutory change is provided in Appendix A.1, section 1)

X.10. Lead responsibility for market promotion of aquaculture should be moved to the Dept. of Agriculture (DAFFR) to become part of their market development and product promotion programs and benefit from USDA financial support. (language for proposed statutory change is provided in Appendix A.1, section 2)

X.11. Recognizing that DECD staff possesses economic development resources and DAFFR possesses agriculture promotion resources but both DECD and DAFFR lack aquaculture industry expertise, DECD should take the lead in forming an Aquaculture Industry Development Working Group with committed participation from the Maine Aquaculture Innovation Center, the Maine Aquaculture Association, and DMR. The charge of the Aquaculture Industry Development Working Group would be to advise and provide technical expertise to the DECD on aquaculture development and DAFFR aquaculture promotion, develop aquaculture business incentives, link aquaculture with existing business support programs and services, and find funding or reallocate resources for a grant writer and a business development specialist in aquaculture.

X.12. The legislature should continue to support the Maine Aquaculture Innovation Center and the DMR in their work to provide technical support and develop Maine's aquaculture industry.

X.13. The legislature should continue to support the Maine Technology Institute in its work to provide research and commercialization grants for aquaculture.

X.14. DECD should convene business development meetings between the state and multi-national salmon firms to determine what they need to encourage local entrepreneurs to grow fish for them and what they need to continue fish processing in Maine. Examples of possible incentives:

- **Increase number of acres a single company can lease (so they can support a processing plant in Maine);**
- **Find ways to encourage and enable owner-operator finfish businesses; and**
- **Explore traditional business support programs such as tax incentives, tax credits, employee training, etc.**

X.15. The Department of Agriculture should engage in product promotion activities that will result in Maine aquaculture products being recognized as sustainably produced, superior quality products in the Northeast region.

These activities should include:

- **Initiating a study to test the acceptance of a sustainable certification program for Maine finfish and shellfish products; (MAA is already seeking grant funds to do this. Also, Nova Scotia is preparing to study this.)**
- **Featuring finfish and shellfish aquaculture in “Get Real, Get Maine” and Maine Bureau of Tourism promotional campaigns;**
- **Writing regular press releases about innovation and business success for Maine aquaculture businesses. Focus this effort on Maine media outlets including local weeklies, local television and regional papers;**
- **Linking to the nutrition education network(s) in Maine and the medical community to educate consumers about the health benefits of consuming seafood; and**
- **Promoting and encouraging the Maine Aquaculture Training Institute in their effort to train new shellfish aquaculturists.**

X.16. DECD should provide the tools and support needed by aquaculture entrepreneurs to succeed in their businesses. These include:

- **Linking aquaculture entrepreneurs to existing small business services and training programs. Where possible, programs should be customized to fit the needs of aquaculture producers, as has been done in customizing the Fastrac business course for farmers;**
- **Providing matching funds to entrepreneurs to allow them to attend conferences, visit aquaculture sites in other parts of the world and get training in culture methods. Exploring ways that Sea Grant, the Maine Technology Institute and the Maine International Trade Center could fund this effort;**

- **Initiating research trade missions to mussel production areas in Canada and Europe as a way of expediting rope cultured mussel production in Maine. Research trade missions for other species should be considered, as well;**
- **Ensuring that affordable access to the water is available on a coast-wide basis to those building aquaculture businesses; (MAA and MAIC are participating in the Working Waterfront Coalition that provides public outreach and policy development on this issue.)**
- **Exploring the concept of developing “Lighthouse Zones”, meaning specific tax incentives or tax credits for those investing in aquaculture; and**
- **Provide micro-loans or grants to stimulate entry into the business and support start up companies.**

X.17. DMR and IF&W should encourage the development of aquaculture techniques for wild stock enhancement.

APPENDIX A: PROPOSED LANGUAGE FOR STATUTORY AND REGULATORY CHANGES

A.1

Sec. 1. 5 MRSA §13056, sub-§6 is amended to read:

6. Implement programs. Implement economic and community development programs which are assigned to the department by the Governor or Legislature, including those formerly administered by the following other state agencies:

- A. The programs of the State Development Office; ~~and~~
- B. Other community planning and development assistance programs of the State Planning Office; and
- C. Aquaculture industry development; and

Sec. 2. 7 MRSA §401-B, first ¶, as enacted by PL 1983 c. 563, §1, is amended to read:

To further the purposes of this Part, the commissioner shall initiate and implement programs necessary to facilitate the effective, profitable marketing of Maine agricultural products. For the purposes of this subchapter, the terms "agricultural products" and "farm products" include products of aquaculture as defined in Title 12, section 6001, subsection 1. These programs ~~shall~~ include, but are not be limited to, the following.

Sec. 3. 12 MRSA §6070 is enacted to read:

§6070. Legislative Findings

The Legislature finds that the following is a vision of marine aquaculture in Maine:

Marine aquaculture is an important and compatible element in Maine's diverse coastal economy. Aquaculture contributes to satisfying global market demands and benefits local communities and the public interest by producing high quality products, providing economic opportunities, and operating in an environmentally sustainable fashion. Maine's planning and regulatory process is adaptive, inclusive and fair, and supports the growth of the industry in an economically competitive and environmentally sustainable way.

Principles for Marine Aquaculture

1. A working waterfront is critical to Maine's coastal future. Marine aquaculture will be part of Maine's working waterfront.
2. Aquaculture will be one of many uses of Maine's coastal environment that can be accomplished so as to be compatible with other activities such as commercial fishing and in harmony with natural resources.

3. Marine aquaculture will be practiced in an environmentally sustainable fashion and will not cause permanent ecological damage.
4. Maine's aquaculture leasing program will model integrity in all aspects of its operation.
5. The State of Maine will encourage local participation in aquaculture permitting decisions.
6. Maine's aquaculture laws and regulations will provide flexibility to address change while recognizing both the need for regulatory stability, and for stability in the use of the public resource.
7. Maine's aquaculture leasing process will provide for open communication amongst stakeholders.
8. Maine's aquaculture monitoring program will feature state-of-the-art environmental monitoring.
9. Marine aquaculture can only flourish with high water quality.
10. Marine aquaculture offers the potential to bring substantial economic value and diversity to the state and its communities.
11. The State of Maine will create a welcoming environment for a range of investments in marine aquaculture.
12. The State of Maine will encourage the development of locally-owned and Maine-based operations.
13. The State of Maine will provide and encourage incentives for innovation in marine aquaculture.

Sec. 4. 12 MRSA §6072 sub-§2(E) is amended to read:

E. The lease does not result in a person being a tenant of any kind in leases covering an aggregate of more than ~~250~~ 500 acres; and

Sec. 5. 12 MRSA 6072 sub-§5-A is amended to read:

5-A. Department site review. Prior to the lease hearing, the department shall conduct an assessment of the proposed site and surrounding area to determine the possible effects of the lease on commercially and ecologically significant flora and fauna and conflicts with traditional fisheries. ~~This review must take place any time between April 1st and November 15th.~~ This information must be provided to the interveners and made available to the public 30 days before the hearing. As part of the site review, the department shall request information from the municipal harbor master about designated or traditional storm anchorages in proximity to the proposed lease. The commissioner may by rule establish levels of assessment appropriate to the scale or potential environmental risk posed by a proposed lease activity. The rules must provide a method of establishing a baseline to monitor the environmental effects of a lease activity. Rules adopted pursuant to this subsection are major substantive rules pursuant to Title 5, chapter 375, subchapter II-A.

Sec. 6. 12 MRSA §6072 sub-§7-A is amended to read:

7-A. Decision. In evaluating the proposed lease, the Commissioner shall take into consideration the number and density of aquaculture leases in an area and~~The Commissioner~~ may grant the lease if the proposed project meets the following conditions as defined by rule:

- A. Will not interfere with the ingress and egress of riparian owners;
- B. Will not unreasonably interfere with navigation;
- C. Will not unreasonably interfere with fishing or other uses of the area ~~taking into consideration the number and density of aquaculture leases in an area~~. For the purposes of this paragraph, “fishing” includes public access to a redeemable shellfish resource, as defined by the department, for the purpose of harvesting, provided that the resource is commercially significant and subject to a pollution abatement plan that predates the lease application, that includes verifiable activities in the process of implementation and that is reasonably expected to result in the opening of the area to the taking of shellfish within 3 years;
- D. Will not unreasonably interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and surrounding marine and upland areas to support existing ecologically significant flora and fauna;
- E. The applicant had demonstrated that there is an available source of organisms to be cultured for the lease site;
- F. The lease does not unreasonably interfere with public use or enjoyment within 1,000 feet of ~~municipally owned, state owned or federally owned beaches and parks or municipally owned, state owned or federally owned docking facilities;~~ beaches, parks, docking facilities owned by federal, state or municipal governmental agencies or certain conserved lands. For purposes of this paragraph, “conserved lands” shall mean a) land in which fee ownership has been acquired by the local, state or federal government in order to protect the important ecological, recreational, scenic, cultural or historic attributes of that property or b) land that has been protected through fee ownership or conservation easement with funding from the Land for Maine’s Future Program.

The Maine State Planning Office shall maintain a list of conservation lands as defined above. DMR will request this information from SPO prior to any pre-application scoping session held.

- G. Will not result in unreasonable impact from noise or light at the boundaries of the lease site; and

- H. Upon the implementation of rules, the lease must be in compliance with visual impact criteria adopted by the commissioner relating to color, height, shape and mass.

The commissioner shall adopt rules to ~~quantify permissible impact under paragraph G and~~ to establish noise, light and visual impact criteria under paragraphs G and H, which are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A.

Sec. 7. 12 MRSA §6072 sub-§12 is amended to read:

- 12. Renewal.** The commissioner shall renew a lease if:
- A. The commissioner receives, at least 90 days prior to the termination of a lease, an application for renewal that includes information on the type and amount of aquaculture to be conducted during the new lease term;
 - B. The lessee has complied with the lease agreement during the term of the lease;
 - C. The commissioner determines that renewal of the lease is in the best interest of the State;
 - D. The renewal will not cause the lessee to become a tenant of any kind in leases covering an aggregate of more than ~~250~~ 500 acres; and
 - E. The lease is not being held for speculative purposes.

When aquaculture has not been routinely or substantially conducted on a lease that is proposed for renewal, the commissioner may renew the lease, as long as the proposed renewal will continue to meet the criteria for approval in subsection 7-A.

~~A lease renewal is an adjudicatory proceeding under Title 5, chapter 375, subchapter 4. Public notice must be given as required under subsection 6 and a hearing must be held if it is requested in writing by 5 persons.~~

The commissioner shall provide notice of a proposed lease renewal as required under subsection 6. A person may provide to the commissioner comments on the proposed lease renewal within 30 days of receipt of notice, or within 30 days of publication of notice. A public scoping session, as defined in rule, must be held if it is requested in writing by 5 or more persons.

The commissioner may hold a public hearing on a proposed lease renewal. If a hearing is held, it shall be an adjudicatory proceeding held in accordance with Title 5, chapter 375, subchapter 4.

Sec. 8. 12 MRSA §6072 sub-§12-A is amended to read:

12-A. Transferability. A lease may be transferred to another person for the remaining portion of its term subject to the following conditions.

A. Lease transfers shall be subject to the same procedural requirements as initial applications, except that a public hearing is not mandatory ~~unless requested in writing by 5 persons.~~ The commissioner shall provide notice of a proposed lease transfer as required under subsection 6. A person may provide to the commissioner comments on the proposed lease transfer within 30 days of receipt of notice, or within 30 days of publication of notice. A public scoping session, as defined in rule, must be held if it is requested in writing by 5 or more persons.

The commissioner may hold a public hearing on the proposed lease transfer. If a hearing is held, it shall be an adjudicatory proceeding held in accordance with Title 5, chapter 375, subchapter 4.

B. The commissioner may grant lease transfers if the commissioner determines that:

- (1.) The change in lessee does not violate any of the standards in subsection 7;
- (2.) The transfer is not intended to circumvent the intent of subsection 8;
- (3.) The transfer is not for speculative purposes; and
- (4.) The transfer will not cause the transferee to be a tenant of any kind in leases covering an aggregate of more than ~~250~~ 500 acres.

Sec. 9. 12 MRSA §6072-A sub-§6 is amended to read:

6. Public hearing. The commissioner may hold a public hearing on the proposed limited-purpose lease. ~~The commissioner shall hold a public hearing if 5 or more persons request a public hearing within the 30-day comment periods provided in subsection 5.~~ The commissioner shall provide notice of a public hearing to owners of riparian land within 1,000 feet of the proposed location of the lease and to the municipal officers of the municipality in which the limited-purpose lease activity would take place. The commissioner shall publish notice of a public hearing in a newspaper of general circulation in the area proposed for a limited-purpose lease at least 30 days before the hearing.

~~**7. Notice of public hearing.** The commissioner shall provide notice of a public hearing to owners of riparian land within 1,000 feet of the proposed location of the lease and to the municipal officers of the municipality in which the limited-purpose lease activity would take place. The commissioner shall publish notice of a public hearing in a newspaper of general circulation in the area proposed for a limited-purpose lease at least 30 days before the hearing.~~

7. Public Scoping Session. The commissioner shall hold a public scoping session, as defined in rule, if 5 or more persons request a public scoping session within the 30-day comment periods provided in subsection 5.

Sec. 10. 12 MRSA §6673 is amended to read:

§6673. Municipal leasing of flats

A municipality, which has established a shellfish conservation program as provided under section 6671, may lease areas in the intertidal zone to the extreme low water mark, within the municipality for the purpose of shellfish aquaculture. A municipality may grant a lease to any person.

~~1. **Municipal procedure.** A lease application written on a form supplied by the commissioner may be approved by the municipal officers if they find that it conforms to the shellfish program, that it will not cause the total area under lease to exceed 1/4 of all the municipal intertidal zone that is open to the taking of shellfish and that granting it is in the best interests of the municipality. On approval, the lease must be forwarded to the commissioner.~~

1. Application. The municipality shall review an application for a municipal lease on a form supplied by the municipality. The municipality shall publish a summary of the application in a newspaper of general circulation in the area of the proposed lease. A person may provide comments to the municipality on the proposed municipal lease within 30 days of publication of the lease summary.

~~2. **Department procedure for review and approval.** The commissioner shall use the same procedure and the same grounds for approval as required for aquaculture leases under section 6072, except:~~

- ~~A. Preference shall be given to municipal leases;~~
- ~~B. No rent shall be set, but there shall be an annual municipal lease fee of not less than \$1 per acre;~~
- ~~C. The municipality may establish the conditions and limits on the lease; and~~
- ~~D. The advice and consent of the advisory council shall not be required.~~

2. Decision. A lease may be approved by the municipal officers provided that:

- A. The lease conforms to the shellfish program;
- B. The lease will not cause the total area under the lease to exceed 1/4 of all the municipal intertidal zone that is open to the taking of shellfish;
- C. Granting the lease is in the best interests of the municipality;
- D. The lease will not unreasonably interfere with ingress and egress of riparian landowners within 1,000 feet of the lease;

- E. The lease will not unreasonably interfere with navigation;
- F. The lease will not unreasonably interfere with fishing or other uses of the area
- G. The lease will not unreasonably interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and surrounding marine and upland areas to support existing ecologically significant flora and fauna;
- H. The applicant has demonstrated that there is an available source of organisms to be cultured for the lease site; and
- I. The lease does not unreasonably interfere with public use or enjoyment within 1,000 feet of municipally owned, state-owned or federally owned beaches and parks or municipally owned, state-owned or federally owned docking facilities.
- J. Municipal authority to grant a lease under this statute does not limit in any way the authority of the DMR to issue leases in the intertidal zone in accordance with 6072, 6072-A, and 6072-B.

3. Municipal Leases. On approval, the lease must be forwarded to the DMR commissioner. The municipality may charge a lease rental fee not to exceed \$50 per acre. The municipality may establish the conditions and limits on the lease. Leases may be granted for a period of up to ten years and shall be renewable upon application by the leaseholder. Renewals shall be granted provided the lease continues to meet the criteria of paragraph 2 of this section. The terms and conditions of a municipal lease shall be monitored and enforced by the municipality.

Sec. 11. 38 MRSA §3 is amended to read:

§3. Mooring sites

In all harbors wherein channel lines have been established by the municipal officers, as provided in section 2, and in all other coastal and tidal waters, harbors and great ponds where mooring rights of individuals are claimed to be invaded and protection is sought of the harbor master, the harbor master shall assign and indicate only to the masters or owners of boats and vessels the location that they may occupy for mooring purposes and shall change the location of those moorings from time to time when the crowded condition of that harbor or great pond, the need to conform to section 7-A or other conditions render the change desirable.

Unless permitted by an ordinance adopted under section 3-A, mooring assignments may not be transferred. Assignments may not be rented unless the provision for rental was part of the agreement when the mooring was assigned.

Assignment of these mooring privileges does not confer any right, title or interest in submerged or intertidal lands owned by the State. To the extent that there is any inconsistency between this subchapter and any law which establishes or otherwise provides for a port authority, board of harbor commissioners or similar authority for any coastal waters of the State, that inconsistency shall be resolved in favor of this subchapter.

Whenever practicable, the harbor master shall assign mooring privileges in those waters where individuals own the shore rights to a parcel of land, are masters or owners of a boat or vessel and are complainants, and shall locate suitable mooring privileges therefore for boats and vessels, temporarily or permanently, as the case may be, fronting their land, if so requested, but not to encroach upon the natural channel or channels established by municipal officers; provided that not more than one mooring may be assigned to any shore-front parcel of land under this privilege. Notwithstanding section 11, persons who, prior to January 1, 1987, owned shore rights of at least 100 feet of frontage regardless of the size of the lot shall have mooring privileges assigned according to this section. The limitation of one mooring assigned under this privilege shall not prevent the owner of a shore-front parcel from receiving additional mooring assignments under the allocation system for all other residents.

A harbor master may refuse to assign mooring privileges to any vessel or boat owner or master who has not paid any fee, charge for services, forfeiture or penalty levied pursuant to this subchapter.

Municipalities do not have jurisdiction over the siting or specifications of structural moorings used to secure aquaculture equipment within the boundaries of a lease site issued pursuant to §6072, §6072-A, or §6072-B.

Municipalities do not have jurisdiction over boat or vessel moorings within the boundaries of a lease site issued pursuant to §6072, §6072-A, or §6072-B.

A.2

2.7 Pre-Application Requirements for Standard Leases

Prior to filing an application for a lease with the department, an applicant shall attend a pre-application meeting to discuss the proposed application with the harbormaster and/or a municipal officer or other designee of the municipality in which the proposed lease is located and DMR staff. The pre-application meeting will be held in the municipality in which the proposed lease is located. The purpose of the meeting is for the applicant to introduce the proposal to the municipality and the Department and for the applicant and the Department to gain local knowledge from the municipal officials. In addition the pre-application meeting will specifically define the environmental baseline or characterization requirements and other informational needs, including approximate location of the lease site, that the Department determines are necessary to adequately present the proposed lease for review.

At the request of the municipality or the Department, the The applicant shall hold a pre-application scoping session. The pre-application scoping session will be held in the municipality in which the proposed lease is located. The purpose of a pre-application scoping session shall be to:

- familiarize the general public with the proposal
- allow the public an opportunity to provide the applicant with additional local information prior to development of an application
- allow the public an opportunity to ask questions of the applicant and the Department,
- and to provide the Department with information that can be used during the Department site review.

The applicant is required to attend the pre-application scoping session.

The Department shall provide notice of the scoping session to riparian landowners within 1,000 feet of the proposed lease, and to officials of the municipality or municipalities in which the proposed lease would be located, or the proposed lease abuts. All other interested individuals or parties may request to be placed on the Department's service list for notification of these meetings or other proceedings relating to the processing of aquaculture lease applications.

The Department shall issue a press release to the print media regarding the public scoping session and the applicant shall publish a notice in papers of general circulation in the area of the proposed lease.

After a scoping session, the applicant has 6 months to file a completed application. During this 6-month period the DMR cannot accept an application for a lease in the same area.

2.15 Notice of Lease Application and Hearing

1. Notice of Completed Application

At the time that an application is determined to be complete in accordance with Chapter 2.10(4), the Department shall forward a copy of the completed application to the known riparian owners within 1,000 feet of the proposed lease and to the officials of the municipality or municipalities, including the harbormaster if applicable, in which the proposed lease would be located, or the proposed lease abuts, as listed on the application.

~~1. Public Scoping Session~~

~~The Department shall determine whether or not to conduct an informal public scoping session on the aquaculture lease application. Any public scoping session would be held in the municipality in which the proposed lease is located and be~~

~~scheduled prior to the Department's site work. The purpose of a public scoping session shall be to familiarize the general public with the content of the application, to allow the public an opportunity to ask questions of the applicant and the Department, and to provide the Department with information that can be used during field work or agency review of an application.~~

~~The applicant is required to attend a public scoping session on the application when one is held.~~

~~The Department shall provide notice of the scoping session to riparian landowners within 1,000' of the proposed lease as indicated in the application, and to officials of the municipality or municipalities in which the proposed lease would be located, or the proposed lease abuts. All other interested individuals or parties may request to be placed on the Department's service list for notification of these meetings or other proceedings relating to the processing of aquaculture lease applications.~~

~~The Department will issue a press release to the print media regarding the public scoping session and shall also publish a notice in papers of general circulation in the area of the proposed lease.~~

2.37 Decision

2. Conditions

The Commissioner may establish conditions that govern the use of the leased area and limitations on the aquaculture activities. These conditions shall encourage the greatest multiple, compatible uses of the leased area, but shall also address the ability of the lease site and surrounding area to support ecologically significant flora and fauna and preserve exclusive rights of the lessee to the extent necessary to carry out the lease purpose. A harbormaster and/or a municipal officer or other designee of the municipality may recommend that the Commissioner establish conditions on a proposed lease in writing to the department during the comment period. The department shall consider any conditions recommended by the municipality, and the department shall provide a written explanation to the municipality at the time a draft decision is written if the condition is not imposed on a proposed lease.

The Commissioner may grant the lease on a conditional basis until the lessee has acquired all the necessary federal, state and local permits. A lease may not be finally approved unless the Commissioner has received certification from the Department of Environmental Protection (DEP) that the project will not violate the standards ascribed to the receiving waters classification, 38 M.R.S.A. §465-B and DEP has issued any required National Pollution Discharge Elimination System Permit governing the discharge of pollutants pursuant to section 402 of the Clean Water Act and 38 M.R.S.A. §413. The Commissioner may require environmental monitoring of a lease site (see Chapter 2.37(2)) and may establish

any reasonable requirements to mitigate interference, including but not limited to restrictions on:

- A. specific stocking limits, feeding requirements, husbandry techniques and harvesting methods;
- B. the size and shape of gear, nets, or enclosures;
- C. the deployment and placement of gear; and
- D. the timing of various project operations.

A. 3

Proposed Regulations on Noise and Light

Lighting

Applicability. These rules apply to all exterior lighting used on buildings, equipment, and vessels at all aquaculture facilities, with the exception of lighting for navigation, emergencies, and construction of a temporary nature.

Exterior lighting. All exterior lighting shall be mounted in full cutoff fixtures. A full cutoff fixture is one that projects no more than 2.5% of light above the horizontal plane of the luminaire's lowest part.

All exterior lighting shall be designed, located, installed, and directed in such a manner as to illuminate only the target area and to reduce glare.

Do not use spot lights or flood lights or lights that project anywhere other than directly down upon the area to be illuminated.

Exterior lighting shall be no more than 250 watts per fixture, with the exception of required navigational lighting.

Husbandry lighting. If used, all husbandry lighting shall be submersible and operated at all times below the water line.

An applicant shall demonstrate that all reasonable measures will be taken to mitigate light impacts from the lease activities.

Control of noise

Applicability. These rules apply to the routine operation of all aquaculture facilities, including harvesting, feeding, and tending equipment at leases authorized by the Department of Marine Resources, with the following exemptions:

- Watercraft, harvest or transport barges, and maintenance equipment while underway;
- The unamplified human voice and other sounds of natural origin;
- Bells, whistles, or other navigational aids;
- Emergency maintenance and repair of aquaculture equipment;
- Warning signals and alarms; and
- Events not reasonably within the control of the leaseholder.

Mitigation:

All motorized equipment used at an aquaculture operation shall be designed or mitigated to reduce the broadband sound level produced to the maximum extent practical. Practical mitigation means that portable gasoline powered equipment shall have mufflers or be operated within a structure.

Centralized feeding barges, or feeding distribution systems, shall be designed or mitigated to reduce noise by the installation most effective commercially available baffles at air intakes and outlets, mounting of all relevant equipment to minimize vibration between it and the hull, and the most effective commercially available soundproofing insulation.

All fixed noise sources shall be directed away from any residences or areas of routine use on adjacent land.

An applicant shall demonstrate that all reasonable measures will be taken to mitigate noise impacts from the lease activities.

A. 4

Proposed Visual Impact Criteria

Applicability. This rule applies to all equipment, buildings, and watercraft used at an aquaculture facility, excluding watercraft not permanently moored at a lease location such as harvest or feed delivery vessels. Other equipment or vessels not moored within the boundaries of a lease, but routinely used or owned by an aquaculturalist are subject to these requirements. The Department reserves the right to review what equipment, buildings, or watercraft at a particular lease are subject to these requirements.

Building profiles. The size, height, and mass of buildings and equipment used at aquaculture facilities shall be considered so as to minimize the visual impact as viewed from the water.

Height limitations. All buildings, vessels, barges, and structures shall be no more than 20 feet and one story in height from the water line. Height shall be measured from waterline to the top of the roof or highest fixed part of the structure or vessel. This height limit excludes antennae, cranes, and other appurtenant structures. Structures that exist or are under construction at the time of enactment of this rule are exempted from the height restriction for their useful lifetime.

Roof & siding materials. Roofing and siding materials shall not be reflective or glossy in appearance or composition.

Color. Equipment and structures shall be painted, or be of, such a color that does not contrast with the surrounding area. Acceptable hues are grays, blacks, browns, blues, and greens that have a sufficiently low value, or darkness, so as to blend in with the surrounding area. Colors shall be flat in appearance.

The color of equipment, such as buoys, shall not compromise safe navigation or conflict with US Coast Guard Aids to Private Navigation standards.

APPENDIX B: RESOLVE, TO ESTABLISH A TASK FORCE ON THE PLANNING AND DEVELOPMENT OF MARINE AQUACULTURE IN MAINE

CHAPTER 40

H.P. 1112 - L.D. 1519

Resolve, To Establish a Task Force on the Planning and Development of Marine Aquaculture in Maine

Emergency preamble. Whereas, Acts and resolves of the Legislature do not become effective until 90 days after adjournment unless enacted as emergencies; and

Whereas, marine aquaculture is controversial and of great public interest. There is controversy surrounding its impact on the environment, existing wild fisheries, recreation, tourism and conserved land; and

Whereas, marine aquaculture is an important element of the State's marine economy and is a legitimate use of state water; and

Whereas, the process by which state water is leased for the conduct of marine aquaculture is affected by this controversy, which is leading to lengthy administrative procedures, litigation and acrimony; and

Whereas, there is an immediate need for a distinguished group of citizens to deliberate upon state policy for aquaculture leasing in order to develop a broader consensus on the place of aquaculture among other sectors of the marine economy; and

Whereas, in the judgment of the Legislature, these facts create an emergency within the meaning of the Constitution of Maine and require the following legislation as immediately necessary for the preservation of the public peace, health and safety; now, therefore, be it

Sec. 1. Task force established. Resolved: That the Task Force on the Planning and Development of Marine Aquaculture in Maine, referred to in this resolve as "the task force," is established; and be it further

Sec. 2. Task force membership. Resolved: That the task force includes 11 members of the public with expertise in marine resources, fisheries, economic development, business, planning and natural resource conservation to be appointed by the Governor; and be it further

Sec. 3. Chair. Resolved: That the task force shall elect a chair from among its members; and be it further

Sec. 4. Appointments; convening of task force. Resolved: That all appointments must be made no later than 30 days following the effective date of this resolve. Within 15 days after appointment of all members, the Chair of the Legislative Council shall call and convene the first meeting of the task force; and be it further

Sec. 5. Staff assistance; technical assistance. Resolved: That the Department of Marine Resources, with cooperation from the Maine Coastal Program of the Executive

Department, State Planning Office, shall provide staff services to the task force. The task force or the department may also seek or contract for technical assistance from any other agency, institution, individual or group that it determines appropriate to support the work of the task force; and be it further

Sec. 6. Issues to be considered. Resolved: That the task force shall, at a minimum, consider the following issues in developing its recommendations on how to balance the range of potential uses of state waters and plan for the growth of marine aquaculture while considering all applicable scientific data and all reasonable constraints and opportunities:

1. Any bay management or aquaculture development strategies presently being developed in this State and in other national and international jurisdictions that allocate or plan for amounts of aquaculture within geographically defined areas. An examination of these examples must include an investigation of the type of information and technical and financial resources needed to implement such a plan in this State;
2. The present size and characteristics of the industry, as well as the short-term, 2-year, and long-term, 10-year, projections of industry growth, based on market demand and capital investment;
3. An assessment of the impacts aquaculture has on tourism, recreation, conserved lands and surrounding fisheries and the ecological health of any bay where aquaculture is located;
4. An assessment of how the external impact of aquaculture farms can best be mitigated in an equitable and effective fashion;
5. An assessment of present decision-making criteria for granting leases;
6. An assessment of the role of municipal government in the leasing application and approval process;
7. An assessment of the economic impacts aquaculture has on the State; and
8. A review and assessment of all state and federal law relating to submerged property and riparian rights and whether such law is adequate to address current issues relating to the use of Maine's coastal waters; and be it further

Sec. 7. Public meetings. Resolved: That, in examining these issues, the task force shall meet to the extent necessary to fulfill its duties, as well as hold at least 4 public meetings held in different regions of the coast expressly for the purpose of receiving public comment and testimony on its work; and be it further

Sec. 8. Stakeholder Advisory Panel established. Resolved: That the Stakeholder Advisory Panel, referred to in this resolve as "the advisory panel," is established to provide information to the task force at the solicitation of the task force and to review and comment upon the draft report of the task force as provided in this resolve. The task force shall periodically consult with the advisory panel regarding issues identified in this resolve. The advisory panel consists of 11 members, appointed within 30 days following the effective date of this resolve, as follows:

1. Two members of the finfish aquaculture industry, with one member representing a large finfish company and one member representing a small finfish company, appointed by the Speaker of the House of Representatives;
2. Two members of the shellfish aquaculture industry, with one member representing a small shellfish company and one member representing a large shellfish company, appointed by the President of the Senate;
3. One member representing the fishing industry, appointed by the Speaker of the House of Representatives;
4. One member from a coastal municipality who is a municipal official, appointed by the President of the Senate;
5. One member who is of the commercial recreational industry, such as a boat or schooner captain, appointed by the Speaker of the House of Representatives;
6. One member representing a marine industry, such as boat builders or marinas, appointed by the President of the Senate;
7. One member representing the land conservation field, appointed by the Speaker of the House of Representatives;
8. One member representing the environmental field, appointed by the President of the Senate; and
9. One member representing the tourism industry, appointed by the Speaker of the House of Representatives; and be it further

Sec. 9. Report. Resolved: That the task force shall submit a draft report that includes its draft findings and recommendations to the advisory panel no later than December 31, 2003. The advisory panel must review the draft report of the task force and submit its recommendations on the draft report to the task force no later than January 15, 2004. The task force must meet to review the recommendations of the advisory panel and make its final report to the Joint Standing Committee on Marine Resources and the Legislative Council no later than January 31, 2004. If the task force chooses not to include one or more of the recommendations of the advisory panel in its final report, the task force must include in its final report an explanation of the reason why it chose not to adopt that recommendation. The task force may submit legislation to the Second Regular Session of the 121st Legislature, not later than January 31, 2004, to implement the recommendations in its final report. If the task force requires an extension of time to complete its report, it may apply to the Legislative Council, which may grant the extension; and be it further

Sec. 10. Compensation. Resolved: That the members of the task force and the advisory panel, unless otherwise compensated by their employers or other entities that they represent, are entitled to receive reimbursement of necessary expenses for their attendance at authorized meetings of the task force or the advisory panel. The Commissioner of Marine Resources shall use funds from the department's existing resources for costs incurred in carrying out the purposes of this resolve.

Emergency clause. In view of the emergency cited in the preamble, this resolve takes effect when approved.

Effective May 21, 2003.

APPENDIX C: TASK FORCE PROCESS

Structure of the Task Force, the Stakeholder Advisory Group and Appointments

The makeup of the Task Force (TF), the Stakeholder Advisory Panel (SAP) and a description of how the appointments to the Task Force and SAP were made is described in Appendix B, *Resolve to Establish a Task Force on the Planning and Development of Marine Aquaculture in Maine*.

Task Force Members

- ❖ Paul Anderson, Director Maine Sea-Grant Program, Chair of the Task Force
- ❖ Josie Quintrell, Director of Policy & Planning, Gulf of Maine Ocean Observing System, Vice Chair of the Task Force
- ❖ Brian Beal, Professor, University of Maine, Machias
- ❖ Jim Dow, Executive Director, Blue Hill Heritage Trust
- ❖ Des Fitzgerald, Businessman, Camden, Maine
- ❖ Paul Frinsko, Attorney, Member Atlantic Salmon Commission
- ❖ Anne Hayden, Marine Resources Consultant
- ❖ Will Hopkins, Director, Cobscook Bay Resource Center
- ❖ Don Perkins, Director, Gulf of Maine Research Institute
- ❖ Van Perry, formerly Finance Authority of Maine, currently, North East Bank
- ❖ Jim Salisbury, Retired, US State Department Fisheries Attache'

Stakeholder Advisory Panel Members

- ❖ Rob Bauer, Maine's Best Seafood, Blue Hill Shellfish company representative (large company)
- ❖ Sebastian Belle, Maine Aquaculture Association, Hallowell Finfish aquaculture industry representative (large company)
- ❖ Roger Fleming, Esq., Conservation Law Foundation, Rockland Environmental field representative
- ❖ Chris Hamilton, Maine Coast Heritage Trust, Topsham -- replaced by Rich Knox Land conservation field representative
- ❖ Eric Horne, Chance Along Farms, Freeport Shellfish aquaculture representative (small company)
- ❖ Patrick Keliher, Coastal Conservation Association, Yarmouth Commercial recreation industry representative
- ❖ Carolyn Manson, Maine Tourism Association, Hallowell Tourism industry representative
- ❖ David Turner, Engelhard Corp., Perry Fishing industry representative
- ❖ Tom Morris, Morris Yachts, Bass Harbor Marine industry representative
- ❖ Dave Schmanska, Harbormaster, Town of St. George Coastal municipality representative
- ❖ Erick Swanson, Trumpet Island Salmon Farm, Mount Desert Finfish aquaculture industry representative (small company)

Facilitation Services

Prior to the appointment of the Task Force, a decision was made by Department of Marine Resources and State Planning Office (SPO) staff to procure the services of a neutral, professional facilitator to a) design a workable process for the Task Force; b) to design an approach for interaction of the TF and Stakeholder Advisory Panel; and c) to guide the TF through completion of its work by the prescribed deadline. A limited request for proposals was sent out to facilitation/mediation firms by SPO. Four responses were received and scored by a staff team using established criteria and three firms were interviewed by the team. SPO contracted with RESOLVE Inc. based on the content of the proposal received, results of the interview and the agreed upon cost for completion of the work. RESOLVE's senior mediator, Bruce Stedman was assigned to the project in July, 2003 and provided facilitation services during the duration of the TF's process.

Preparation Before Convening the Task Force

During July and August 2003, the facilitator conducted convening interviews with the Task Force and Stakeholder Advisory Panel members. The purpose was to learn more about their perspectives on the issues facing the Task Force, and to elicit their input and suggestions for the elements needed to conduct an impartial and balanced assessment of marine aquaculture planning and development in Maine. The convening process is also intended to enhance the proposed process for developing consensus recommendations and to fully understand the Task Force members' expectations.

The convening questions were communicated to participants in advance of scheduled interviews, which were conducted by telephone and lasted between 45 and 90 minutes each. All Task Force and most SAP members were interviewed. The draft summary of the Task Force interviews was made available to all participants. SAP member interview information was used by the facilitator to prepare for working with the SAP and the Task Force.

The convening questions and interviews provided an opportunity, at the onset of the process, for the Task Force members to begin gathering information, considering the varying perspectives on issues, testing their assumptions regarding the anticipated barriers or obstacles, and begin developing ideas for addressing the identified issues and concerns.

Task Force Leadership

A chair and vice chair were chosen by the TF from its membership through a nomination process. Paul Anderson agreed to serve as Chair and Josie Quintrell agreed to serve as vice-chair. The Chair and/or the Vice Chair served as liaison between the TF and the staff between meetings, participated in weekly conference calls with the staff and facilitator and worked with the facilitator between meetings to finalize agendas.

Additionally, the chair represented the TF at the Blaine House Conference on Natural-Resource Based Industries and presented the results of the TF's work to the Governor in January. The Chair or Vice Chair convened all meetings of the TF, worked with the facilitator to keep meetings on track, worked towards resolution of issues, proposed assignments for staff and other members of the TF, made requests to the SAP and on occasion, represented the TF in interviews with the press.

Meetings of the Task Force

Meetings of the Task Force were held on:

- August 7 and 8, 2003 Eastport, ME
- September 4 and 5, 2003, Walpole, ME
- September 25 and 26, 2003 Blue Hill, ME
- October 16, 2003, Rockland ME
- November 6, 2003 Brunswick, ME
- November 20, 2003, Eastport, ME
- December 4 and 5, 2003, West Bath, ME
- December 18, 2003, Belfast, ME
- December 29 and 30 conference calls
- January 22, 2004, Augusta ME

The content of all meetings was planned by the staff, with input from the Task Force Chair (and on occasion, Vice Chair) and the facilitator. Meeting locations were chosen to provide for geographic diversity and to allow the TF to get a first hand look at the aquaculture industry and local/regional issues through field trips. Each TF meeting had one or more themes chosen from the Legislative Resolve. White papers on meeting topics were provided to the TF in advance of each meeting by staff, stakeholders and experts. The first six meetings of the Task Force constituted the learning and deliberation phase of the process, where the TF heard various panels and presentations and began to isolate those issues of most concern to them. The first three of these meetings included field trips in Cobscook Bay, the Damariscotta River and Blue Hill Bay, respectively. The last three meetings of the Task Force and conference calls in December were devoted to the development and deliberation of findings and recommendations. Meeting notes were recorded by DMR and SPO staff at each meeting of the Task Force and transcribed into a draft meeting summary. After review and approval by the Task Force, all meeting summaries were posted to the TF website. Meeting agendas, supporting materials and meeting summaries are available at www.state.me.us/dmr/aquaculture/aqtfmeeting.htm

Public Meetings

The Legislative Resolve charged the Task Force with holding four public meetings. Public meetings were held in the following locations on the following dates.

- September 25, 2003 Blue Hill Town Hall, Blue Hill, ME
- October 16, 2003 Trade Winds Motor Inn, Rockland, ME
- November 6, 2003, Travelodge Atrium, Brunswick, ME
- November 19, 2003 Washington County Community College, Eastport, ME

Each public meeting was advertised in a newspaper of general circulation prior to the meeting. A sample public meeting notice is included in Appendix G.

At each public meeting, members of the public signed up to speak and were afforded six minutes each in the sign-up order. The chair and facilitator described the process at the beginning of each meeting, and large wall posters identified the process and topics for late arrivals. The facilitator notified each speaker when their time had expired; speakers with additional comments were afforded one (or more) additional speaking time (s) at the end of the list. When provided, the Task Force received written versions of speakers' comments and additional detailed materials. During each speaker's comments, Task Force members took individual notes and they could ask questions of the speakers; DMR staff members also took notes and developed a summary of comments.

The complete record of testimony provided to the Task Force by members of the public is available at www.state.me.us/dmr/aquaculture/aqtfmeeting.htm under meeting summaries. Staff also provided the TF with a summary, organized by topic, of the public meeting comments (provided in Appendix H). Electronic mail was also used by members of the public to provide comments to the TF. All comments sent by e-mail to the TF from members of the public are available at www.state.me.us/dmr/aquaculture/aqtaskforce/submissions/submissionspublic.htm, categorized by topic area.

How Task Force Requested and Received Advice from the Stakeholder Advisory Panel

Task Force and SAP Interaction During Task Force Meetings:

- Meeting Attendance. Task Force asked that SAP members attend as many of the Task Force meetings as possible to represent their constituencies and be available when the Task Force members had questions involving the different areas of expertise.
- Questions for Expert Panelists. During the meetings, the facilitator took questions from the SAP members directed toward expert presenters. As experts themselves, the SAP members presented questions that needed to be asked (the answers to which the Task Force members needed to hear).
- Due to the short of amount of time available to the Task Force, the facilitator worked with the SAP during meetings to take questions directed to the experts, with only limited comments on the presentations, questions directed to the Task Force, or debate on the issues. Opportunities for these other modes of advice were available at other times.
- Open Time. 15 minutes at end of each half day was provided during which SAP members brought issues to the attention of the Task Force.
- Expert Presentations. The Task Force asked each SAP member that wished to do so, make at least one expert presentation as part of the learning phase of the process, either as a panelist or to assist with guiding and providing expertise during field trips. These were also opportunities for the SAP members to present their constituency's views.

TF and SAP Interaction Between Task Force Meetings

- **Solicited Written In-Put.** The Task Force requested issue papers (including brief descriptions of the problem and recommendations), comments, or critiques on various topics (especially pertaining to their constituency's views) to assist the consideration of topics.
- **Unsolicited Written In-Put.** The Task Force requested that SAP members and sub-groups proactively develop and submit issue papers, comments, or critiques on topics, (especially pertaining to their constituency's views).
- **Written Constituency In-put.** SAP members forwarded the questions, views, concerns, and ideas from their constituencies in writing and through presentations to the Task Force.
- Where possible, materials submitted to the Task Force from the SAP have been made available for viewing at www.state.me.us/dmr/aquaculture/aqtaskforce

TF and SAP Interaction At the End of the Process

- **Critique of Draft Recommendations.** As described in the Legislative Resolve, the SAP was charged with reviewing and critiquing the Task Force's draft recommendations. Bruce Stedman of RESOLVE Inc. provided facilitation services to the SAP at their January 8, 2004 SAP meeting. The SAP submitted their written critique to the TF on January 15, 2004.
- The Task Force was charged in the Resolve with considering the SAP's comments and providing a written response back to the SAP. The Task Force reviewed the SAP's comments on January 22, 2004 and agreed upon their responses. The document with the Task Force responses was sent to the SAP on January 26, 2004.

Subcommittees

Throughout the TF process, individual TF members volunteered to explore topics on their own or in conjunction with one or two other TF members. In November, 2003 this arrangement was formalized through the creation of five subcommittees of the TF. The work of subcommittees was conducted both in person and via conference calls. The membership of the subcommittees, the lead TF member and the staff assigned to the subcommittees were as follows:

<i>Subcommittee</i>	<i>TF Members</i>	<i>Lead Staff</i>	<i>Support Staff</i>
Leasing Process	Paul Frinsko (lead) Jim Salisbury Don Perkins	Mary Costigan	David Etnier
Bay Management	Josie Quintrell (lead) Anne Hayden Des Fitzgerald Paul Anderson	David Etnier	Deirdre Gilbert Kathleen Leyden
Conserved Lands & Special Areas	Jim Dow (lead) Anne Hayden Van Perry	Kathleen Leyden	Deirdre Gilbert

Environmental/Ecological Impacts	Brian Beal (lead) Will Hopkins Paul Anderson	John Sowles
Education, Research & Industry Promotion	Van Perry (lead) Paul Anderson	Sue Inches (industry promotion) Kathleen Leyden (education)

Decision making: Consensus, Voting

The Task Force agreed early on in their process to strive for consensus and worked by consensus as much as possible on matters of policy, process, findings, and recommendations. The Task Force agreed that their final report would consist of one document and not involve majority and minority reports. On several issues the TF was unable to reach consensus and used a voting process to determine the sense of the group, how each member stood on the issue and whether consensus would be possible. In cases where full consensus was not possible, the text of the Task Force report describes the nature of the dispute and describes the range of views held by individual Task Force members.

When the Task Force met to respond to recommendations from the Stakeholder Advisory Panel (SAP), the Task Force relied on consensus where possible and votes when necessary. The consensus decisions and any necessary votes are recorded with each of the recommendations in the SAP Final Report. Those SAP recommendations that the Task Force accepted by consensus or majority vote are included in the Task Force's Final Report.

Task Force Report

Each subcommittee of the TF submitted findings and recommendations for review by the entire Task Force. Some of the work was developed for the subcommittees with the help of staff, other subcommittees worked independently. In situations where there was no subcommittee (i.e. tourism, commercial fishing) staff captured TF deliberations and drafted findings and recommendations. In all cases, the written materials were reviewed and edited by the entire Task Force and formally approved for inclusion in the draft report. Review of draft findings and recommendations was begun at the TF's November 2003 meeting in Eastport, and continued at the TF's two December 2003 meetings in West Bath and Belfast. The Task Force held two conference calls on December 29th and December 30 to review the draft report. Decisions made during conference calls were reviewed by the full Task Force during subsequent meetings. An editing group consisting of a subgroup of the TF also convened on December 31st.

APPENDIX D: TASK FORCE MEETING MATERIALS:

(Materials submitted to the Task Force through their email address: marine.aqua@maine.gov can be viewed by topic at the Task Force website: www.maine.gov/dmr/aquaculture)

Area of Study (from Resolve)	Background Materials/Presentations
<ul style="list-style-type: none"> • Bay Management 	<p><u>Handouts: Eastport</u></p> <ul style="list-style-type: none"> • Clew Bay CLAMS Plan • Bay of Fundy Marine Aquaculture Site Allocation Policy • Maine Bay Management Agreement • Voluntary Area Management Agreement Olnafirth, etc. <p><u>Presentations: Eastport</u> David Jackson, <i>Marine Institute</i>: The Challenges of Aquaculture Management Sebastian Belle, <i>Maine Aquaculture Association</i>: Maine’s Finfish Bay Management Agreement Kim Lipsett, <i>New Brunswick Director of Aquaculture</i>: New Brunswick Bay of Fundy Site Allocation Policy</p> <p><u>Handouts: Walpole</u></p> <ul style="list-style-type: none"> • Shellfish Aquaculture & Carrying Capacity by Carter Newell • Biophysical Carrying Capacity by John Sowles • Cortes Island Coastal Plan for Shellfish Aquaculture • Building A Model For Sustainable West Coast Shellfish Aquaculture Production: Productive Capacity Study of Gorge Harbour, Cortes Island, BC • Locational guidelines for the Authorisation of Marine Fish Farms in Scottish Waters • Taking Charge of Maine’s Future: Establishing a Marine Planning and Management Program by Roger Fleming • A Shellfish Grower’s Response to Bay Management by Eric Horne <p><u>Presentations: Walpole</u> Panel Discussion - Bay Management Coalition: Roger Fleming, <i>CLF</i>; Vivian Newman, <i>Sierra Club</i>; Sally McCloskey, <i>EPBEA</i>; Steve Perrin, <i>Friends of Taunton Bay</i>; Sally Littlefield, <i>Innkeeper</i>; Dick Davis, <i>Sorrento</i> Panel Discussion – Carrying Capacity: John Sowles, <i>DMR</i>; Larry Mayer, <i>Umaine</i>; Mary Jane Perry, <i>Umaine</i>; Neal Pettigrew, <i>Umaine</i>; Chris Davis, <i>Pemaquid Oyster</i> Boat Tour- Eric Horne, <i>Chance Along Farm</i>, and Dick Clime of <i>Dodge Cove Marine Farm</i> participated in the tour of the Damariscotta River</p>
<ul style="list-style-type: none"> • Economic impact of aquaculture on ME <ul style="list-style-type: none"> ○ Economic Impacts ○ Viability & Growth Projections 	<p><u>Handouts: Eastport</u></p> <ul style="list-style-type: none"> • Scope of Work for Gardiner Pinfold Contract <p><u>Handouts: Rockland</u></p> <ul style="list-style-type: none"> • Draft Economic Study by Gardner Pinfold • Economic Impact of Aquaculture in Maine – 2-page summary of Gardner Pinfold report • Economic Impact of Aquaculture in Maine, For the Maine Aquaculture Innovation Center by Planning Decisions, Inc. • Side-by-side comparison of the Gardner-Pinfold and Planning Decisions economic reports (provided by Michael Hastings) • Thoughts on the Economics of Marine Aquaculture by Rob Bauer <p><u>Presentations: Rockland</u> Michael Gardner, <i>Gardiner Pinfold, LLC</i>, and Andrew Storey, <i>Aquaculture Management Services, Inc.</i> Status Report: Marine Aquaculture Impact and Viability Study Rob Bauer, <i>Maine’s Best Seafood</i> Industry Panel: Grace Cleaves, <i>Maine Coast Products</i>; Peter Cowin, <i>Seabait Ltd.</i>; Chip Davis, <i>Great Eastern Mussel Farm</i></p>

	<p><u>Materials placed on website</u> The Coastal and Ocean Economy of Maine: A Preliminary Report, The National Ocean Economics Project February 2002 The Changing Ocean and Coastal Economy of the United States: A Briefing Paper for Governors By Charles S. Colgan, Prepared for National Governors Association</p>
<p>Impacts on:</p> <ul style="list-style-type: none"> • Tourism 	<p><u>Handouts: Brunswick</u></p> <ul style="list-style-type: none"> • White paper on Tourism Impacts by Carolyn Manson • Powerpoint presentation on tourism in ME • Letter from Maine Restaurant Association by Richard Grotton <p><u>Presentations: Brunswick</u> Carolyn Manson, <i>Maine Tourism Association</i> Vaughn Stinson, <i>Maine Tourism Association</i> Dick Grotton, <i>Maine Restaurant Association</i></p>
<ul style="list-style-type: none"> • Recreation 	<p><u>Handouts: Brunswick</u> White paper on Recreational Impacts by Pat Keliher <u>Presentations: Brunswick</u> Pat Keliher, <i>Coastal Conservation Association</i></p>
<ul style="list-style-type: none"> • Conserved Lands 	<p><u>Handouts: Blue Hill</u></p> <ul style="list-style-type: none"> • Hard copy of MCHT Presentation to Aquaculture Task Force • Acadia National Park briefing statement on aquaculture from David Manski, <i>Acadia National Park</i> <p><u>Presentations: Blue Hill</u> Chris Hamilton, <i>Maine Coast Heritage Trust</i> Terry DeWan, <i>TA Dewan & Associates</i> Boat Tour: Chris Hamilton, <i>Maine Coast Heritage Trust</i>, Terry DeWan, <i>TA Dewan & Associates</i></p>
<ul style="list-style-type: none"> • Wild Fisheries 	<p><u>Presentations: Eastport (2nd)</u> Panel Discussion: Impacts on Wild Fisheries: Bruce McInnis, scallop and urchin fisherman, Cobscook Bay Fishermen's Association; Randy Cushman, scallop, urchin, and lobster fisherman, Cobscook Bay Fishermen's Association</p>

<ul style="list-style-type: none"> • Wild Salmon 	<p><u>Handouts: Eastport</u> North Atlantic Salmon Conservation Organization (NASCO)</p> <ul style="list-style-type: none"> • Resolution to Minimise Impacts from Salmon Aquaculture on the Wild Salmon Stocks (The Oslo Resolution) • Agreement on Implementation of the Oslo Resolution <p><u>Presentations: Eastport</u> Ken Beland, <i>Maine Atlantic Salmon Commission</i>: Identification and Exclusion of Aquaculture Origin Salmon from Maine Rivers John Kocik, <i>NOAA Fisheries</i>: Overview of Regional Assessment and Research Related to Aquaculture Fred Whoriskey, <i>Atlantic Salmon Federation</i>: Interactions between Wild and Escaped Farmed Salmon in Atlantic Canada Stephen Chase, <i>Atlantic Salmon Federation</i>: Atlantic Salmon Federation Submission to The Task Force on the Planning and Development of Marine Aquaculture in Maine</p> <p><u>Handouts: Walpole</u> Generic Containment Management System</p>
<ul style="list-style-type: none"> • Ecological Health 	<p><u>Handouts: Eastport (2nd)</u></p> <ul style="list-style-type: none"> • White paper from John Sowles: Water Quality and Benthic Impacts • Stakeholder concerns with the Benthic and Water Quality Impacts of Aquaculture (by Roger Fleming) • White paper from John Sowles: Green Slime • Fact sheet on therapeutants used in Maine aquaculture (John Sowles) <p><u>Presentations: Eastport (2nd)</u> Panel discussion: John Sowles, DMR; Roger Fleming, CLF</p> <p><u>Materials placed on website</u> Maine Aquaculture Review, February 2003, Prepared by Normandeau Associates & Batelle Authorization to Discharge under the National Pollutant Discharge Elimination System for Acadia Aquaculture, Inc.</p>
<ul style="list-style-type: none"> • External Impacts 	<p><u>Handouts: Walpole</u></p> <ul style="list-style-type: none"> • Memo from Andy Fisk: External Impacts <p><u>Handouts: Blue Hill</u></p> <ul style="list-style-type: none"> • Memo from Judy Gates: Adoption of Chapter 315 Assessing and Mitigating for Impacts to Existing Scenic and Aesthetic Uses • DEP Chapter 315: Assessing and Mitigating Impacts to Existing Scenic and Aesthetic Uses • DEP Chapter 315: Assessing and Mitigating Impacts to Existing Scenic and Aesthetic Resources - Factsheet • Memo from Andy Fisk: Noise and Light Guidelines • Memo from Andy Fisk: Examples of Visual Impact Standards • DMR Performance Guidelines for Minimizing Noise & Light from Marine Aquaculture Farms <p><u>Presentations: Blue Hill</u> Panel Discussion: Andy Fisk, <i>DEP</i>; Judy Gates, <i>DEP</i>; David Manski, <i>Acadia National Park</i> Boat Tour: Mark Peterson, <i>Great Eastern Mussel Farms</i>, Erick Swanson, <i>Trumpet Island Salmon Farm</i>, Eliot and Linda Paine, <i>riparians</i></p> <p>Stakeholder Advisory Panel summary of October 3rd meeting to discuss proposed noise, light, and visual impact regulations</p>

<ul style="list-style-type: none"> Assessment of existing lease criteria and process 	<p><u>Handouts: Walpole</u> Memo from Andy Fisk: Regulatory Review <u>Presentations: Walpole</u> Andy Fisk & Mary Costigan – Overview of leasing process</p> <p><u>Handouts: Brunswick</u> Background Materials on Lease Process from Mary Costigan <u>Presentations: Brunswick</u> Mary Costigan, DMR ; Jon Lewis, DMR; Marcy Nelson, DMR Aquaculture Lease Administrative Process</p> <p><u>Handouts: Eastport</u> Memo from USFWS on impacts on wildlife and habitat <u>Presentations: Eastport</u> John Sowles, DMR: GIS maps illustrating constraints on finfish and shellfish siting</p>
<ul style="list-style-type: none"> Municipal Role in lease application and review 	<p><u>Handouts: Walpole</u> Memo from Andy Fisk on Municipal Jurisdiction <u>Presentations: Walpole</u> Dave Schmanska participated in the tour of the Damariscotta River Paul Bryant, Damariscotta Harbormaster</p> <p><u>Handouts: Rockland</u> Paper on Municipal Jurisdiction by Dave Schmanska <u>Presentations: Rockland</u> Q&A with Dave Schmanska</p>
<ul style="list-style-type: none"> Review and assessment of state and federal law relating to submerged property and riparian rights 	<p><u>Handouts: Rockland</u></p> <ul style="list-style-type: none"> Aquaculture and Use Conflicts: Implications of the Public Trust Doctrine and Riparian Rights Municipal Participation in Submerged Lands Leasing Decisions Memo from Andy Fisk on Municipal Jurisdiction <p><u>Presentations: Rockland</u> Jeff Pidot, Office of the Attorney General Dan Prichard, Department of Conservation Kathleen Leyden, Maine Coastal Program</p>

APPENDIX E: ENFORCEMENT PROTOCOL

Please check type of lease below:

- Finfish
- Bottom Shellfish
- Suspended Shellfish

D R A F T
AQUACULTURE CHECKOFF LIST

Each aquaculture lease site within an officer's patrol area must be visited at least ONCE a year. The visit must be recorded on the below report and then forwarded along to Section Supervisor.

Officer Name	
Date of Inspection	
Name of Lease Holder	
Location of Lease	
Is Lease Properly Marked? (Circle one)	Yes or No
Is Lease Properly Licensed by DMR? (Circle one)	Yes or No
List Licenses Held	
Cultivation Technique	
Species Cultivated	

Conditions of Lease Site Met Did not meet
Explain overall condition of lease site (i.e., trash, loose gear, etc.):

Gear within Lease Boundaries Yes No
If no, explain:

Have you received complaints regarding this lease site? If so, please explain:

Comments:

APPENDIX F: INDUSTRY OVERVIEW

Maine's Aquaculture Industry

The Maine aquaculture industry consists of three segments: hatcheries, growout operations and processing. Of these three areas, growout operations are by far the largest in revenues and employment. Three species dominate production: Atlantic salmon, blue mussel and American oyster. Total value of production is estimated at \$57 million, with salmon accounting for 95% of this. This represents a decline from the late 1990s, when higher salmon production and prices resulted in a \$75-80 million industry.

Maine's aquaculture industry has two distinct sectors: finfish (salmon) and shellfish. Maine's finfish sector is a small part of a much larger, highly consolidated global industry. Maine salmon farms supply less than 5% of the US market, and represent less than 1% of salmon produced worldwide. Currently, processing facilities, feed and equipment are supplied from outside of Maine and Maine's industry could be characterized as a grow-out operation that supports Canadian and Norwegian firms.

Maine's salmon aquaculture industry has undergone many changes since it began twenty years ago. It started as an entrepreneurial opportunity, with wholesale prices above \$5.00/lb and margins strong enough to encourage small operators to enter the business. Over a period of fifteen years, farm raised salmon moved from a high priced niche product to a low priced global commodity. Prices dropped steadily, reaching lows of less than \$2.00/lb in 2002. During this period, most growout sites in Maine were purchased by multinational firms and significant investments were made in automation. In 2001, ISA (Infectious Salmon Anemia) disease prevented importation of Canadian fish to Maine processing plants and decreased Maine's harvest. A severe winter in 2002 also reduced Maine's salmon harvest. These factors resulted in the closure of two processing facilities in Maine and greatly reduced production at the remaining two. Direct employment in salmon aquaculture has fallen from about 1000 in the late 1990s to just 330 today. While aquaculture remains an important contributor to the economy, the expectation that Maine's coastal economy (especially Downeast) would be rebuilt based on thousands of aquaculture jobs has not been realized.

Maine's shellfish aquaculture industry is centered primarily along the mid- and southwest coast and produces mussels, oysters, hard clams and surf clams for growout and/or sale of seed juveniles to culturists in Maine, New England, and elsewhere. A public aquaculture program for soft-shell clams has existed in Maine since 1987. Private shellfish culture is an owner-operator industry with a high enough profit margin to be viable on a small scale. It is not an easy business to get into, however. The long lead time (usually three years) from hatchery to commercial product, and the risks of disease, pollution and predators make shellfish aquaculture unattractive to some entrepreneurs. Maine shellfish growers see enough growth in demand to support their operations for the next 10-20 years. (Experiments with Urchins, Sea Scallops, Halibut and Cod are underway but are far from commercialization in Maine at this time.)

Maine’s aquaculture industry is concentrated in two geographic areas: Cobscook Bay, where most of the salmon is produced, and in the Damariscotta River estuary where much of the oyster production takes place. Mussels are grown in various locations along the mid-coast area using both raft and bottom culture techniques.

Aquaculture Compared With Other Industries

Maine salmon landings have produced the second highest revenues of all Maine fisheries for the past ten years. Salmon and shellfish aquaculture are similar in value to other Maine agricultural products. The tables below compare the value of Maine aquaculture with other fisheries and agriculture in the state.

Species	Pounds Landed, 2002	Value, 2002
Lobster	62.3m	\$207m
Salmon Aquaculture	14.9m	\$30m*
Groundfish (all species)	22.5m	\$22.5m
Clams	2.5m	\$14.8m
Shellfish Aquaculture	1.1m	\$3m

Numbers given above are estimates based on landings reported to DMR and from revenue estimates from Gardner Pinfold study and the Portland Fish Exchange.

*Five year average value of salmon landings is \$54m, 2002 was a down year due to fallowing for disease and a severely cold winter.

Maine Products	Pounds Harvested	Value, 2001-2002
Lobster	62.3m	\$207m
Dairy	654m	\$106.6m
Salmon	14.9m	\$30m
Blueberries	62.3m	\$15.9m
Apples	47m	\$11.6m
Shellfish Aquaculture	1.1m	\$3m

In addition to looking at aquaculture in comparison to other Maine products, a look at aquaculture’s placement in the within the state’s economy and within the marine-related economy is a useful exercise. Aquaculture is one sector of Maine’s natural resource-based economy that traditionally includes fishing, aquaculture, forestry and agriculture⁹ This sector remains a foundation of Maine’s economy although the combined contribution to Maine, as both a provider of jobs and of wealth, has diminished over time. In the Year 2000, employment in fishing, farming and forestry together comprised 8.3% of Maine’s total employment base. In 2003, direct employment in aquaculture (330 jobs) represents .05% of Maine’s total employment base.

A 2001 study by the State Planning Office¹⁰ stated that the natural-resource based industries together were expected to continue to contribute roughly 9-10% to Maine’s

⁹ **Fishing, Farming and Forestry, Resources for the Future, Maine State Planning Office, 2001** Data from this report is not directly comparable with that contained in the Gardner-Pinfold study.

¹⁰ **Fishing, Farming and Forestry, Resources for the Future, Maine State Planning Office, 2001** Data from this report is not directly comparable with that contained in the Gardner-Pinfold study.

Gross State Product into the future. Of the total contribution to the GNP from these industries, fishing and aquaculture represent the smallest subsector. In the year 2002, aquaculture contributed .10% to the Maine's Gross State Product.

The marine-related economy is subset of Maine's coastal economy. The National Ocean Economics Project characterizes the ocean economy as including those industries that are directly and partially dependent on the ocean, including seven broad economic sectors.¹¹ Figures from the National Ocean Economics Project (NOEP)¹² were used to view the relative importance of fisheries and aquaculture with other sectors. NOEP's draft figures for Maine were used in this comparison¹³.

The relative importance of the "living marine resource" sector to Maine's ocean economy is shown in the following table. In this case, living marine resources includes canned and cured seafood and fresh or frozen packaged fish. No further breakdown for traditional fisheries and aquaculture was included in this study, and figures available from other sources were not directly comparable and therefore were not used.

Ocean Economy Output by Sector (1997)¹⁴

Sector	Total Output¹⁵	Value Added¹⁶
Tourism and Recreation	\$2,780,121,000	\$1,030,622,000
Transportation	\$2,713,589,000	\$524,272,000
Living Marine Resources	\$382,707,000	\$49,049,000
Marine Construction	\$44,956,000	N/A
Minerals	\$14,921,000	\$6,168,000
Research	N/A	N/A

These figures show that aquaculture is a small but important sector of Maine's natural resource-based economic sector. It adds to the diversity of Maine's coastal economy, and

¹¹ Construction and rehabilitation including marine construction and such activities as beach nourishment and coastal storm repairs. Living resources, including commercial fishing, fish processing and aquaculture. Minerals, including oil and gas and sand and gravel. Tourism and recreation, including lodging, restaurants, boating activity and sporting goods. Transportation including boat and ship building, and transportation of cargo and passengers on the ocean and along the coast. Research, including that involving both the physical and biological dimensions of the coast and ocean. Government, including the activities of federal, state and local agencies related to the ocean.

¹² www.oceaneconomics.org The NOEP is developing a comprehensive nationwide measurement of economic activity and economic values associated with the ocean.

¹³ The Coastal and Ocean Economy of Maine: A Preliminary Report, National Ocean Economics Project, February 2002. Note that data from this report are not directly comparable with that included in the Gardner-Pinfold report.

¹⁴ The Coastal and Ocean Economy of Maine: A Preliminary Report, National Ocean Economics Project, February 2002.

¹⁵ Output is estimated as a function of wage/output ratios which are derived from the 1997 Economic Census and the IMPLAN model (Minnesota IMPLAN Group.)

¹⁶ Multiplier effects for employment and output were estimated using the IMPLAN model.

provides critical employment opportunities in downeast Maine. As discussed in other parts of this section, shellfish aquaculture in particular, offers entrepreneurial opportunities for coastal residents.

Global Context

Since the 1970s, aquaculture has grown by 10% per year. In 2001, world aquaculture production was 37.9 metric tons and represented 29% of all seafood production. World aquaculture revenues are estimated at US\$55-60 billion. The US imported over \$10 billion in seafood in 2002, including over \$500m in salmon fillets.

Several factors indicate a continuing growth trend for aquaculture: seafood consumption is rising, and wild capture fisheries are declining. In the US, two demographic shifts may drive an increase in seafood consumption: the aging of the population (there will be 70 million Americans over the age of 60 in 2020) and the growth of the Hispanic population (who consume 24% more seafood than the national average). In short, there is expected to be an increased demand for seafood both in the US and the world. With wild capture fisheries declining, the demand for aquaculture products is expected to continue to grow.

Aquaculture Economic Study

As part of the data gathering process for the Task Force, the Department of Marine Resources commissioned an economic study of Maine's marine aquaculture industry. The study was conducted by Gardner Pinfold Consulting Economists, Ltd. of Halifax, NS. The study accomplished two major objectives:

1. A quantitative assessment of the economic impact of marine aquaculture in Maine
2. A quantitative assessment of aquaculture viability and growth projections for eight species.

The study was based on interviews with members of industry, government, university and private agencies. A brief summary of findings of the study is given here. To get a copy of the full report, please go to www.maine.gov/dmr/aquaculture, or contact Sue Inches, Department of Marine Resources, (207) 624-6558.

The Task Force also examined the findings of an Economic Impact study commissioned by the Maine Aquaculture Innovation Center. This study was conducted by Planning Decisions, Inc. and is available at www.maineaquaculture.org

Maine Aquaculture Industry Economic Data 2003

	EMPLOYMENT (Full Time Equivalent)	SALES REVENUE (\$000s)
Salmon	225	54,000
Oyster	60	1,000
Mussel	45	2,000
Total	330	57,000

The aquaculture industry generates 910 jobs, and just over \$38 million in earned income (the value added contribution to Gross State Product). An additional \$6.7 million accrues as federal and state taxes (Table S-2).

Direct impacts are generated in hatcheries, growout operations, and to a limited degree in processing (most salmon is now processed in New Brunswick). Indirect impacts occur in goods and services supplied to the industry including vessel and equipment suppliers, transportation, insurance, maintenance and repair, technical support and packaging. Induced impacts arise from the spending of earned incomes in direct and indirect activities.

Maine Aquaculture Industry Economic Impact 2003

	JOBS	EARNINGS (\$1,000)	TAXES (\$1,000)
<i>DIRECT</i>	330	20,300	2,900
<i>INDIRECT</i>	380	10,900	2,400
<i>INDUCED</i>	200	7,100	1,400
<i>Total</i>	910	38,300	6,700

Viability by Species

The study also assessed the economic viability of a number of species. The assessments are based on Maine growing conditions, the most up to date technologies, current capital and operating cost estimates, and current and future market conditions.

- **Atlantic salmon:** Production is economically viable, though falling prices resulting from increasing international supply and declining production costs are narrowing the margins of Maine growers. Industry expansion is possible within most current lease areas, and applications for new sites are pending. But the future is uncertain in light of the 2003 U.S. District Court ruling, which requires pollution discharge permits.
- **Atlantic halibut:** Biophysical conditions in coastal waters are acceptable across all aspects and production would be viable. The University is currently conducting experiments in growout, while commercial production is underway in other countries. Farming in conjunction with salmon is an approach used elsewhere to spread capital costs.
- **Blue mussel:** Culture is viable using the raft and rope method. (While a number of growers use bottom culture techniques, an economic analysis of this activity wasn't

included in this study.) Industry expansion is possible within most current lease areas. Expansion of current leases is planned in many cases, and expiring experimental lease-holders will likely apply for standard leases in the future.

- **American oyster:** Culture is viable and existing operations are expanding output, wishing to double or triple capacity within existing lease sites. Finding suitable lease sites is a challenge because sites that meet the specific growing needs of oysters and that do not interfere with other uses of coastal waters are hard to find.
- **Sea scallop:** Culture of scallops for meats (adductor muscle only) using suspension techniques is found not to be viable because of high capital costs and the risks associated with price sensitivity to swings in the capture fishery. A small niche market may exist for whole scallop culture, but the short 4-5 day shelf life of the product and the added cost of toxin monitoring may be barriers to success.
- **Soft-shell clam:** Using stock enhancement techniques shows promise, but generally low clam prices provide little incentive for private enterprises to incur the necessary costs. Community-based stock enhancement may be justified on the basis of broad social benefits.
- **Cod and Haddock:** These emerging finfish species show promise for Maine. Biophysical conditions would support production of these species in some areas of the coast. Future planning should take these species into consideration.
- **Sea Urchin:** Although a formal economic analysis of sea urchin culture was outside the scope of this study, hatchery and growout experiments are underway in Maine.

Growth Projections

Aquaculture in Maine could again become a \$100 million industry. There is scope for expansion in each of the principal species, based on biophysical conditions and suitable sites, as well as the interests and plans of growers. Table 4 sets out growth projections (in dollar terms) for two- and ten-year periods. Even with this projected growth, Maine's production will fall well short of U.S. demand. The key assumptions underlying the projections are:

- **Salmon:** the industry will experience some short-term decline as it adjusts to the implications of the Carter ruling. Market and biophysical conditions support expansion to a level 50% greater than the peak reached in 2000.
- **Mussel:** there is considerable enthusiasm for expansion among growers. Growth projections assume 25% increase in production over the next two years, with a total increase of 57% by the year 2012.
- **Oyster:** growers all plan to double or triple production in the short term. Production is assumed to expand by half over the next two years (based on planned seeding), and then double from that level by 2012.
- **Other:** production of other species (bait, halibut, cod, haddock) is planned or possible. This could add \$5-10 million to the projections by 2012.

Table 4
Maine Aquaculture Growth Estimates, \$000s

Species	U.S. demand	Maine supply		
		2003	2005	2012
Salmon (1)	925,000	30,000	20,000	100,000
Mussel (2)	35,000	4,000	5,000	7,000
Oyster (3)	68,000	1,000	1,500	3,000

Overall Findings from Economic Study

Maine has the biophysical conditions to support a substantially larger aquaculture industry than exists today. The natural environment is a necessary, but not a sufficient, condition for development and growth. Other factors such as a supportive policy and regulatory regime, good research and development capacity, and access to capital are also critical.

Jurisdictions such as Norway, Chile and even New Brunswick, British Columbia and Prince Edward Island share some common characteristics. Each has experienced rapid aquaculture development by leveraging excellent natural conditions through the combined effects of a favorable research and development framework, and a supportive regulatory environment. *In each case the focus was on a single species for which there were few unknowns about biological, site and equipment performance.* This is not to say that a single species focus is necessary or desirable, but experience indicates that concentration of resources provides a good springboard for growth.

Circumstances are different in Maine. The natural environment is suitable for several species, but missing from the list of essential ingredients are a supportive regulatory environment, supportive communities, and well-funded research and development institutions. Public support is most critical at the early development stage because private companies generally lack the resources to carry R&D costs over the required 10 to 20-year development timeframe.

APPENDIX G: SAMPLE PUBLIC MEETING NOTICE



AQUACULTURE TASK FORCE PUBLIC MEETING

Thursday, Nov. 6, 2003, 7:00 PM
The Atrium, 21 Gurnet Road
Cook's Corner, Brunswick

The Task Force on the Planning and Development of Marine Aquaculture in Maine is holding the third of four public meetings to receive advice and comment from the public on aquaculture. Please be advised that the fourth public meeting will be held in Eastport on November 19th.

The Legislative Resolve that created the Task Force directs its members to consider specific topics in making recommendations to the Legislature, including:

- Bay management or aquaculture development strategies
- Present economic impacts and short and long-term growth potential
- Impacts of aquaculture on tourism, recreation, conserved lands, and surrounding fisheries
- Mitigating external impacts of farms
- Statutory decision criteria for granting leases
- Role of municipal government

The Task Force is seeking advice and comment on these topics as well as other matters of interest to the public regarding aquaculture. Written comments may also be submitted and can be mailed to Marine Aquaculture Task Force, c/o Department of Marine Resources, State House Station 21, Augusta, Maine 04333-0021 or emailed to marine.aqua@maine.gov.

For more information on the Task Force, please visit:
<http://www.state.me.us/dmr/aquaculture/>

To request any information described
in this notice, contact:

Mary E. Costigan, DMR, PO Box 8
West Boothbay Harbor, Maine 04575
207 / 633-9531

If you require disability accommodations, contact Gilbert
Bilodeau at 207 / 624-6567, TTY 207 / 287-4474 /
gilbert.m.bilodeau@maine.gov

Authority: L.D. 1519

APPENDIX H: SUMMARY OF COMMENTS FROM PUBLIC HEARINGS

**SUMMARY of COMMENTS RECEIVED VIA IN-PERSON
TESTIMONY AT PUBLIC MEETINGS OF THE
AQUACULTURE TASK FORCE**

SORTED BY TOPIC

DECEMBER 3, 2003

(Materials submitted to the Task Force through their email address:
marine.aqua@maine.gov can be viewed by topic at the Task Force website:
www.maine.gov/dmr/aquaculture)

Aesthetics

Steve Perrin – Industrial activity shouldn't be allowed. Decision-making of Department of Marine Resources is from an industrial point of view – need scenic standards.

Bob Vaughan, Seal Cove boatyard in East Penobscot Bay –East Penobscot Bay has what can best be called, “mystique” – has value beyond measure. Eight billion dollar value in tourism, \$600 million in marine trade, \$60 million in aquaculture, \$100 million in home building in region. Loss of less than 1% in above cited industries would equal all of aquaculture industry.

Sally McCloskey– Island owner in Penobscot Bay. Wants consideration for conservation easements granted to non-government organizations and others that contain provisions for environmental protection, protection of views, etc.

Sally Mills, representing the Wetlands Foundation, attorney in Ellsworth -- seconded comments on scenic impacts and need for regulations. The aquaculture regulations do not mirror NRPA and therefore leave a gap. Thought it significant that section of NRPA concerning scenic and aesthetics is first section and not buried within the text of the law.

___ Schultz, photographer with previous career in research and development, lives in Rockport and was on Planning Board and Comprehensive Planning Committee – Discussed the importance of arts and ME heritage as center of the arts. Institutions of art exist because of unspoiled environment.

Doug Johnson, Board of Appeals in Stonington – when his Zoning Board deals with disagreements over aesthetics, it is difficult, not as clear as “know it when you see it.” Concerned about applying aesthetic criteria to aquaculture; concerned that it could apply to lobstering eventually. Not universal agreement on aesthetic impacts of existing activity.

Dee Howland– There is much commercial value in the art created in the Blue Hill region.

Joseph Krulis, Real Estate agent – Trying to sell house for last year in Northport that looks out to a mussel lease. Don't put farms in front of million dollar homes. Put them in coves in front of wooded areas.

Bill McQueeney, Brooksville, Pres. of Bagaduce Watershed Association –Aesthetics should be included in leases/licenses.

Todd Marolla, Northport – Mussel raft is not a thing of beauty.

Jean ___ Washburn –Siting should respect aesthetics, wild and scenic character and existing and pending conservation easements. Physical factors inhibit suitable lease sites.

Ed Benedikt, Brunswick, employee of an aquaculture outfit, involved in commercial fishing – Scenic impacts should be criteria driven rather than site driven. Should be standards developed.

Bay Management

Steve Perrin – Maine needs a bay management authority on the state level so local groups can exist and have the power to do the work.

Bill McQueeney, Brooksville, Pres. of Bagaduce Watershed Association – Bay-wide plan should be in place. Plan for large and small bays and estuaries, developed by local people.

Don Eley, President of Friends of Blue Hill Bay (provided handouts to TF) – FOBHB has 400 local members, of all backgrounds/livelihoods and members from all towns around the Bay. The organization wants to work collaboratively with agencies and others. Friends of Blue Hill Bay commissioned a physical circulation model by Neil Pettigrew – provided a handout for Task Force. Friends of Blue Hill Bay worked with the Department of Environmental Protection on the NPDES permit – shows dedication of group. Friends of Blue Hill Bay has made a good scientific start on understanding of Bay. Suggested as next steps to gather stakeholders, explore uses and values of bay. Currently 1 salmon farm, 3 mussel farms – recommends limiting aquaculture to that number until a bay management plan is complete.

Jean __ Washburn – Bay management is essential. Currently no regional land planning – site by site basis. Apparently there are no limits to growth of aquaculture. Some state waters are special and deserve extra protection, e.g. Bagaduce, Upper Taunton Bay, Perry shore.

Doug Johnson, Board of Appeals in Stonington – bay management -- how to do it? Talk to DEP about compliance with shoreland zoning – recent report shows not good. Local people are volunteers – need to put provide funds to any effort that calls on towns and volunteers. Keep municipal Board of Appeals out of it – too much to do already.

Vivian Newman, South Thomaston, Sierra Club – don't want to launch into anything major, expensive, time consuming. Do want constructive engagement of the public to address impacts, pollution, etc. Need to consider this issue holistically.

Chris Davis, shellfish grower, Maine Aquaculture Training Institute – exclusion zones scare him. All sorts of activities on the water, why exclude some things and not others? Bay management means different things to different people. In the broadest sense – look at all the inputs into a bay and need to account for them all. E.g. Nutrient inputs from lawns. If you are going to look at aquaculture only – site selection is a big component of what he teaches his students. ~40 different criteria are involved. How can a science-based approach account for all of that? Will bay management be able to

account for the scale at which sites are good or bad? Afraid that it would be a political decision rather than science-based.

Ed Benedikt, Brunswick, employee of an aquaculture outfit, involved in commercial fishing – If you are going to manage a resource or protect it, can't look site-by-site, need to look at a broader perspective.

Andy Goode, Atlantic Salmon Federation – Bay Area Management – best way to protect wild salmon stocks, involve many stakeholders, some consensus between industry and some groups that science should drive bay area management. Pro-active stance needed – 2 examples why – ISA in Cobscook & Pen. Bay – no aquaculture, so now is a good opportunity to determine what and where aquaculture is appropriate. ASF promotes exclusion zones. Pen Bay should be an exclusion zone for salmon aquaculture. Funding available thru NMFS to create bay-specific plans. Stakeholders in Bay Management – include Pen. Indians, ASF and fed. Gov't.

Commercial Fishing

Bruce McInnes, commercial fisherman – Fishermen haven't had an adequate role. Has a stake in health of the Bay. Is quite concerned with invasive species. Mussels – last five years, scallop grounds is now mussel bed, possibly due to washing of nets. Mussels are quite invasive – choke out scallops. Not worth as much as scallops. Might not always be salmon. Certain species might not be allowed in a given embayment. Room in Cobscook for sensible, sustainable aquaculture.

Leo Murray, fisherman – Aquaculture is very important to community. Jobs are not replaceable. Public fishery should not be privatized. Area fisherman have given up a lot of bottom, far more aquaculture here than in other areas. Viable scallop and lobster fisheries – room for both. Some sites put on poor areas, now can't fish them, colonized by mussels. Sites can be discussed ahead of time, can be relocated. Aquaculture was formerly was a boom industry, has leveled out. Fishermen fear involvement from state – will area be a boom site again with increase of competition with wild fishery? Cobscook Bay Fishermen's Association has worked on scallop enhancement, conservation of wild fisheries. Is concerned their work would be wasted. Probably 1/3 of economy is due to wild fisheries. Shouldn't pit groups against one another. Concerned about increased privatization. Parts of Bay aren't productive, much still is.

Jane McCloskey – Leasing criteria too narrow. Doesn't protect wild fisheries and loss of bottom. Aquaculture is higher value than Perry herring weirs have cultural value. Don't consider a host of activities. Loss of bottom Scott and Pickering lease applications. Areas best for scallops and aquaculture are same. Loss of lobster gear. Net loss to lobster fishermen vs. six jobs that would've been created.

Bud Finch – Use wisdom in local people. Tendency to look for easy answers. Tall ships went by the wayside. Deep, ice-free harbors. Sardine capitol – lost jobs from automation. Cause/effect. Scallop dragging in 70's wasn't profitable. "Groundfish was

plentiful in the 60s. 186 draggers in 80's, all licensed. Seal and cormorant trends, eagles plentiful. Policy should support all natural resources. Has local, open clamflats, Science is great, not perfect. Lobster gone in 50's, 60's, fish eating lobster eggs. Groundfish gone, now lobsters plentiful. Need common sense. State supports legitimate development in aquaculture industry. 'Common sense would figure it out.

Marsden Brewer, commercial fisherman, Stonington, coordinates scallop enhancement project, president of East Penobscot Bay Environmental Alliance – Toothacher Cove fish farm is located in an area formerly dragged for scallops yet approved anyway. Acre per acre production value was used when evaluating the lease application decision – i.e. there was more value in intensive culture of an acre as opposed to wild harvest. Bagaduce River nori farm was also opposed by fishermen. East Penobscot Bay Environmental Alliance is a diverse group of people. Interested in three things -- environmental effects of fish farming, wild stock enhancement and use of aquaculture techniques in commercial fisheries (latter will need community-based management), and toxins in Bay – looking at sources of stored toxins. Interested in bay management – protection from disease, protection of multiple uses of waters. Department of Marine Resources forcing will on people, vs. Department of Marine Resources involved as part of a local process. Methods and scale of aquaculture need to be looked at. Proliferation of mussel rafts – look at submerged long lines as being tested by the University of New Hampshire – more palatable.

Chris Davis, shellfish grower, Maine Aquaculture Training Institute – Work mainly with commercial fishermen in job retraining – 30 fishermen in the last 5 years. These fishermen chose to stay working on the water.

Jane McClosky – Hearings in Perry – fishermen testimony – loss of gear from salmon farms. Fish farms have taken best scallop ground. Green slime in Cobscook Bay. 1,000 acres have been taken over by green slime.

Department of Marine Resources

Steve Perrin – The Department of Marine Resources should be one sub-department under a larger Department of the Marine Environment.

Ed Benedikt, Brunswick, employee of an aquaculture outfit, involved in commercial fishing – Important element in having it succeed is having someone (DMR) act as an advocate for it, as IF&W is an advocate for sport fishing. Difficult to work out conflict between different fishing industries. That should be managed by DMR – needs to be resolved. Like the involvement in NPDES, pollution is a problem.

Jane McClosky, EPBEA – TF process. DMR acting as 3 branches of government – legislative, judicial and executive TF relying to a dangerous extent on DMR. DMR spin has blunted and muddied concerns of citizens. Industry and DMR believe environmental concerns are fig leaf of aesthetic concerns. Draft vision statement – said aquaculture is economic boom before study complete. Concerned TF is giving recommendations during

process. DMR set up the poor process. Doesn't feel public is being heard. EPBEA supporting Marsden Brewer's aquaculture. Scallop spat grown out in cages on bottom. Licensing rather than leasing. Transparency is not enough. Must think out of DMR box in order to fix process that is broken.

Don Eley, President of Friends of Blue Hill Bay—Department of Marine Resources is regulator and advocate – disconcerting. Scientists need to play a greater role.

Jane McCloskey -- DMR is biased in favoring aquaculture as matter of state policy.

Economics

George (Bud) Finch, Eastport City Manager – Needs to know status of state acceptance of natural resource based industries. Aquaculture is similar to weirs years ago. Shipping, tourism and aquaculture are basis of area's economy. Friends, family and neighbors are dependent on aquaculture, 1/3 of area economy. Decisions of TF need to be inclusive. Auto body repair shop person relies on aquaculture income. City of E'port doesn't believe net pens should go everywhere, but they have a place. Industry has a good future here. High quality product. Opportunity for creation of new technology. There is no compromise for those in constant opposition. 80% of people can co-exist.; Need to ID problems and figure out how to deal with it – visual, pollution, etc. Industry will pay for technology to be used in future. While the number of jobs dependent on the industry can be debated, the bottom line is that it is important. City supports aquaculture and will support opposition where appropriate. Need to support mass of people in the middle who can compromise.

Danny Reid— as things change, look at scale of aquaculture company. Hasn't borrowed any \$\$, need to look at cost of regulations, want to encourage small scale operators. Include local, working people in bay management. Need clear guidelines – need predictability. Save time by telling people whether it will be allowable.

Clare Grindal, Exec. Director Downeast Lobsterman's Association – discussed demise of commercial fisheries, due to over-regulation, and changing coastal life. Aquaculture is a viable industry and fills an economic void in Downeast Maine. Examples of all types of aquaculture are working well. Need to work together cooperatively to solve the problems and conflicts.

Dorothy Hayes – Cited articles in paper. South West Harbor hearing attended by 100+ people – all were opposed except for 2 employees (industry and Department of Marine Resources) Concerned about siting in Blue Hill Bay and practices of multi-national groups. Quoted Governor as saying that state policies should be made by public. No foreign or any industrial exploitation should be allowed.

Jane McCloskey (notes provided to Task Force) – aquaculture is a menace to water quality, native species and stakeholders, with no clear positive economic impacts. Prices plummeting for salmon – increased imports from Chile. Scale in Chile is huge and

expanding. Can Maine salmon industry compete with Chile – why support a declining industry? Too many government supports for aquaculture. How many jobs can it provide -- 2500? 1000? Currently 214 people according to Maine Department of Labor. The \$16.6 million crop loss bail out due to ISA in 2002-3 equates to \$78,000 per aquaculture job in Maine. In addition, \$5 million for salmon development and \$5 mill for Franklin facility. Not many more sites available on the coast that meet the criteria. According to McCloskey – all added up, that equates to \$103,000 per existing job. Compared large scale aquaculture to large scale industrial farming on land.

Jane Mills – industry profits are calculated in a way that externalizes costs. Costs to individuals and the public are not accounted for. During operation and afterwards – cited Callahan mine superfund site. Growth is not necessarily good.

Marsden Brewer, EPBEA – economic impact and potential – scallops in Pinfold study – ME can get better prices. Price in study is off. Collecting spat for 4 yrs. Seed isn't a problem. There is a supply. Need something in law that allows spat collection to be used in aquaculture. More economic potential in scallops than in report. Paul asked Marsden to provide the TF with information regarding prices of cultured scallops.

Bob Vaughan, owns and operates Seal Cove boatyard in East Penobscot Bay – East Penobscot Bay has value beyond measure. Eight billion dollar value in tourism, \$600 million in marine trade, \$60 million in aquaculture, \$100 million in home building in region. Loss of less than 1% in above cited industries would equal all of aquaculture industry.

Bruce McInnis -- Has seen industrialization of the business, which started out as mom and pop. All equipment and boats are from Canada now.

Leasing Process

Walter Loring (presented written testimony) – In spring 2002, involved in a leasing process. Member of concerned citizens of Passamaquoddy Bay. Lots of different groups involved. Process favored industry – very one-sided. Applicant has 8 months to prepare, group had 30 days. Group was hard-pressed to get info together – trade fisheries, rec. cons, tourism. 22 hour hearing. Impacts on fishing, recreation, conserved lands, tourism property values, native American sites, env. Impacts. DMR ruling – navigation and existing fishing. Other reasons why project was bad were not considered. These need to be included in criteria. Burden of proof not on citizens. Burden on people who work for a living. Some sites now being abandoned for fallowing and insufficient industry resources. Economically depressed area – needs job. Proper siting could've avoided fallowing.

Bill Kendall, Perry Selectmen – Support sustainable aquaculture and bay management. Need to look at long term group w/o displacing current fisheries. Noise, lights, fecal, feed debris, garbage and plastics, displace current fisheries. Local people can better decide when and where aquaculture is best. State should serve as

mediator of local interests. Local gov't doesn't have science. Bay management with local input is answer. Local gov't should have veto power over farms that hurt the economy. Involved in 2 leases approved on Perry shore. Insufficient notice. Couldn't prevented expense of hearing and time spent by fishermen and working people. Couldn't facilitated process. Scoping meeting could help with this.

James Anderson, Harrington Harbormaster, Marine Resource Committee, shellfish warden and Pl Bd. Member – Watches people struggle on flats – clams are not there. Limited entry into lobster. 2800 of mudflats, .25 million per year in revenue. Lease mudflats is a good idea – more stable living. Lease process needs to be streamlined – no local veto, some towns don't know enough about aquaculture. Lots of local interest. People need jobs.

Bill Kendall – do scoping as early in process as possible.

Jesse Leach – state gave him permission to try 7 different sites. “Didn't sample, need gPS, out of 7 chose one that worked well. Today it takes 2 years and a hell of a fight. ‘Too complicated now. This was 6-7 years ago.

Eric Moran – scoping meeting. He sent application to DMR. Info hearing in June with 3 different towns. Winter passed. Spring another hearing. In between did a briefing with marine resource committee - -Brooksville and Castine. Smith Cove. People hired lawyers. Now has to start over with another site. People lie in hearings – commit perjury. Personal attacks. Should be a limit to scoping session. Need opportunity to try out several spots. Areas recommended to him were all polluted.

Bill McQueeney, Brooksville, Pres. of Bagaduce Watershed Association – Within current process, emphasis on the environment is not sufficient. Staff spends 1-2 days at site, 1-2 calls to locals -- not enough. On land, an Environmental Impact Statement is required for similar scale projects. Need better information to base decisions.

Steve Perrin– Department of Marine Resources characterizes shellfish site by one visit, one time per year, not sufficient. GoMOOS data provides continual data – shows variability of environment, weather, etc.

Vivian Newman, South Thomaston, Sierra Club – Currently the process does not include cumulative, synergistic effects of this activity and others. The process of the site visits fails to utilize the monitoring and assessment work that is going on by the federal government. Need resources to make science and monitoring more a part of the process. Don't need to load on more criteria – staff already overworked, criteria unenforceable. Need to ask the Legislature for more resources in order to make this work.

Chris Davis, shellfish grower, Maine Aquaculture Training Institute – Leasing process very long and drawn out, but a good process. Financial data is required part of the application – necessary, but should be left out of the public record. Not part of the decision criteria. Do not need more criteria – opens the door to more litigation.

Jane McCloskey, East Penobscot Bay Environmental Alliance – Additional criteria that should be considered in making the decision regarding a proposed lease:

- Nutrient loading
- Conserved lands
- Disease
- Aesthetics
- Noise
- Wild salmon
- Local control v. state, top down
- Economics benefit for bureaucracies v. local communities.

Hopes you can integrate bay management into the leasing process. The overall process may be too much to take on – but need some form of Stakeholder bay management. Feel that the DMR has too much power.

Eric Moran, shellfish grower – Went through fishermen’s retraining course. Leasing process – very intimidating without a law degree. Never realize how many people use a site until you apply for a lease. Was denied, has never seen anyone using that site. Thought he was out of people’s way, but was in the middle of the playground. Doesn’t know how you would do bay management – always new sources of pollution, new houses, OBD, etc. Have vessels up in closed areas, allow fishermen to use offshore, clean waters. If a clam grew there, should be able to grow a clam there. Can mitigate aesthetics, give them the opportunity to better themselves. Lease was denied because of navigation and recreation. Has not observed the sailing races that they claimed. People claimed that they didn’t know about the lease application – but it was in the paper.

Jane McCloskey – Scott and Pickering applications -- Poor quality of science and financial information in application.

Municipalities

Bud Finch – Eastport has very active involvement. Pros and cons offered in recent times. Working with companies now, haven’t always done so.

Danny Reid, Deer Isle / Sedgewick, fished for 3 generations – “Towns should be involved, but no veto power. Some towns are anti aquaculture. Long Cove – 3 acre site.

Robt Sladen (Slaven???) – Noted an anomaly in way the coast is treated – on the one hand we have very restrictive shoreland zoning and on the other the public water can be privatized. This results in change of character of the coast. Wants more municipal involvement. The bay is an extension of Main St. – Blue Hill Bay is the equivalent of our town park.

Sarah Cox, chair of Brooksville harbor committee, wrote report (which report?), speaking as an individual – Look at home rule. Aquaculture sites need a mooring permit from town – Brooksville’s ordinance now considers aesthetic, etc.

Scott Tilton, small-scale aquaculturist – Municipal jurisdiction – process already includes municipal participation. Concerned about municipal veto.

Ron Huber, Pen Bay Watch – public trust issue – add aquaculture into the list of those moorings that towns license. Shoreline zoning. Support Josie’s proposal on bay management. Supports Dave Schmanska’s proposal. Look at other aquaculture niche items. Look to DEP expertise on scenic impacts. Careful looking at economic data. Complemented Scott Tilton on aquaculture operation.

Public Participation

Mark Altvater, Representing Passamaquoddy Tribe, Lieutenant Governor at Pleasant Point – Tribe must be involved in decision-making. Tribal consultation would be appreciated on any permitting decision.

Bob Vaughan, owns and operates Seal Cove boatyard in East Penobscot Bay – Time cost of litigation will kill applications. Need informed, credible group, not partisan. Recommended, 1) combination of state and local planning for any lasting solution and 2) any process needs to include real stakeholders, or litigation will continue.

Vivian Newman, South Thomaston, Sierra Club – Current process, arcane and legalistic and shuts out the public. Need to be an attorney or become one. Who wants to devote their life to this?

Todd Marolla, Northport – not aware of lease proposal in Northport – no chance to comment on it. Met with DMR several times – and was advised that if they took exception to leases, only recourse is litigation. Asking TF to spare people from litigation. Can hear music from speakers on the lease. Personal experience with a lease. DMR has acknowledged that they are censoring information sent to TF. Mussel raft is not a thing of beauty. Pollution from shellfish aquaculture acknowledged by DMR. (ed. note – lease he spoke of is an experimental lease. It went through the administrative process and the town was notified. It is more than 1,000 feet from shore, so there are no riparians). (Paul Anderson stated that there is no censoring of communications to the TF.)

Don Eley, President of Friends of Blue Hill Bay (provided handouts to TF) – Challenge – local people cannot participate in planning of aquaculture. Over the years have seen 8 salmon proposals, many shellfish proposals, with no NPDES (discharge permit) in place -- still outstanding issues. Siting process needs to be changed to move away from adversarial. Privatization of a public resource for individual or corporation results in the public losing access to resource. Public needs greater role in deciding and there needs to be an effective role for locals, who are not heard now. Bay management has been discussed by CLF. (Five minutes up, demanded 5 minutes more.) Task Force needs to review the Finfish Aquaculture Monitoring Program outside peer review as a critical piece of information. Handed copy of report to Task Force. Friends of Blue Hill Bay commissioned a physical circulation model by Neil Pettigrew – provided a handout

for Task Force. Friends of Blue Hill Bay worked with the Department of Environmental Protection on the NPDES permit – shows dedication of group. Referenced the USEPA permit. Friends of Blue Hill Bay has made a good scientific start on understanding of Bay. Suggested as next steps to gather stakeholders, explore uses and values of bay.

Jane McCloskey – re: Scott and Pickering proposals -- Riparians not notified until one year after process initiated, when application was deemed complete.

Research

Bill Shaw, Deer Isle – Will send a note to Task Force with details. Involved professional in UK Medical Research Council and Agricultural Research. Scientific data – lots of suspect and insufficient info out there. Data, facts and knowledge – there is a difference. Bring attention to legislators that we rely on data from elsewhere – need to invest in local data. Cited local control -- regional oversight of aquaculture in Scotland. In Maine, Department of Marine Resources is both judge and jury. Discussed east coast and west coast of Scotland. Think about set asides with no aquaculture to test continually.

Dorothy Hayes– Neil Pettigrew’s study will soon be published

Vivian Newman, Sierra Club – Supports Andy Goode’s statements. Invest in research for Bay Management – ecosystem-based management. More emphasis on pollution prevention – research needed.

Shellfish

Danny Reid, Deer Isle / Sedgewick, fished for 3 generations – Looked at aquaculture as a way to get out of fishery. Grows oysters in area not used by traditional fisheries, has right temperature. Small scale operation, good relationship with neighbors, in keeping with character of area. Spent lots of time explaining to people – lots of days lost in meetings. Diff types of aquaculture – lobstering is one type. Skeptical of big business, foreign companies, chemicals. State not prepared to deal with those companies. Is a volunteer monitor for fecals and phyto. Worried about on-shore pollution sources affecting his business. Aquaculture needs to state that product is grown in clean water. Biggest problem is out of town landowners moving in. Shores are quiet – no more harvesting, got accustomed to nobody being on the water or in their view. Working person should have some rights. Development happening at alarming rate in his area— rising property values. Blue collar are second rate citizens. Attended Blaine House conference. Working people are important segment of economy. Wealthy people don’t want to share waterfront.

Carrie Anderson, grows oysters, Pleasant River in Addison – 3 LTAs – lobsterman and yacht club are in her area. “Talked to people beforehand – 400 sq. ft. – have given her lots of room, waiting to see if it works. Needs to be more information for children and those in industry. Could be the future. Need more meetings.

Jesse Leach – TF should look into oyster gardening. Teach public how to grow oysters in front of their houses. Should be able to do w/o long drawn out leases. Not commercial. Educational value – people take pride in it. Sea Grant trying to get this going. Pollution is hard for shellfish and invasive species. Wild clams can't make it – need sheltered nursery areas to get to size where green crab predation is not such a threat. Castine shoreline is highly polluted. dwindling fish stocks, enrolled in fisherman's retraining. Got into shellfish aquaculture. Can't see anything wrong with shellfish aquaculture.

Sarah Cox – Major distinction between shellfish and finfish. Not against shellfish. Negative gut reaction to salmon. Glad to have shellfish – riparian owners have adjusted.

Dana Wallace, Brunswick – Began by providing the TF with a definition of "aquaculture". Started in this business in 1941. After WWII, began working for the DMR. Spent 10 yrs talking with towns about the shellfish resource. 1957- DMR convinced Legislature to look closely into this problem – people closest to the resource have the most influence on it. 1963 – passed law currently in effect; towns have authority over shellfish resource. Realized that what towns were really doing was community aquaculture. 74 towns now have ordinances, resource is going up, although shortchanged on area biologists. Commercial fishermen are more likely to be well disposed toward aquaculture if they realize that clam management is community aquaculture.

Scott Tilton, small-scale aquaculturist – small farmers feel like they are fighting for their existence. David v. Goliath. Fighting against interests that don't support a working waterfront. He is an environmentalist. He wants to do something that contributes to the economy and is good for the environment. Shellfish aquaculture is good for the environment. Environmentally-benign way of growing protein.

TF Process

Mike Hastings, Aquaculture Innovation Center – R & D related to aquaculture. TF needs to establish values. Does TF share same values as MCHT, industry, etc.?

Tourism

Jim Littlefield, Innkeeper, Oakland House, Brooksville (provided handout) – Discussed that he does not solely represent the NIMBY position. He's not just concerned about water adjacent to his property, but opposed the location of adjacent to any Inn – would put Inns out of business. A salmon pen within 3 miles would negatively affect their businesses – incompatible with reasons people visit -- scenic beauty, quiet relaxation, boating, swimming, water sports and weddings.

Sally Littlefield, also Oakland House (provided a handout to the TF that contained figures that compared tourism value to value of aquaculture) – Paul noted that the handout was a Confidential Financial Report and advised Ms. Littlefield that once in the

hands of Task Force the report is no longer confidential. This was acceptable with the speaker. Figures emphasized the ripple effect of Oakland house expenditures to community businesses. She noted the importance of providing visual and sound protection for nature destinations and “Maine brand” businesses. Recommended that the State focus on training in the areas of skilled trades as type of economic development rather than aquaculture.

Jack Burke, Pentagoet Inn in Castine – Described impact of aquaculture on tourism using the mussel farm proposal in Smith Cove. The area is used by 12-15 schooners – 2-3 times per week with 20+ people on each. Estimates that at least 240 people per week drawn to Castine that has four inns, 65 rooms, retail business and 7 restaurants. Nine of the 12 schooner captains voiced concerns to Department of Marine Resources that they were being squeezed out of harbors all along the coast. The 2 acre site would eliminate valuable anchorage. Fortunes of many would be sacrificed for fortunes of one. State needs to consider impacts on other businesses by aquaculture. Ed. Note – lease application in Smith Cove was denied.

Jim Littlefield (read letter from Dick Groton, President of Maine Restaurant Association) – Littlefield “wearing new hat” as member of Board of Directors of MRA. Members have key stake in assessment of impacts of aquaculture on tourism... mitigating external impacts, changing lease procedures. Hospitality and tourism needs to be included in all deliberations and included in statutory criteria for leasing. Also read letter from Main Innkeepers Association. Littlefield is also on legislative committee of the Maine Innkeepers Association that represents 650 hotels and motels, B&Bs, etc. That Board endorses multi-stakeholder involvement in planning, location and management of aquaculture anywhere on the Maine coast. Views, aesthetics, noise, waste and smells are of concern. Cited same 3 areas of resolve as above as being of interest to the MIA.

Chris Davis, shellfish grower, Maine Aquaculture Training Institute – From today’s meeting: see kayakers daily; often help them when they have a problem. Teach them about the operation. Have had a wonderful relationship with the tourism industry. Shellfish festival in September – boon to the Damariscotta area.

Scott Tilton – economic impact – false dichotomy between aquaculture and tourism. Aquaculture is a plus for tourism, a draw. Kayakers come up to facilities and ask questions. Positive thing for Maine.

Ron Huber – Tourism and resort industry – need dark night sky. Washington county – not a lot of tourism and resorts – so that is where fish farming should take place.

Water Quality/Benthic and Environmental Impacts

Mark Altvater, Representing Passamaquoddy Tribe, Lieutenant Governor at Pleasant Point – Tribe has been here generations, relying on Bay's ecosystem. Described territory boundaries. Water quality is very imp. Pollution, overfishing, trash, climate change have affected area.

Julie Keen, commercial fisherman – DMR's role in managing species. DMR mismanages every species they are in control of. Gave examples of scallops, urchins. DMR now manages aquaculture – has friends and family in industry. Wants to start new company – value added seafood products. Need to disclose what will be released into bay and what research has been done on the product. SLICE is being experimented on in Eastport. 531 licenses now over 1000 – periwinkles, lobstering. Don't let anyone come in and put stuff into bay that will result in Local or Canadian companies – processed here? Don't pollute, provide US jobs, conflict of interest for DMR to get one penny for pound. Lobster shell disease – nobody knows why. Mussels taking over everything. One bay – need to take care of it.

Jane (new set of testimony) – DMR not sufficiently concerned about green slime – is a sign of eutrophication. TF should be more concerned. Will get worse, so will BH Bay. NOAA says this is a problem DMR has a conflict of interest. Need bay management – combined affects of nutrients. Need local say. Likes Josie's draft of hearings. Supports BEP like approach – not multiple hearings.

Jesse Leach, oyster farming in Bagaduce – Chose site to avoid commercial fishing and recreation areas. Chose because of good qualities. Distributed chart on water quality. Commercial and industrial discharges, OBDs, etc. resulting in closures. Study shoreland zoning, follow rules, stop cutting down trees and making lawns. Another chart – places in State of Me polluted by aquaculture – blank piece of paper. One recreational boat with 2 people is same pollution as city with WWTP. Recreational boats, need pump outs.

Arthur Weiss, MD, retired Director of Hematology/Oncology VA Hospital Togus – farms have adverse affect on communities and surrounding area. Incidence of infections by organisms resistant to antibiotics is directly related to presence of farms. Antibiotic efficacy reduced by organisms not exposed to antibiotics that have developed resistance. Anthrax and other harmful material found on sites. Cited journal article in Applied and Environmental Microbiology. He wouldn't swim near a farm site. SLICE – is a neurotoxin in rats. Department of Marine Resources must consider potential danger to human health.

Jean Davidson, resident of Brooksville, swimmer, sailor, sociologist – Interested in impacts on local communities. Comments to focus on external impacts – want state to take a look at disease, concerned about orange foam, sea lice and its problematic cure, and refuse. There is need for planning and consideration of carrying capacity. She viewed New Brunswick pens and thought there were too many. Concerned about litigation.

Dee Howland – Need to look at natural resources in non-commercial sense. Impacts from aquaculture are not known. Locals have had to fend off proposals which takes a lot of resources. Aquaculture will ruin the bay's beauty. Commented on the health benefits of Maine's environment. Noise and lights from facilities are human stressors, and aquaculture has negative effects on swimming water quality. Doesn't eat farm raised salmon. Noted higher fat content in net pen salmon. Also suggested adverse effects on other fisheries used for salmon feed.

Susan Shaw, Director and founder of Marine Environmental Institute in Blue Hill – Referenced MERI mission to address environmental pollution and biodiversity. Scenic beauty has to do with the health of the environment and its pristine, unpolluted nature. Had three points to make and will submit a paper. 1) need better baseline information before aquaculture operations begin 2) bioaccumulation of chemicals in farmed fish is a concern for the entire food chain, including humans. 3) need to consider cumulative impact and multiple exposures. UK studies show farmed salmon bioaccumulate PCB, dioxin and DDT from fish feed – farm salmon are 52% higher in fat than wild salmon. Recommendations – research on contaminant levels in fish tissue and feeds to determine if this poses a risk to Maine's environment and human health. Assess baseline so changes on pollutant levels can be viewed. Need to look at extensive suite of contaminants – flame retardants and other estrogen disrupting compounds. Need research before action. Use the precautionary approach.

Luke Williams, resident of Stonington-one year – 1) current studies – a lot of work is already done – Tide and Current Flows for Atlantic Coast – 2) env. Stds – lots of disagreement – court decision – no compliance with EPA standards. Take judge's decision and translate into criteria that Department of Marine Resources could apply.

Chris Davis, shellfish grower, Maine Aquaculture Training Institute – Was surprised to see John Sowles's map – all the OBD is the problem, (closed to shellfish harvesting). That's what groups should be working on.

Jesse Leach, shellfish farmer, Penobscot (shellfish farm on the Bagaduce River) – Got into shellfish because of dwindling fish stocks. Shellfish farming helps the water, helps to clean the water. Allows eelgrass to grow. No sailboat or recreational vehicle helps to clean the water. Provide quote from Bob Goodwin in Lamoine "The untreated waste from 2 people on one boat...". Problems right now from runoff, from too many boats in one area. In his area, another marina is being added, too many more boats, and it will be closed to shellfish harvesting. Aesthetics can be mitigated, at UNH – growing finfish underwater. More attention should be paid to pump out stations – there is not one pumpout station for 10,000 boats in the state. Need to see where the problem is. Many studies available – Pew Commission, David Etnier, Lamoine.

Jesse Leach, aquaculturist – Pollution in ocean – asked # of times waters had to be closed due to aquaculture – none was the answer. 2 people on one boat cause same

pollution as town of 10,000 people. Other environmental problems not caused by aquaculture.

Ron Huber – should be moratorium on leasing during review process. Benthic impacts – TF should look at video footage.

Eric Moran, fisherman, aquaculturist – closure areas due to pollution. Work on pollution part before bay management. Look into long-line technology. Bagaduce River – 10 recreational boats will close the river to harvesting. Bay management – start with pollution caused by recreational boats and tourism. Invasive species brought in by recreational boats.

Precautionary Principle

Schultz, photographer with previous career in research and development, lives in Rockport and was on Planning Board and Comprehensive Planning Committee – Need fully researched protective measures before industry grows.

Don Eley, President of Friends of Blue Hill Bay (provided handouts to TF) – Currently 1 salmon farm, 3 mussel farms – recommends limiting aquaculture to that number until a bay management plan is complete.

Navigation and Recreation

Jean __ Washburn Estuaries are areas that are most accessible for recreation and therefore their shores have higher density of other uses that can be impacted. Definition of navigation is too narrow and needs to be expanded to include not interfering with recreation by a variety of small craft. Need more than passageway, need qualities to look at and wildlife to enjoy.

Education

Vivian Newman, South Thomaston, Sierra Club – Comments from today’s discussion. Education strategy. Do not want propaganda; want to contribute to critical thinking. Raise the concerns, and raise the positive things. Not a hard sell P.R. process

Invasives

Steve Perrin– Discussed “introduction” of eastern oysters to Taunton Bay. Department of Marine Resources is cavalier in saying oysters are native in ME, therefore native to all of ME waters. Native once at one time is not sufficient. Apply precautionary principle. Prove it is benign before we take your word for it.

Public Trust

Don Eley -- Privatization of a public resource for individual or corporation results in the public losing access to resource.

Noise

Ed Benedikt -- Homeowners group is disturbed by noise – propeller air boat. Needs to be some criteria to deal with noise.

New Technology

Jesse Leach, oyster farming in Bagaduce – No negative impact, except visual. Should lower farms below water to reduce visual impacts. Is being done at UNH. Bay management could define nursery areas on surface and water column areas for other parts of grow out. Structures create habitat in the water column.

Monitoring

Don Eley -- Task Force needs to review the Finfish Aquaculture Monitoring Program outside peer review as a critical piece of information.

APPENDIX I: STAKEHOLDER ADVISORY PANEL REPORT

Stakeholder Advisory Panel
on the Planning and Development
of Marine Aquaculture in Maine

*Comments and Recommendations to the
Governor's Task Force on Planning and
Development of Marine Aquaculture in Maine*

Collated by Bruce Stedman, RESOLVE, Inc., Facilitator

Final

January 28, 2004

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INTRODUCTION

The Governor's Task Force on the Planning and Development of Marine Aquaculture transmitted their draft report to the Stakeholder Advisory Panel on 12-31-03. As established in the Legislative Resolve, the Stakeholder Advisory Panel was required to provide a response on the draft report back to the Task Force. In turn, the Task Force is directed by the Resolve to consider each recommendation of the SAP and to respond back to the SAP concerned those items that the Task Force did not incorporate into their final report to the Maine Legislature.

Ten of the eleven members of the legislatively appointed Stakeholder Advisory Panel¹⁷ participated in the review of the Task Force's draft report (see list below.) The SAP met in an all-day session in Bangor, Maine on January 8, 2004 to craft their response to the Task Force. The SAP held a follow-up conference call on January 12, 2004 (eight of eleven members attending; Erick Swanson sent written comments). The SAP was assisted by facilitator Bruce Stedman of RESOLVE Inc. at the Bangor session, and during the follow-up conference call. Mr. Stedman also served as the collator of various pieces of this report. Kathleen Leyden from the State Planning Office transcribed the SAP's comments into an initial draft document. Subgroups of the SAP met via conference calls and by email between January 9 and January 15th, 2004 to create minority comments and recommendations contained within the following report. Individual members of the SAP also drafted responses as noted in the following report and its appendix.

SAP Members Who Developed This Report

- ❖ Rob Bauer, Maine's Best Seafood, Blue Hill
Shellfish company representative (large company)
- ❖ Sebastian Belle, Maine Aquaculture Association, Hallowell
Finfish aquaculture industry representative (large company)
- ❖ Roger Fleming, Esq., Conservation Law Foundation, Rockland
Environmental field representative
- ❖ Eric Horne, Chance Along Farms, Freeport
Shellfish aquaculture representative (small company)
- ❖ Rich Knox, Maine Coast Heritage Trust, Topsham¹⁸
Land conservation field representative
- ❖ Carolyn Manson, Maine Tourism Association, Hallowell
Tourism industry representative
- ❖ Tom Morris, Morris Yachts, Bass Harbor
Marine industry representative
- ❖ Dave Schmanska, Harbormaster, Town of St. George
Coastal municipality representative
- ❖ Erick Swanson, Trumpet Island Salmon Farm, Mount Desert
Finfish aquaculture industry representative (small company)

¹⁷ Patrick Keliher, Coastal Conservation Association, Yarmouth, Commercial recreation industry representative participated in some Task Force meetings, but did not participate in the SAP review meeting; he reviewed the draft SAP report and agreed with the sections on Tourism and Recreation.

¹⁸ Rich Knox was present at the SAP's 1/8/04 meeting via conference call.

- ❖ David Turner, Engelhard Corp., Perry
Fishing industry representative

SAP DECISION-MAKING

During their January 8, 2004 decision-making meeting in Bangor, ME, the SAP reached consensus on a number of Task Force Recommendations, as indicated below. In addition, votes were taken when consensus could not be reached on a Task Force Recommendation. Additional votes were taken during a 2-hour conference call on January 12, 2004.

Results of the votes are shown with the format 6 (Yes) – 3 (No) – 1 (Abstain). If the Majority or Minority (or other subsets of the SAP) submitted a Report or alternate Recommendation to the Task Force, it is given in the text. In those cases in which the vote minority was only one, they are labeled as Individual Comment. In a few cases, Mr. Schmanska had not been able to review some of the minority reports or recommendations; these are indicated by (?) and they will be checked by the facilitator and reported to the Task Force for the final SAP document to accompany the Task Force Report.

TASK FORCE RESPONSES TO SAP RECOMMENDATIONS

During their January 22, 2004 decision-making meeting in Augusta, ME, the Task Force considered all recommendations and comments made in the following SAP report. Under each SAP recommendation below is recorded the decision the Task Force made and their reasoning for those they did not accept. Where a vote is not indicated, the Task Force had a consensus.

GENERAL SAP RECOMMENDATIONS CONCERNING THE TASK FORCE REPORT

The SAP suggests that the Task Force create a numbering system for its recommendations. The SAP also suggests that references throughout the report to information provided in the appendices be more specific so that this language and be referred to more easily.

Where the SAP recommends that the Task Force add language, it is shown in *bold italics* (recommended deletions are shown as ~~strikeout~~).

The SAP had no comments on sections I. Executive Summary or Section II. Introduction.

DETAILED RECOMMENDATIONS AND COMMENTS ON THE TASK FORCE REPORT

III. BACKGROUND

Maine's Vision for Marine Aquaculture (TF draft p. 3)

CONSENSUS RECOMMENDATION. The SAP recommends that the following changes be made to the Task Force's vision statement (additional text is in *bold italics*.)

Marine aquaculture is an important and compatible element in Maine's diverse coastal economy. Aquaculture *contributes to satisfying global market demands and* benefits local communities and the public interest by producing high quality products, providing economic opportunities and by operating in an environmentally sustainable fashion.

The Task Force voted (11-0) to accept this recommendation.

Maine's planning and regulatory process is adaptive, inclusive and fair, and supports the growth of the industry in an economically *competitive and environmentally* sustainable way.

The Task Force voted (10-1) to accept this recommendation.

Principles for Marine Aquaculture (p. 3)

The Task Force's draft report contained thirteen "principles for marine aquaculture." The SAP numbered the principles and provided the following feedback on selected principles.

CONSENSUS RECOMMENDATIONS. SAP reached consensus that they could support Principles 1, 3, 4, 8, 9, 10, 11, and 12, and on the following suggested changes:

2. Aquaculture will be one of many uses of Maine's coastal environment that can be accomplished so as to be compatible with other activities *such as commercial fishing* and in harmony with natural resources.

The Task Force voted (11-0) to accept this recommendation.

6. Maine's aquaculture laws and regulations will provide flexibility to address change *while recognizing both ~~entrepreneurs'~~the need for regulatory stability, and ~~other stakeholders'~~needs for stability in the use of the public resource.*

The Task Force voted (11-0) to accept this recommendation as modified above.

MAJORITY VOTE. A majority of the SAP voted that the Task Force should retain Principles 5 and 7 as written.

The Task Force will retain these principles as written.

MAJORITY VOTE. The SAP voted 8 – 2 (Bauer, Schmanska) that the Task Force should retain Principle 13 as written.

The Task Force will retain this principle as written.

MINORITY RECOMMENDATION.

13. The State of Maine will provide and encourage incentives for innovation in marine aquaculture.

Bauer and Schmanska recommend that the Task Force use the following alternative language: *The State of Maine will ensure that a balance of state financial resource allocation be maintained between all users of the marine environment.*

The Task Force did not agree to accept this recommendation.

MINORITY REPORTS. Bauer and Schmanska expressed general concern about both 5. and 7.

5. The State of Maine will encourage local participation in aquaculture permitting decisions.
7. Maine's aquaculture leasing process will provide for open communication amongst stakeholders.

***Bauer, Fleming, and Knox** feel strongly that the TF draft report, in itself does not follow the principles established in #5 and #7.*

The Task Force considered these comments but decided not to take any action.

IV. MAINE'S AQUACULTURE INDUSTRY: CHARACTERISTICS AND TRENDS

CONSENSUS. The SAP reached consensus on 3 recommendations pertaining to the Task Force Findings.

Current Status section

1. Page 5 #3, amend the language as follows: Maine's shellfish aquaculture industry consists of mussel, oyster, hard clam, *soft-shell clams*, and surf clam culture. *(this addition was suggested because hatcheries raise soft shell clams for municipalities)*

The Task Force voted (11-0) to accept this recommendation.

2. On page 5, #5, reference to clams needs to be expanded to include other wild harvest of shellfish – mussels and mahogany clams. David Etnier agreed that staff could provide a number corresponding to wild shellfish harvest. *(Number from Sue Inches needs to be incorporated into the report)*

The Task Force voted (11-0) to accept this recommendation.

Trends: Finfish

3. The reference to the number of jobs in finfish aquaculture on page 6, #5 is incorrect, should be 225 jobs as appears on page 5.

The Task Force voted (11-0) to accept this recommendation.

Task Force Recommendations

The SAP agreed that the Task Force should omit the one Recommendation contained in this section (see page 7 and 8 of TF report) and that the remainder of the section be retained to serve as background information. SAP members agree that the economic trends information did not provide a linkage to the vision and principles. SAP members were also confused that the vision and principles appeared in two places in the draft report.

The Task Force does not agree and does not accept this recommendation. The Task Force feels that it is important to emphasize the need for the Legislature to adopt this vision and these principles as their own (through a statutory change) and wants to include the vision and principles in both sections.

MINORITY RECOMMENDATION. The following minority recommendation is supported by Bauer, Fleming, Knox, and Schmanska and should substitute for the existing TF Recommendation: *The state should commission an economic study of the industry that recognizes the external costs of aquaculture (such as lost fishing grounds, cost of pollution and impaired habitat, impacts to municipal services, and impacts to other tourism, marine and coastal industries) to better identify net economic and social impacts.*

The economic studies of the industry conducted to date fail to provide a true evaluation of the net economic and social impacts from the industry. Therefore, they do not provide an accurate characterization of the net contributions of the industry to Maine.

The Task Force discussed the recommendation above and all were opposed (0-11).

INDIVIDUAL COMMENTS

- Belle proposed alternate language to the above minority recommendation: *As Maine's coastlines are increasingly developed conflicts between different uses will inevitably increase. The state should conduct an economic and sociological study of the costs and benefits of all uses to determine such net benefits. This study should include an analysis of external costs.*

The Task Force did not agree to accept this recommendation.

- Belle requests a reference to the O'Hara study.

The Task Force agreed that the report should reference that they also received and considered the O'Hara study (11-0).

- Belle on Section IV. Findings, Current Status (see Appendix I.A)

The Task Force considered these comments but decided not to take any action.

- Swanson on Section IV. Findings, Trends: Finfish, ¶ 7. (see Appendix I.B)

The Task Force considered these comments but decided not to take any action.

- Knox has a continuing concern with regard to the TF report's description of the economic health of the industry and projected future trends in light of the U.S. District Court ruling. I hope the final draft of executive summary reflects the current and future impacts of this very important influence.

The Task Force agreed that the ruling¹⁹ was very significant, and that it should be referenced in the Introduction to the report.

V. STATE AND FEDERAL LAW RELATING TO SUBMERGED PROPERTY AND RIPARIAN RIGHTS, AND THE ADEQUACY OF SUCH LAW TO ADDRESS CURRENT ISSUES RELATING TO THE USE OF MAINE'S COASTAL WATERS.

CONSENSUS. The SAP reached consensus on the following recommendations for consideration by the TF.

1. Jeff Pidot should review this section to ensure its accuracy with respect to interpretation of existing statutes and case law.

The Task Force voted (11-0) to accept this recommendation. The review has been completed.

2. DMR staff should review this section to ensure that references to “intertidal” and “subtidal” are clear throughout the section. Different ownership and rights pertain to intertidal and subtidal.

The Task Force voted (11-0) to accept this recommendation. The review has been completed.

3. The Task Force's last paragraph in their conclusion (p. 11) is contradictory. The SAP suggested that this paragraph be modified as follows: *“After examining the complex legal framework concerning submerged lands management, the Task*

¹⁹ U.S. District Judge Gene Carter's May 28 ruling requiring Atlantic Salmon of Maine and Stolt Sea Farms to fallow certain net pens for two years, comply with federal Clean Water Act discharge requirements, and use only Atlantic salmon native to North America in their stocking operations.

Force has made recommendations (contained in other sections of this report), that if implemented, would improve the consideration of public uses during the leasing process.”

The Task Force accepted the intent, but not the language provided in this recommendation. This section of the Task Force Report has been modified.

INDIVIDUAL COMMENTS

Fleming will submit comments related to his opinion that the characterization of the public trust doctrine in the TF report is framed too narrowly. He disagrees strongly with many of the legal assertions and conclusions in this section.

Fleming’s comments are included in Appendix 1.C to the SAP report.

Manson cited the importance of this section because it directs other recommendations, especially those where the TF responded to requests for changes in leasing criteria related to property values and views. She suggests the TF should expand on this section, include more discussion and make additional reference to it in other sections.

The Task Force believes that the redraft of this section following Mr. Pidot’s review achieves these goals.

VI. ASSESSMENT OF THE LEASING PROCESS

A. Administrative Procedure Act (APA) Lease Process

1. Formality of Lease Process

CONSENSUS. The SAP agreed with the three Recommendations in this section (p.14).

The Task Force will retain these recommendations.

2. Local Input Prior to Application Submission

CONSENSUS. The SAP agreed with providing the following three Recommendations for the Task Force’s consideration.

1. The scoping session referred to in the existing Recommendation (p. 15) should be mandatory. This is a significant opportunity for input into the process prior to submittal of a formal application. The statute could be amended in the future to allow for some discretion if experience with mandatory sessions proved a need for such discretion.

The Task Force voted (11-0) to accept this recommendation.

2. David Etnier noted that a mandatory scoping session requirement will add a fiscal note to the recommendation since funds would be needed for legal ads and press

releases. The SAP agreed that the Task Force should consider placing the responsibility for notices and ads on the applicant.

The Task Force voted (11-0) to accept the recommendation to place the responsibility for notices and ads on the applicant.

3. The SAP noted that the applicants rights are not protected until the submission of a completed application, i.e. a potential applicant could participate in a pre-application scoping session and another person could apply for the same lease site, benefiting from the information provided at the scoping session. The SAP recommends that DMR's rules (Section 2.4.1) include the following language – ***“After a scoping session, the applicant has 60 days to file a completed application. During this 60-day period the DMR cannot accept an application for a lease in the same area.”***

The Task Force accepted the recommendation to include the language above, but to provide 6 months to file the completed application as suggested in the individual comment provide by Erick Swanson below, rather than 60 days.

INDIVIDUAL COMMENT. Swanson believes that the 60 day period should be to inform DMR of the final location, the boundaries, of the proposed application. Development of a complete application with time constraints for when field work can be completed can take 6 months or more, so I suggest 6 months be allowed for submission of a complete application *after* written notification of the boundaries of the proposed lease location to DMR. The intent is that – lacking notification to DMR within the 60 day period – the area included in the pre-application meeting is open. The 6 month period begins when a letter is received by DMR detailing the proposed lease boundaries and only for that described area. Last, DMR should have discretion to determine what is the proposed general area and if other applications or pre-application requests are outside of this area. I couldn't claim the entire coast of Maine, for example. Rather than some arbitrary size limit, DMR discretion is a better option.

The Task Force agreed that 6 months is a reasonable amount of time for an applicant to produce a completed application.

3. Public Information and Communication

CONSENSUS RECOMMENDATION. *The SAP reached a consensus agreement on supporting the three existing Recommendations.* The SAP also agreed with providing the following modification to Finding 1 for the Task Force's consideration.

1. In finding #1 in this section (p. 15), modify the first finding so that it reads ***“There is a need to inform the public regarding the specifics of the leasing process and opportunities for participation.”*** This statement helps inform what type of educational information is needed. Some SAP members felt that

otherwise, there was an opportunity for one-sided information in support of aquaculture to be the focus of this effort.

The Task Force accepted this recommendation.

4. Conflict Resolution or Mediation Procedures

CONSENSUS. The SAP agreed with the TF's two recommendations in this section.

The Task Force will retain these two recommendations.

B. ROLE OF MUNICIPAL GOVERNMENT IN THE LEASING APPLICATION AND APPROVAL PROCESS.

1. Timing and Adequacy of Municipal Involvement in the Lease Process

CONSENSUS RECOMMENDATION. The SAP agreed on the following recommendation for consideration by the Task Force:

- 1. The language in the second Recommendation in this section should be changed to reflect that the scoping session is mandatory.*

The Task Force voted (11-0) to accept this recommendation.

2. Mooring Fees

Editorial question: is finding #7 in this section more of a recommendation than a finding? The Task Force agrees that this is a recommendation, and that its intent is covered under the existing recommendation.

CONSENSUS RECOMMENDATION. The language in finding #3 in this section should be changed to read *“In some towns, leaseholders pay other fees to municipalities such as personal property taxes on equipments, fees for use of docks and piers and boat mooring fees.”*

The Task Force voted (11-0) to accept this recommendation.

MAJORITY RECOMMENDATION. The SAP voted 7 – 1 (Turner) that despite possible contradictions with Findings 2, 3, 4, 5, and 7 the Task Force should substitute the following for the existing Recommendation (p. 17):

- 1. Due to the wording of Title 38, structural mooring systems associated with aquaculture sites are not to be regulated by municipalities. Title 38 remains unchanged.*
- 2. All existing vessel moorings within the boundaries of a lease area shall be considered "grandfathered" and shall not be regulated by municipalities.*

3. All new vessel moorings within the boundaries of a lease area may be regulated by a municipality using the same fee schedule as all other users according to that municipalities' harbor ordinance.

The Task Force did not accept this recommendation; voting (0-11) whether to accept it. The Task Force spent a great deal of time considering this issue, both during the course of their work and following receipt of this recommendation from the SAP. The two basic reasons underlying the harbormaster's responsibilities under Title 38 are the need to keep the lanes open for the purposes of navigation and to provide anchorage. Ultimately, the Task Force did not feel that either of these reasons justified any municipal authority over moorings within the boundaries of a lease site. Under the decision criteria, a lease cannot be granted if it interferes with navigation. Therefore, a lease holder placing a vessel mooring within their lease would not provide a hazard to navigation. The Task Force believes that asking the lease holder to pay a fee for vessel moorings inside the boundaries of their lease is essentially asking them to pay twice for the right to use the same area, and does not believe that this is fair.

INDIVIDUAL RECOMMENDATION.

Belle proposes the following alternative language: ***Existing moorings within lease sites should be grandfathered. Towns should have the ability to assess mooring fees on future vessels that are moored within the confines of a lease site. Fees for these moorings should be consistent with other town mooring rates for commercial vessels. Local harbormasters should also be allowed to review the adequacy of those moorings relative to the vessels to be moored on them. Towns should not have the authority to charge mooring fees for structural mooring associated with aquaculture equipment. Local harbormasters should not have the authority to review the adequacy of structural moorings as they tend to be highly specialized and technically complicated.***

The Task Force agreed to not alter their existing recommendation.

INDIVIDUAL COMMENTS.

Turner is in agreement with the Task Force recommendation: Chapter 38 should be clarified in order to eliminate any potential legal issues. The SAP majority will create a double dip on mooring fees for aquaculture because:

1. The Eastport municipal tax assessor does assess a personal property tax on the mooring ball system in addition to all cages/nets, stripping barges, net barges, feed barges, feed equipment, etc.
2. The private and commercial fishery moorings are not assessed a personal property tax
3. Many municipalities choose not to assess a person property tax - their decision.
4. The SAP majority will not place everyone on an even keel as stated.

Also, most municipalities do not have an active Harbor Master and many do not even have a Harbor Master; the Task Force findings # 2, 3, 4, and 5 have not changed; the majority opinion leaves the door open on Title 38 (number not certain) and provides

another tool for excluding aquaculture; and these tools could be used against commercial fisheries and the working waterfront in the future.

The Task Force decided to retain their original recommendation.

Horne asks that the TF give serious consideration to the recommended changes in the Mooring Fees section. These changes, if adopted, would go a long way towards clarifying how municipalities treat vessel moorings within aquaculture sites and give harbor masters the proper authority to ensure that all vessel moorings are in compliance with town standards for such equipment.

The Task Force decided to retain their original recommendation.

3. Intervener Status

CONSENSUS. The SAP was in agreement with the TF's two recommendations in this section.

The Task Force will retain these two recommendations.

4. Intertidal Leasing

CONSENSUS. The SAP was in agreement with the TF's one recommendation in this section.

The Task Force will retain this recommendation.

5. Municipal Input on Lease Decisions

CONSENSUS. The SAP was in agreement with the TF's one recommendation in this section.

The Task Force will retain this recommendation.

C. Decision Criteria for Granting Leases

1. Noise and Light

CONSENSUS RECOMMENDATIONS. The SAP agreed that the Task Force should change page 67 of the draft report as follows:

Applicability. as is.

The Task Force will retain this paragraph.

Exterior Lighting. Paragraph 1 as is.

The Task Force will retain this paragraph.

Paragraph 2: change "prevent" to "reduce"

The Task Force agreed to make this change.

Paragraph 3: omit and revert to original DMR memo draft language: “Do not use spot lights or flood lights or lights that project anywhere other than directly down upon the area to be illuminated.”

The Task Force agreed to make this change.

Paragraph 4: omit and substitute: “Use minimum wattage necessary.”

The Task Force agreed to change the language to the following: “Exterior lighting shall be no more than 250 watts per fixture, with the exception of required navigational lighting”.

Husbandry Lighting. Prior to the use of husbandry lighting, the operator should receive written approval of DMR. [Note, this idea was discussed and Fleming’s memory is that there was consensus; however, the notes are not clear as to whether there was full consensus on this language.]

The Task Force considered this recommendation and decided to keep their original language. The Task Force considered Roger Fleming’s email as an individual comment.

MINORITY RECOMMENDATION. Bauer, Fleming, Knox, Manson, and Schmanska propose the following language: *Proposed statutory and regulatory changes must leave it clear that the requirement to demonstrate that all reasonable efforts will be taken to mitigate noise and light impacts from the lease activities does not supplant the obligation to avoid unreasonable impacts from noise and light at the lease boundaries.*

We appreciate the complexity of quantifying permissible noise and visual impacts relating to aquaculture operations and understand the task force’s desire to unburden the Department from this task. The proposed rules for mitigating noise and light impacts are a good start at addressing this issue. However, the proposal still leaves open the possibility that a commercially practical effort to mitigate noise and light impacts may still result in unreasonable impacts from the point of view of a competing user of the public resource. Decision criteria 7-A G states the goal: “will not result in unreasonable impact...” Standards of reasonable efforts should not supplant the obligation to avoid unreasonable impacts. If the Department is not tasked with quantifying impacts then it must stand ready to deny permit applications where all planned mitigation efforts still result in unreasonable impacts due to specific circumstances in the area surrounding the proposed lease sites.

The Task Force voted (11-0) to address the intent of the minority recommendation by removing the underlined language below and placing it in both the light and noise regulations instead.

G. Will not result in unreasonable impact from noise or light at the boundaries of the lease site. For purposes of this paragraph, an applicant shall demonstrate that all reasonable measures will be taken to mitigate noise and light impacts from the lease activities; and

2. Visual Impact Criteria

CONSENSUS. The SAP noted that the recommendations in this section need to be better explained in context of public trust, given the input that was received from the public on this topic. The SAP requests that the Task Force elaborate on their discussion in the findings section.

The Task Force agreed that the visual impacts of aquaculture are a central part of the debate, and that it would be helpful to expand the issue summary and findings to better explain their thinking on this topic. The Task Force asked staff to redraft this section of the Task Force report to reflect the difference between a public viewshed and the view of private property owner.

MAJORITY VOTE. The SAP voted 5 (Manson, Turner, and others) – 2 (Fleming, Knox) – 3 (record not clear) [the facilitator and note taker apologize that the record was not clear] that they were in agreement with the Task Force’s second recommendations in this section.

The Task Force will retain the second recommendation.

MAJORITY RECOMMENDATION. The majority from above agreed that the Task Force’s first Recommendation in this section (and language in appendix A.5) should be amended to specify that structures associated with existing aquaculture operations are grandfathered, as follows (provided by Belle): *structures that exist or are under construction at the time of enactment of the rule are exempted from the height restriction for their useful lifetime.*

The Task Force voted (8-0-3) to accept this recommendation.

MINORITY RECOMMENDATION. The following recommendation is supported by Bauer, Fleming, and Knox.

DMR should adopt a simplified version of the visual impact assessment described in Chapter 315 to be conducted by regulatory staff.

We disagree with the conclusion in the finding #3 of this section and recommendation #2. Chapter 315 provides some excellent technical guidance for the evaluation of visual impacts from public or private view sheds where a natural resource is altered. The list of resources by which visual mitigation is imposed includes coastal and fresh water wetlands, great ponds, mountain areas, rivers, streams and brooks. The Atlantic Ocean, another defined Natural Resource Area, should be similarly treated when aquaculture development alters that resource, irrespective of whether there are public or private vantage points impacted, because all of the Atlantic Ocean is a public vantage point. Therefore, we believe that that process and model set forth in Chapter 315 are indeed appropriate for applying to aquaculture lease applications, and, because the model has already been adopted by the Maine Department of Environmental Protection, a simplified version could easily be adopted by the Department of Marine Resources.

The Task Force did not agree to accept this recommendation.

INDIVIDUAL COMMENTS. Manson suggested that a source or definition for “Chapter 315” needs to be explained, i.e. Chapter 315 refers to that section of DEPs regulations for the Natural Resources Protection Act.

The Task Force agreed that a definition should be provided and asked staff to amend this section as appropriate.

Fleming agrees with Belle’s addition to the Majority Recommendation.

3. Sufficiency of Existing Decision Criteria

MAJORITY VOTES. The SAP voted 5 (Bauer, Fleming, Knox, Manson, Schmanska) – 2 (Belle, Turner) – 3 (Horne, Morris, Swanson) to agree with the Task Force’s 1st recommendation in this section, relating to the consideration of the number and density of all leases into consideration when reviewing a new lease application.

SAP voted 7 (Belle, Horne, Manson, Morris, Schmanska, Swanson, Turner) – 3 (Bauer, Fleming, Knox) – 0 to agree with the TF’s 3rd recommendation in this section, pertaining to consideration of views of riparian landowners.

The Task Force will retain recommendations 1 and 3.

MINORITY RECOMMENDATION. The following minority recommendation is supported by Bauer, Fleming, and Knox.

1. The State should establish explicit criteria recognizing the need to consider “other uses” of the project area including the scenic and wild character of the area; conservation in the area; the area tourism, recreation, marine trades or other economies; and the cultural heritage of the area.

2. The State should commission an inventory of scenic and wild resources to be used to identify areas of high scenic and wild value.

This could easily be done by amending the siting criteria at 12 M.R.S.A. §6072 sub-§7-A(C) to state some examples of what the term “other uses” includes, as the legislature has done for fishing resources. Inventories of scenic and wild resources exist for some areas of the coast. A complete inventory would assist the Commissioner in identifying and considering areas of high scenic and wild value in the lease decisions.

The Task Force did not agree to accept this recommendation.

MINORITY REPORT. Belle, Horne, Swanson, and Turner were opposed or abstaining to the TF first Recommendation to relocate language related to cumulative impact. They observed that rather than clarifying what is existing DMR staff practice now, the change might be a significant change from the way this wording is used currently during the

lease process. The Task Force's proposed change would broaden the DMR's assessment of density and number beyond the consideration of other "uses" to all seven leasing criteria. This would be done without providing any guidance on what relevance the density and number of aquaculture sites may have to each criteria. For example the department would be forced to consider the cumulative impact of the number and density of aquaculture leases on upland wildlife habitat. While there is little or no evidence to suggest there is any impact there is also virtually no literature on this subject. In order to reduce the risk of litigation the department would be forced to take the most conservative position in its assessment of density and number without any other basis than the precautionary principle. By retaining the language as originally written the department can at least refer to its site survey and local testimony with respect to other uses.

The Task Force did not agree to accept this recommendation.

INDIVIDUAL COMMENTS. Bauer was in favor of applying this overarching cumulative impact criterion to lease renewal applications as well. The Recommendation from the Task Force for no lease renewal hearings, in effect make the first lease approval a lifetime lease.

The Task Force did not agree to accept this recommendation.

Manson thought that this entire section of the report is based on the previous public trust section and suggested that that concept needs to be highlighted and further developed in this section.

The Task Force did not agree to accept this recommendation.

4. Final Decision-Maker

CONSENSUS. Members of the SAP were in agreement with the TF's second Recommendation in this section pertaining to the movement of industry development functions from DMR to DECD.

The Task Force will retain the second recommendation.

MAJORITY VOTE. The SAP voted 6 – 2 (Bauer, Fleming) – 2 (Knox, Schmanska) in favor of the TF's first Recommendation in this section pertaining to the retention of the Commissioner as the final decision-maker on leases.

The Task Force will retain the first recommendation.

MINORITY RECOMMENDATION. Minority Recommendation supported by Bauer and Fleming.

An Aquaculture Lease Review Board should make aquaculture lease siting decisions. The board should be structured as follows:

- A. It should consist of two (2), five (5) member boards representing Eastern and Western sections of the Coast.***

B. Members of each board would include (1) one member from the Marine Advisory Council, (2) one elected official from the town of application, (3) one member from the Aquaculture Industry, (4) one member from a connected local conservation or environmental organization and (5) the DMR hearing officer.
C. Boards would convene at final public hearing, not scoping sessions. Votes would be part of the public record.

We believe a board consisting of five members would improve siting decisions. It is common for natural resource industries to be regulated by boards, including federal fisheries, interstate fisheries, and Maine State fisheries. A state board representing a broader set of interests would improve technical expertise through greater familiarity with industry and other public resource users. A board would also improve local knowledge of marine uses and local ecology. Local participation in the decision-making process would also improve confidence in the siting decisions and give the public a greater sense of participation in managing their bays. As an alternative to resting final decision-making authority with the board, the board could make recommended decisions to the Commissioner, as the hearing officer does now, who would have final decision-making authority. This would provide the Commissioner with the benefit of the expertise of a diverse board while retaining his decision-making authority.

The Task Force considered, but did not accept this recommendation (by a vote of 4-7). Some members of the Task Force had a strong interest in this concept, but felt that the details were not sufficiently developed to accept this SAP recommendation. The Task Force requested that staff capture this interest and include it in the issue summary for this section.

D. Lease Renewals and Transfers

CONSENSUS. The SAP agreed that the Task Force should create a fifth Recommendation in this section as follows:

- 5. The Department shall notify municipalities upon the receipt of an application for a renewal of an aquaculture lease.***

The Task Force did not accept this recommendation (11-0) because they noted that the Department already does this, and therefore there is no need to make this recommendation.

MAJORITY VOTE. SAP voted 6 – 3 (Bauer, Fleming, Schmanska) – 1 (Knox) to support the Recommendations 1-4 in this section of the TF report.

The Task Force will retain recommendations 1-4.

MINORITY RECOMMENDATION. The minority recommended that: *The Task Force should not recommend eliminating the statutory requirement for a hearing upon five or more requests.*

We strongly object to this Task Force Recommendation. The Task Force was convened to address the controversy and public acrimony referred to in the legislative resolve. We believe that the lease of public trust resources is an extraordinary decision and that the opportunity to have such a decision reviewed at the conclusion of a lease term is reasonable. Although it is easy to understand the industry's desire for regulatory certainty and to avoid expense, we believe the concern that the public would arbitrarily request hearings is greatly exaggerated. The fact is the criteria for lease renewal are narrow (whether the applicant has complied with the lease and other legal obligations and whether renewal is in the best interest of the state) and we are only aware of a single instance where such a hearing has even taken place. It is apparent from the information generated at that hearing, however, that it was warranted and that DMR was presented with significant valuable comment and other evidence it would not have been aware of through its own review or during a written public comment period. After a hearing with intervening parties, eighty or more people attended a public hearing and many, including several fishermen, local officials, and other members of the public provided relevant oral testimony on the renewal. Many would not have commented without a public hearing and opportunity for oral comment because it is more difficult for some individuals to write extensive comments. The hearing also provides the opportunity for the applicant and interveners to ask questions of the commenter, thus testing the veracity of the comments.

The Task Force voted (7-2-2) to eliminate recommendations 2 and 4. Instead, upon five or more requests, DMR shall hold a scoping session. The Department will provide a 30 day period to request a scoping session, or provide written comment.

The Task Force also voted (1-10) on whether to accept the original SAP minority recommendation.

MINORITY REPORT. Fleming and Schmanska requested that if the Recommendations of the Task Force are retained in their current form that criteria be developed to guide DMR's implementation of "when it deems necessary" to hold a hearing or scoping session.

The Task Force revised their recommendation to hold a scoping session upon five or more requests.

INDIVIDUAL COMMENTS. Manson says that while she agrees that the more public input the better for all involved, she is concerned with "five or more requests". Based on what? She would prefer to have well defined criteria as the threshold for holding a hearing so I do not support this as written.

The Task Force considered this recommendation but did not take any action.

2. Fees for Renewal and Transfer Applications

MAJORITY VOTE. The SAP voted 9 – 1 (Bauer) that the Task Force should add a second Recommendation to this section to specify: *“DMR should consult with the aquaculture industry during its comprehensive review of the fee schedule.”*

The Task Force voted (9-2) to not accept this recommendation. Because the fees are contained in DMR regulations, any amendment to the fees will go through the standard rule-making process, and anyone with an interest will have opportunity to comment. Therefore, this recommendation is redundant.

TIE VOTE. The SAP voted 5 (Belle, Horne, Morris, Swanson, Turner) – 5 (Bauer, Fleming, Knox, Manson, Morris) with regard to the Task Force’s recommendation in this section to assess a reasonable fee for these applications.

GROUP RECOMMENDATION. Belle, Horne, Morris, Swanson, and Turner propose the following language: *“Reasonable fees for lease transfer and renewal applications should be charged. These fees should be designed to defray the administrative costs of processing such applications. The state currently discourages lease speculation through statute. Fees for lease transfers designed to “capture” and tax a leases “value” would be inconsistent with these statutes. No similar transfer taxes currently exist in Maine’s commercial fisheries. If a transfer tax is imposed the statutory language prohibiting speculation should also be removed.”*

The Task Force voted (11-0) to reject this recommendation. However, they did agree (11-0) to delete Finding #2.

INDIVIDUAL OPINION. Bauer suggested that the DMR be required to consult with other, non-industry members during its review of the fee schedule.

The Task Force determined that because the fees are contained in DMR regulations, any amendment to the fees will go through the standard rule-making process, and anyone with an interest will have opportunity to comment. Therefore, there is no need to make this recommendation.

E. Administrative Issues

1. Lease Acreage Limit

MAJORITY VOTE. The SAP voted 7 – 4 (Bauer, Fleming, Knox, Schmanska) in favor of the TF’s two Recommendations in this section, to increase the maximum lease acreage to 500 acres, and to create incentives for those who remain at smaller acreage.

They note that the need to increase the cap is linked to the need to rotate and fallow active lease sites. The number of acres required to do this depends on the species, its life cycle and the culture method being used. For salmon in order to maintain production, achieve year-class separation and full fallowing 3 lease sites are needed for everyone currently in use. Thus the states current finfish acreage (745 acres) should be tripled to 2235 acres. For an individual company, currently limited to 250 acres this translates into 750 acres. Even at those acreages finfish aquaculture would occupy only 8/10ths of 1% of state waters.

The Task Force voted (9-1; 1 absent) to retain these two recommendations.

MINORITY RECOMMENDATION. The minority agreed that there was insufficient evidence that a doubling of the acreage is needed to accomplish fallowing. The findings in this section of the report do not substantiate the recommendation. The following recommendation is supported by Bauer, Fleming, Knox, and Schmanska.

The recommendation to double the finfish lease acreage to 500 acres should be rejected.

We disagree with the conclusion in finding #1 of this section. There was no evidence provided to demonstrate that any fish farm operation requires more than 250 acres to accomplish necessary fallowing. Only large conglomerates expressed a need for more than 250 acres (note: Heritage Seafood). Expanding the limit would favor monopolization and exclude small farmers due to competition with better-financed, often foreign conglomerates that take advantage of economies of scale. Tiered rental fees will only encourage dissembling by large companies who control nominal small-scale operations and applicants. The suggestion for three times the acreage is not supported by the record, which shows that historically up to one half of the sites are not occupied at any given time. DMR's requirement for fallowing is for three months, so staggered production schedules could accomplish the same objectives.

The Task Force decided to retain their original recommendation.

2. Enforcement

CONSENSUS. The SAP reached consensus to support the TF's first recommendation in the section, to evaluate the new enforcement initiative.

The Task Force will retain their first recommendation.

MAJORITY VOTE. The SAP voted 9 – 1 (Bauer) to support the TF's second recommendation in this section to call for more funding for enforcement.

The Task Force will retain its second recommendation.

INDIVIDUAL COMMENTS. Bauer supports additional funding for enforcement only if the enhanced funding is generated by the industry.

The Task Force did not agree to accept this recommendation.

3. Lease Fees and Fines

CONSENSUS RECOMMENDATION. SAP members reached consensus to support the Task Force's second recommendation in this section pertaining to fines for lease violations, provided that the wording of the recommendation was changed to: *A schedule of fines for lease violations should be developed.* The SAP could not agree that fines associated

with leases be earmarked for enforcement activities. Some were of the opinion that fines collected should be transferred to research budget.

The Task Force voted (9-0; 2 absent) to replace Recommendation #2 with the following text: *All aquaculture leases should contain monetary penalties for lease violations. DMR should develop a schedule of penalties for lease violations.*

MAJORITY VOTE. The SAP voted 9 – 1 (Belle) to support the Task Force’s first recommendation provided that the language in the recommendation was changed as follows: *“Lease rental fees should be changed and should vary...”*

The Task Force agreed to modify their first recommendation (10-0; 1 absent).

INDIVIDUAL COMMENTS. Bauer would like to see some percentage of fees coming back to the town as an impact fee to compensate for the loss of bottom.

The Task Force did not agree to accept this recommendation.

Belle and Turner believe that rental fees and violation fines should be consistent with other fee and fine schedules currently in force in Maine’s commercial fisheries. Fines should also be developed for false testimony given during lease hearings as this has been a consistent problem with no known instances of prosecution under existing state perjury laws.

The Task Force did not agree to accept this recommendation.

4. Time Period of Site Review

CONSENSUS. The SAP was in consensus agreement with the TF’s first Recommendation in this section.

The Task Force will retain their first recommendation.

MAJORITY VOTE. The SAP voted 9 – 1 (Fleming) in agreement with the TF’s second Recommendation in this section.

The Task Force will retain the second recommendation.

INDIVIDUAL RECOMMENDATION. Fleming supports (and believes there as consensus SAP support for) stronger language in the second recommendation in this section as follows: *The DMR and DEP, should to the extent practicable, conduct site visits...this may require more than one site visit.*

The Task Force did not agree to accept this recommendation.

5. Polyculture

CONSENSUS. Members of the SAP were in agreement with the TF's two recommendations in this section, provided that the second recommendation is modified to read: *"DMR and DEP should develop some reasonable incentives for the expansion of polyculture type leases."*

The Task Force agreed (9-1-1) to modify the second recommendation in the following way: *"Reasonable incentives for the expansion of polyculture type leases should be developed."*

F. Experimental Leases

CONSENSUS. The SAP supported the third of three TF recommendations in this section, pertaining to the start date for experimental leases.

The Task Force will retain their third recommendation.

The SAP also reached consensus that if the TF eliminated the public hearing possibility for experimental leases, that a 30-day comment period be substituted instead.

The Task Force accepted the recommendation to include a 30-day comment period.

MAJORITY VOTE (DURING MEETING). The SAP voted 6 – 1 (Knox) – 3 (Bauer, Fleming, and Schmanska) to support the TF's second Recommendation in this section pertaining to a discretionary scoping session.

TIE VOTE. The SAP voted 5 (Belle, Horne, Turner, Morris, Swanson) – 5 (Bauer, Fleming, Knox, Manson, Schmanska) concerning the TF's first Recommendation in this section pertaining to the elimination of the public hearing requirement for experimental leases.

The five members of the SAP that supported the Task Force Recommendation 1 note that experimental leases are of short duration and limited extent. Any operator wishing to continue to operate in state waters must go through a full standard leasing procedure in which the public participation opportunities have been significantly increased. Opponents of the proposal will have three years of experience with the operator and have an extended opportunity to gather evidence against that operator if they so wish.

The Task Force voted to retain their original recommendation to eliminate the hearing.

GROUP RECOMMENDATION (AFTER MEETING BY EMAIL). Belle, Horne, Manson, Schmanska, Swanson, and Turner propose that the Task Force keep recommendation #1 and replace the language in recommendation #2 to read as follows: *DMR shall hold a mandatory public scoping session for experimental leases as well as a 30-day comment period and DMR should have the discretion to hold a public hearing.*

MINORITY RECOMMENDATION. The following recommendation is supported by Bauer, Fleming, and Schmanska.

The public scoping session should be mandatory.

We believe that the public scoping session offers significant value to the siting process and for reasons discussed in the report supporting the scoping session for regular leases, and those concerns discussed above about the need for an opportunity for hearing, the public scoping session should be mandatory for experimental leases as well. It is better to error on the side of having an occasional opportunity for public involvement that is not taken advantage of, than to exclude the public when real concerns exist. It may be that if little public interest is shown at the scoping session, or if issues are resolved, it will be demonstrated there is no need for a hearing and the public request will not be made.

MINORITY RECOMMENDATION. The following recommendation is supported by Bauer, Fleming, Knox, and Schmanska.

The Task Force should not recommend eliminating the statutory requirement for a hearing upon five or more requests.

Many of the reasons for a hearing on experimental leases are as discussed in the recommendation Section VI D 1; Procedure for Lease Renewals and Transfers (Above). Public participation in lease decisions should be encouraged. Many of the same issues associated with regular leases can arise in an experimental lease as well, including conflicts associated with navigation, recreation, fishing, and ecological impacts (wildlife, exotics, etc.). Unfortunately, three years on site can be a long time for these impacts to occur before having the review offered by a hearing, and there is a public concern that once established on an experimental basis, the now existing lease would take precedence over a prior use conflict. While sympathetic to aquaculturalists' arguments about the burden of a public hearing, experimental lease hearings for shellfish projects are less onerous and sometimes do not occur at all. In addition, for truly experimental purposes, there is now the option for a Limited Purpose Aquaculture (LPA) License that is small, is for gear only, and does not provide for a public hearing.

INDIVIDUAL RECOMMENDATION. Horne proposes that the TF keep recommendation #1 and replace the language in recommendation #2 to read as follows: ***DMR should hold a mandatory public scoping session for experimental leases as well as a 30-day comment period.***

Manson says that while she agrees that the more public input the better for all involved, she is concerned with "five or more requests". Based on what? She would prefer to have well defined criteria as the threshold for holding a hearing so I do not support this as written.

In response to the group, minority, and individual recommendations, the Task Force voted to retain their original recommendation to eliminate the hearing. Instead, the Department will provide a 30-day comment period, and upon 5 or more requests, will hold a scoping session. The Department shall have the discretion to hold a public hearing, if it deems necessary.

VII. IMPACTS OF AQUACULTURE ON OTHER USES – TOURISM, RECREATION, CONSERVED LANDS COMMERCIAL FISHING

A. Tourism

CONSENSUS RECOMMENDATION. Members of the SAP reached consensus on the TF one recommendation in this section, and on two suggested changes to the findings section.

- Finding #1: Add a third sentence *“There was also anecdotal evidence presented about negative effects of aquaculture on tourism.”*

The Task Force agreed to accept this recommendation with the following modification: *“...potential negative effects...”*.

- Finding #5: The SAP agrees that the TF should include a stronger explanation of why they “did not consider it necessary to amend the leasing criteria.

The Task Force agreed text should be added regarding private property impacts, positive interactions with tourism and aquaculture – some concerns expressed, but no empirical evidence of economic impacts on shore side businesses.

- Although the SAP is in agreement with the TF’s one recommendation in this section, concerning a coordinated informational campaign on the working waterfront, the reference to the “Office of Tourism and its advisory council” is incorrect. This phrase should be *“Office of Tourism and the Maine Tourism Commission.”*

The Task Force accepted the recommendation to make this change.

B. Recreation

CONSENSUS. The SAP agreed that the TF was correct in not making any recommendations specific to the topic of recreation.

C. Conserved Lands

Editorial note: Recommendation #1 in this section – the “and” that separates “a” and “b” should be replaced with “or.” Agreed to by Task Force and corrected.

MAJORITY RECOMMENDATION. The SAP voted 5 (Belle, Horne, Morris, Schmanska, Turner) – 4 (Bauer, Fleming, Knox, Manson) – 1 (Swanson) to oppose the language in the Task Force’s first Recommendation in this section, which added conserved lands and LMF lands to the leasing criteria. The TF’s recommendation defines conserved lands as “land in fee ownership that has been acquired by the local, state or federal government in order to protect the important ecological, recreational, scenic, cultural or historic attributes of that property or b) land that has been protected through fee ownership or conservation easement with funding from the Land for Maine’s Future Program.”

The majority suggests that the Task force insert in b. *land that has been protected through fee ownership and that allows full public access with funding from Land for Maine’s Future. A public hearing should be conducted prior to the LMF transaction to determine what if any impact the LMF transaction will have on Maine’s citizens’ ability to make a living on the public waters within the 1000ft zone. Existing or*

currently pending leases should be grandfathered from section b. In the event that land is conserved using LMF funds after a lease has been granted the impact of the lease on those conserved lands should not be considered during lease renewals or transfers.

The Task Force agreed not to accept this recommendation. Public hearings are already required prior to LMF acquisitions.

MAJORITY VOTE. The SAP voted 5 – 4 (Bauer, Fleming, Knox, Manson) – 1(Swanson) to oppose Recommendation #2 in this section.

The Task Force agreed not to accept this recommendation. These regulations are necessary to implement the proposed change in the decision criteria.

MINORITY RECOMMENDATION. The following minority recommendation is supported by Bauer, Fleming, and Knox.

We recommend expansion of the recommendation to cover land and easements purchased with funding from any governmental conservation program.

We recommend a change from 1000 feet to 2500 feet as the distance within which the Commissioner must consider the unreasonable impacts of a proposed aquaculture project, the point at which visual impacts become meaningfully diminished.

The recommendation of the Task Force expands the scope of protected public lands to include lands protected through the Land For Maine’s Future Program in Chapter 605 Section 6072 (7-A) (F). We commend this proposed change, and we recommend expansion to cover land and easements purchased with funding from any governmental conservation program. This would allow flexibility should the State’s primary land protection methods or vehicles change from the current LMF approach. In addition, we wish to reiterate that there are exceptional visual resource areas along the Maine coast that deserve special consideration regardless of whether they have yet to be permanently protected -- areas like coves, and island archipelagos.

We urge the Task Force to adopt a distance recommendation with a more scientific basis. Mr. Terry Dewan’s presentation on visual impact assessment techniques concluded that 2500 feet is the point at which visual impacts become meaningfully diminished. There is no discussion in the draft regarding the origin or significance of the existing 1000-foot distance, although it does acknowledge that some distance is appropriate. We believe that the setback distance should be based on Mr. Dewan’s more scientific standards and practices that take into account viewer expectations as well as other factors. We suggest 2500 feet. As with the existing law, this allows for an opportunity to “tuck” the facility closer to shore, where appropriate. An alternative recommendation would be to do away with designating any distance at all.

The Task Force does not believe that an adequate case has been made to extend these considerations to other government funded conserved lands, and that an adequate case was not made for the change from 1000 ft to 2500 ft.

INDIVIDUAL COMMENTS. Knox noted that a tiny percentage of LMF properties (1% or less of LMF lands) don't include public access, so this section should specify LMF properties that allow for public access.

The Task Force noted that because the impact that must be considered is the effect of the proposed lease on "public use and enjoyment", if public access is not allowed, the proposed lease will therefore have no effect on the public's use or enjoyment.

D. Commercial Fisheries

MAJORITY REPORT. The SAP voted 8 – 2 (Bauer, Fleming) to support the TF's one recommendation concerning commercial fishing.

The Task Force will retain the recommendation.

MINORITY RECOMMENDATION. The following minority recommendation is supported by Bauer and Fleming.

The DMR should be required to consult with the head of the local lobster zone management council and representatives from known local fishing organizations regarding the timing of the Department review.

We believe this would increase the opportunity for participation in the siting process and improve decision-making.

The Task Force did not agree to include this recommendation; (the vote was 3-6-1; 1 absent).

VIII. ECOLOGICAL HEALTH

A. Nutrient Enrichment

MAJORITY VOTE. The SAP voted 9 – 1 (Fleming) to support the four recommendations contained in this section as written by the TF.

The Task Force will retain the four recommendations.

MINORITY RECOMMENDATION. The following minority recommendation is supported by Bauer and Fleming, and may have had support by other SAP members.

The first TF Recommendation should be split into separate recommendations (#1. nutrient impacts and #3. polyculture) and that the first bulleted recommendation from Section IX.2.b. with the exception of the PCB and toxin part of that research recommendation be inserted as recommendation #2.

This would more clear the set of research recommendations related to nutrient enrichment. All research recommendations should also be repeated in section IX.B. for future tracking and prioritization.

The Task Force agreed to provide a citation on page 39 to Section X.2, recommendation 2.b.

B. Organic Enrichment

CONSENSUS. The SAP was in agreement in support of the Task Force’s second recommendation in this section, related to applied research on best management practices.

The Task Force will retain the second recommendation.

MAJORITY VOTE. The SAP voted 5 – 2 (Morris, Schmanska) – 3 (Manson, Horne, Knox) to oppose the wording contained in the TF’s first recommendation in this section. Various suggestions for alternative language were suggested, but there was no agreement within the majority. Discussion included:

- Some offsite impacts are beneficial
- Will force people to go for larger leases to accommodate impacts
- Enforcement will take care of violations
- Should be cage shadow plus 30 meters, as in MEPDES permits
- Should be “diverse and healthy ecosystems”

The Task Force did not agree to accept any change to the Task Force recommendation (the vote was 2-6-1; 2 absent). The recommendation from the SAP was not clear enough to adopt.

MINORITY REPORT. Schmanska and Morris were in agreement with the first recommendation as proposed by the Task Force.

The Task Force will retain the first recommendation.

C. Toxic Contaminants/Therapeutants

CONSENSUS. The SAP reached consensus to support the three recommendations of the Task Force contained in this section.

The Task Force will retain the three recommendations.

D. Shellfish Impacts

CONSENSUS. The SAP reached consensus to support the one recommendation of the Task Force contained in this section.

The Task Force will retain the recommendation.

E. Invasive/Non-Indigenous/Exotic Species

CONSENSUS. The SAP reached consensus to support a subset of the Task Force’s seven recommendations in this section, specifically, recommendations 1, 3, 5, and 6.

The SAP reached consensus in support of the Task Force’s second recommendation in this section, provided that the TF include a definition of GMOs. The SAP recommends reference to the ICES definition.

The Task Force will retain recommendations 1, 3, 5, and 6, and will add a reference in recommendation #2 to the ICES definition of GMOs.

MAJORITY VOTES. The SAP voted 8 – 1 (Fleming) to eliminate the TF’s recommendation #7 regarding discouraging use of species not already established in the Gulf of Maine. This sentiment was due to the fact that #7 conflicts with TF

recommendation #3, i.e. the Gulf of Maine is not an “area” in an ecological context. The majority wanted to eliminate this recommendation altogether because it could not agree on a substitute area to replace the Gulf of Maine.

The Task Force voted (5-3-1; 2 absent) to eliminate recommendation #7.

The SAP voted 5 (Belle, Knox, Horne, Swanson, Turner) – 3 (Bauer, Fleming, Morris) – 2 (Manson, Schmanska) to oppose the TF fourth Recommendation in this section regarding changes to Chapter 24. It was noted by these four that this Recommendation will force DMR to do surveys to determine if species are present – therefore it might trigger a fiscal note. Carolyn Manson and Dave Schmanska abstained.

The Task Force needed additional technical information in order to resolve this issue. Brian Beal, Paul Anderson, Sebastian Belle, Roger Fleming, and John Sowles should meet by conference call for further deliberation. Brian and Paul will make the decision for the Task Force.

INDIVIDUAL COMMENT. Fleming was in favor of retaining the TF recommendation #7 in this section, but defining it as “area” consistent with the recommendations above.

The Task Force voted (5-3-1; 2 absent) to eliminate recommendation #7.

INDIVIDUAL COMMENT. Horne and Turner note that requiring DMR to review all introductions of species not currently resident in a proposed growing area is inconsistent with the tone of the issue summary and finding #5.

The summary makes the point that the issue of introduction species indigenous to Maine to areas of the coast where they are not known to occur has arisen, going on to state that , “It is unlikely that these introductions will become invasive given their history of non-invasive existence in Maine.” Additionally, the issue summary indicates, that most areas of Maine have already been exposed to larval transport. Finding #5 states specifically, “The transfer of organisms from one part of Maine to areas where it does not occur is of limited risk.”

It should be noted that populations of organism native to Maine’s waters are in a constant state of flux. The movement of predator populations, fluctuations in salinity from year to year (due to changing run off), temperature swings and a myriad of other environmental factors determine the success of any “resident” population in any given area during any given year. To require the Department to conduct an environmental review on an organism that is well within its native range but not currently in residence, is an exaggeration of what constitutes an environmental threat and a waste of limited State resources.

F. Wild Atlantic Salmon

CONSENSUS. The SAP reached consensus to support the five recommendations contained in this section, provided that the wording in the first recommendation is modified to make it clear that DMR is not the only agency involved in the implementation of the Recovery Plan. Instead of “DMR must ensure”, the SAP recommends modifying this sentence to read “*The State of Maine should work to ensure...*”

The Task Force will retain the five recommendations, and will make the proposed change to the language.

MINORITY RECOMMENDATION. The following minority recommendation supported by Bauer, Fleming, Morris, and Schmanska.

The State should recognize the use of exclusion zones for some species as a legitimate management tool for protecting wild Atlantic salmon from salmon farming.

Atlantic salmon farming in Penobscot Bay should be discouraged.

The state should encourage bay-management for fish health, such as that practiced in Cobscook Bay, as beneficial to wild salmon populations by reducing disease and parasite infestations in farmed fish that could be transferred to wild stocks.

Marine grow out of rainbow trout in Maine should be prohibited.

This set of recommendations would significantly improve protections for wild Atlantic salmon in Maine. Two of the listed rivers for endangered Atlantic salmon flow into Penobscot Bay, and Penobscot Bay itself contains by far the largest remaining runs of Atlantic salmon in the U.S. Other countries with much longer histories of salmon farming including Iceland, Sweden, Scotland and Norway currently recognize the separation of farmed and wild stocks as an important conservation tool. The North Atlantic Salmon Conservation Organization of which the U.S. is one of seven signatory countries recognizes separation as an important conservation tool, and recommends that salmon pens be situated no closer the 30 kilometers of salmon rivers. The recent announcement of a major \$50 million project to purchase and remove three dams on the Penobscot River may be our last, best chance for restoring large numbers of Atlantic salmon to the U.S. By any interpretation of the Precautionary Principle (adopted by NASCO countries for Atlantic salmon) the farming of Atlantic salmon in Penobscot Bay should not be allowed. Rainbow trout, though not extensively cultured in the past fifteen years, could pose a threat to dwindling populations of wild Atlantic salmon through habitat competition should they escape and colonize.

The Task Force did not agree to accept the first proposed recommendation (the vote was 2-7-2).

The Task Force did not agree with the second or fourth statements; the third statement will be addressed in the bay management section.

INDIVIDUAL COMMENTS. Belle has major problems with the Findings in this section. The primary management tools in wild salmon restoration are improved in-stream passage, habitat restoration and protection, hatchery stocking, and limiting interactions between cultured and river run salmon.

The Task Force did not agree to make any changes to the Findings.

G. Wildlife Interactions

CONSENSUS. The SAP reached consensus to support the two Recommendations contained in this section of the Task Force Report, but suggested two minor changes to wording. The SAP recommends that it be clarified in this section of the text that both finfish and shellfish operations need to be concerned with wildlife interactions. The SAP also recommends that the introduction section include mention of consultation with NMFS (NOAA Fisheries) and USFWS in the third paragraph. The Task Force will retain the two recommendations and will make the suggested changes to the text.

[Knox left the 8 Jan 04 meeting at this point.]

H. Monitoring

CONSENSUS

- The SAP reached consensus to support the Task Force's Recommendation #3 in this section, concerning industry participation in monitoring.
- The SAP was also in agreement that the introductory text in the section should include a discussion of DMR's use of FAMP funds to fund other staff positions.

The Task Force will retain Recommendation #3 and will insert the discussion of the DMR's use of FAMP funds in the introductory text.

MAJORITY VOTE. The SAP voted 5 – 2 (Fleming, Schmanska) – 2 (Bauer, Schmanska) to support a modified version of the Task Force's second recommendation in this section regarding coordination between DEP and DMR. The following language was suggested for inclusion in this recommendation -- ***“The legislature should charge DEP and DMR to coordinate any user fees and funding mechanisms they develop so as to minimize the cost of environmental monitoring without compromising the quality of the monitoring programs. The legislature should require the DEP and DMR to review the combined costs of their monitoring and environmental impact assessment programs and consider alternatives designed to achieve the same level of vigilance at lower cost.”***

The Task Force agreed to add this text as an additional recommendation.

The SAP voted 6 – 1 (Fleming) – 2 (Bauer, Morris) in agreement with the Task Force's fourth Recommendation in this section, related to review of the MEPDES monitoring requirements in 2005.

The Task Force will retain the fourth Recommendation.

INDIVIDUAL RECOMMENDATION. Bauer thought that ***the penny per pound FAMP tax should be reviewed and increased.***

The Task Force did not agree to adopt this recommendation.

INDIVIDUAL COMMENT. With reference to TF Recommendation #4 in this section, Fleming noted that this is asking the state to review the effluent limits and monitoring parameters that are part of the Clean Water Act. The Clean Water Act provides for a review after five years, and he noted that some parameters will not have been monitored within two years. The permit will be reviewed in 2008. A prior review is inappropriate and a waste of resources.

The Task Force did not agree to adopt this recommendation.

IX -- INFORMATION, RESEARCH AND INDUSTRY PROMOTION

A. Public Information

CONSENSUS

- The SAP reached consensus to support the range of education needs outlined in the TF's first Recommendation in this section.

The Task Force will retain the first Recommendation.

- The SAP also reached consensus in support of the TF's second Recommendation in this section, related to seeking Congressional delegation support for additional public information.

The Task Force will retain the second Recommendation.

- The SAP also reached consensus to oppose the TF's Recommendation #3 in this section, related to the creation of a public affairs function at DMR. In place of this recommendation, the SAP offered an alternative – *“Ensure that the Department of Agriculture’s promotion of aquaculture includes a public affairs function, duties to include”... (retain the five bullets at the bottom of page 50 and top of page 51.)*

The Task Force voted (8-0; 3 absent) to accept this recommendation, but will modify it so that the Department of Economic and Community Development (DECD) has responsibility for the public affairs function, rather than the Department of Agriculture.

MAJORITY VOTE. The SAP voted 5 (Belle, Horne, Morris, Swanson, Turner) – 4 (Bauer, Fleming, Manson, Schmanska) in agreement with the TF's recommendation #1 in the section, related to the convening of a group to develop an education strategy.

The Task Force will retain Recommendation 1.

MINORITY REPORT. Fleming and Bauer were in favor of adding additional non-state organizations to the list mentioned in the TF report. They will send this list to the TF.

The Task Force has not received the list, so cannot consider whether to include the additional non-state organizations.

B. Research

CONSENSUS RECOMMENDATION. The SAP reached consensus in support of the following:

- Recommendations #1, 4, and 5 in this section as developed by the Task Force.

The Task Force will retain Recommendations 1, 4, and 5.

- The SAP opposed the TF's wording in Recommendation #2 in this section. Specifically the SAP does not agree with the use of the Gardiner Pinfold study as a guiding document. The SAP recommends the addition of "***and other references and resources***" to the current language in 2a.

The Task Force voted (8-0; 3 absent) to accept the proposed addition.

- Non-governmental organizations should be involved in prioritizing research needs. TF Recommendations 2 and 3 in this section should include reference to NGOs.

The Task Force voted (8-0; 3 absent) to add the phrase "***and pertinent NGOs***" in Recommendations 2 and 3.

INDIVIDUAL COMMENT. Fleming noted that the description of the ecological impact study in section 2B was defined very well. He offered the opinion that this wording should also be included in the ecological health – nutrient loading section earlier in the report because the description defines a different study.

The Task Force has inserted a reference in the ecological health section to this text.

Note that the PCB portions of the study should stay in this section because it does not apply to nutrient enrichment.

Belle objected to inclusion of a specific list of research priorities in Section 2 b, reasoning that there were a range of industry priorities that should also be listed. A structure should be established to allow an annual review and prioritization of research focus areas. This should be a cooperative effort between the academic, industry and resource management agencies.

The Task Force agreed to modify the Recommendation to read "**Consider research needs including those...**"

C. Industry Development

CONSENSUS.

- The SAP reached consensus to support recommendations #1, 2, 4, 5, 6, 7 and 8 in this section.

The Task Force will retain these Recommendations.

- The SAP reached consensus to support Recommendation #3 in this section, related to working with DECD on industry development, provided that the ***Maine Aquaculture Association*** is added to the MAIC and DMR at the end of the 1st sentence.

The Task Force voted (8-0; 3 absent) to modify the Recommendation as proposed.

The SAP reached a consensus that there should be a new Task Force recommendation to this section related to the development and promotion of wild stock enhancement techniques.

The Task Force voted (8-0; 3 absent) to accept an additional Recommendation: "**DMR and IF&W should encourage the development of aquaculture techniques for wild stock enhancement.**"

INDIVIDUAL COMMENTS. Bauer thought that bullet #2 in recommendation #7 in the section would result in the promotion of farmed shellfish over wild shellfish.

Bauer wanted to add a recommendation to this section requiring that shellfish farmers be trained as certified dealers and participate in International Shellfish Sanitation Commission.

Fleming that at “sustainably produced” should be defined in recommendation #7.

[Manson left the 8 January 04 meeting at this point, but voted on Bay Management by phone to the facilitator..]

X. BAY MANAGEMENT

MAJORITY VOTE. A majority of the SAP members expressed the sentiment that the Task Force did their best to look at the questions posed by bay management and that the findings represent an accurate portrayal of both sides. The TF summarized a complicated issue in an open minded and balanced way.

The SAP voted 6 – 2 (Bauer, Fleming) – 1 (Morris) to support the Task Force’s two Recommendations on bay management, provided that reference to the Land and Water Resources Council is removed from the second recommendation.

The Task Force voted (7-4) to change Recommendation 2 to “The Legislature should charge DMR to convene a group to study bay management”.

MINORITY RECOMMENDATION. The following minority recommendation supported by Bauer, Fleming, Knox, and Schmanska.

The Task Force Recommendations should be replaced as follows: ***The Legislature should enact legislation supporting the development of a comprehensive bay-wide planning and management program for its marine waters. Such legislation should direct the Land and Water Resource Council to develop a proposed statutory framework for the creation of voluntary bay-wide plans which set forth the management objectives and strategies for discreet bays (or areas) and the activities that occur in those bays. The Council should also establish a working set of statewide principles and objectives for bay-wide plans, building on those principles developed through this Task Force, and a preliminary set of potential geographic boundaries for bay-wide plans. The Council should also study the numerous existing alternative models for planning and managing marine resources throughout the world, and recommend how best to define bay-wide management in Maine, along with alternative management models. The Council should work closely with stakeholders who are interested and who can offer expertise in the development of bay-wide management.***

We greatly regret that the promise of comprehensive bay management was not enthusiastically embraced by the Task Force. Increasing population pressures as well as intensifying activities on Maine’s public coastal waters from both existing user groups and new industries like aquaculture have driven Maine’s current ad-hoc marine

regulatory system beyond the point at which existing policies and programs are able to cope. We need to institute forward-looking programs based on strategic planning approaches to insure that Maine's precious public trust resources are healthy, bio-diverse, and available for sustainable economic activities for generations to come. To that end, Maine should implement a comprehensive bay-wide planning and management program for its marine waters. Fundamentally, this means that planning and management decisions for Maine's marine resources will be considered at the local scale, and will involve a broad spectrum of users who operate in or value that area. It is an opportunity for these stakeholders to participate in a proactive management system and to influence the decisions that affect the future of the marine waters upon which they live and depend. Decision-making that includes those who actually bear the costs and the benefits of the decisions made can increase a community's sense of enfranchisement, increase stewardship, facilitate adaptive management practices, provide incentives for improved self-management, and improve compliance.

The Task Force did not agree to accept this recommendation.

MINORITY COMMENTS. Bauer and Fleming felt that a number of examples of bay management, marine planning, and other similar programs were provided to the TF, but were not reviewed by TF, including the Irish pilot project, integrated management plans, RI Coastal Resource Management Council (shellfish aquaculture) and four or five others that were cited in CLF paper. The TF had a lot of discussion and it was good, but the conversation was probably not as informed as it could have been. Other resources didn't make their way into discussion.

Bauer and Fleming objected to the Task Force's recommendation #1 in this section, citing that the recommendation should move forward with a bay management program with the establishment of the work group as the first step in this process.

Bauer and Fleming thought it was appropriate for the Land and Water Resources Council to have some role in establishing the bay management work group.

INDIVIDUAL COMMENTS. Bauer thought that the TF's second recommendation should discuss a timeframe for establishment of the work group.

Bauer submitted text from the RI CZM program website and its use as a potential model for bay management. See Appendix I.D.

APPENDIX J. EXTENDED INDIVIDUAL COMMENTS

[NOTE: Fleming objects to including such extended comments in the SAP report. He believes that the SAP agreed that such editorial comments should be submitted separately.]

A. Sebastian Belle. Section IV. Findings, Current status:

9. Maine's marine aquaculture industry currently has two distinct sectors: finfish (salmon) and shellfish (oyster and mussels). ***Significant interest and pilot scale projects in other species such as cod, halibut and marine worms are also emerging.***
10. Maine's finfish sector is a small part of a much larger, highly consolidated global industry. Maine salmon farms supply less than 5% of the US market, and represent less than 1% of salmon produced worldwide. Currently, ***most*** processing facilities, feed and equipment are supplied from outside of Maine ~~and Maine's industry is primarily a grow-out operation that support Canadian and Norwegian firms.~~
11. Maine's shellfish aquaculture industry consists of mussel, oyster, hard clam ***soft shell*** and surf clam culture. Shellfish culture is primarily an owner-operator industry with a high enough profit margin to be viable on a small scale.
12. The total value (sales revenue) of aquaculture production in Maine is currently estimated at \$57 million, with salmon accounting for 95% of this. This represents a decline from the late 1990s, when higher salmon production and prices resulted in a \$75-80 million industry.
13. Over the last 10 years finfish aquaculture has annually produced the second highest sales revenue of all Maine fisheries. In 2002, those landing were as follows: lobster- \$207 million; finfish (salmon)- ***\$ 56M***; ground fish- \$22.5M; clams -\$14.8M; shellfish aquaculture -\$3M.
14. ***Estimates of employment and payroll in the aquaculture industry range from 330 direct jobs (finfish sector: 225; shellfish: 105) with an estimated payroll of \$20.3 million.(Gardner Pinfold,2003), to 525 direct jobs , 550 indirect jobs and 300 induced employment with a payroll of \$56 million and total economic impact of \$130.5 million (Ohara, et al. 2003).***
15. Compared with other economic sectors that rely on the state's coastal resources, aquaculture's economic impact is modest. Tourism contributes \$2.8 billion, Marine Transportation \$2.7 million, Living Marine Resources \$382M, Marine Construction \$44.9M, and Marine Minerals \$14.9M to the marine economy. Aquaculture contributes 0.1% to Maine's Gross State Product (Colgan, 2002 and Gardner, 2003).
16. The finfish sector industry is centered in Washington County, in Cobscook and Machias Bays, although there are also finfish aquaculture operations as far west as Blue Hill Bay in western Hancock County. ***Hatcheries in Washington, Hancock, Kennebec, and Lincoln counties support this sector.*** The shellfish sector is centered in the Damariscotta River estuary where much of the oyster production takes place, although there are mussel and oyster aquaculture facilities in various locations along the entire ~~mid-coast area~~ ***Maine coast. Hatcheries in Washington, Hancock and Lincoln counties support this sector.***

Trends: Finfish

1. The finfish aquaculture industry in Maine has changed from an industry of small owner operator fish farms in the 1980's to an industry in 2003 that is largely consolidated in three multinational aquaculture corporations that grow and process aquaculture products in many places in the world. ***Some opportunity continues to remain for smaller farms acting as contract growers for larger companies and smaller growers serving specialty market niches such organic and green certified products.***
2. Farm raised salmon, the primary finfish product, has moved in the marketplace from a high-priced niche product to a low priced global commodity.
3. Disease, particularly the infectious salmon anemia virus, has presented significant problems for the industry, causing economic loss, prompting new husbandry practices and processing arrangements.
4. ***Most*** of the processing facilities of Maine's salmon aquaculture products have shifted to Canada because of economies of scale and ***significant government economic incentive programs.***
5. Direct employment in the salmon finfish sector has declined from approximately 1000 in the late 1990's to approximately 225 currently, caused by both shrinkage of the industry as well as increased automation.
6. The state's original vision of finfish aquaculture as a major economic development strategy for Washington County that would provide fishermen a new economic activity to supplement declining wild fisheries revenues has not been realized. Likewise the goals of a 1997 strategic plan for the aquaculture industry prepared by the Maine Department of Marine Resources during the administration of Governor Angus King to triple aquaculture's contribution to the state's economy (to \$192 million) and double the number of aquaculture-related jobs (to 1620) have yet to be realized. ***Finfish aquaculture does however, provide high quality, well paying jobs in an economically depressed region of the state. While they have not remained farmers, local fishing families have been able to diversify their economic base by developing service companies such as contract diving and fish and feed transport vessels.***
7. Over the last few years, as the salmon finfish industry has attempted to shift some of its grow out operations to new lease sites further westerly along the coast, most notably to Blue Hill Bay, it has encountered stiff resistance based on perceived conflicts with existing economic uses of those coastal resources, concerns about water quality impacts, and visual and noise impacts.

8. Conflicts with public efforts to restore the wild salmon stocks to Maine's historic salmon rivers has also generated some opposition to the salmon finfish aquaculture industry, while legal issues associated with the Maine industry's compliance with the federal Clean Water Act have also presented obstacles to the industry's development. *The listing of a number of salmon runs as endangered species has created an uncertain regulatory environment and chilled capital investment in Maine.*
9. Globally, there is evidence of continuing growth both in aquaculture production and in demand for aquaculture products, especially if wild capture fisheries continue their decline. Salmon finfish aquaculture production in other countries (Norway, Chile) with larger and more developed industries provide intense competition to Maine's relatively small industry yet the United States is a large market for aquaculture products that provides opportunity for the Maine industry.
10. Many forces will determine the future of salmon finfish aquaculture in Maine, and most are beyond the influence of state government. Although it has not proven to be a "silver bullet" economic powerhouse, it is reasonable to project that salmon finfish aquaculture will continue to be one element in a diverse array of economic uses of the state's coastal economy. The state should thus provide the opportunity for this economic sector while ensuring its compatibility with other ~~existing and potential~~ uses of the public's coastal resources ~~and protecting the quality of those resources.~~
11. Finfish aquaculture in Maine is not limited to only growing salmon. A number of other new and promising species may emerge that can further the expansion of finfish production at sea. These species may include, halibut, haddock, and cod, among a number of others.

B. Erick Swanson. Section IV., page 6, paragraph 7.

This paragraph refers to stiff resistance to new finfish lease sites, most notably in Blue Hill Bay. I would like to raise two points:

1. Organized opposition, Friends of Blue Hill Bay and East Penobscot Bay Environmental Alliance (EPEBA) are actively opposed to all finfish sites anywhere in the state. Case in point is the lease hearing in Perry. Located on the Canadian border, the hearing went on for days with EPBEA selling doughnut's to raise money to cover legal fees.
2. In spite of this being the heartland for organized finfish opposition, there has been/is a great deal of cooperation with and acceptance of the salmon farm:
 - a. I have reached agreement with the Rockefeller family on Bartlett Island regarding my salmon farm site locations, operations, noise and visual impact issues. This agreement is to be a condition on Rock Point should that application be granted.

- b. I have reached agreement with the Singh family, owner of the southern half of Tinker Island on these same issues, this agreement is to be a condition of the Tinker lease.
- c. I have reached agreement with Acadia National Park to be a condition of the lease regarding their concerns on noise, light and other issues, and agree to meet annually to review issues.
- d. There is a conservation easement with MCHT on Dodge Point, overlooking both the Hardwood site and the proposed Tinker site. The Harris family owns this property and submitted a strong letter of support at my lease hearing, preferring to have the salmon farm over more campsites, and referred to days when herring weirs were operating next to their property and how enjoyable the working waterfront is.
- e. I have a good relationship with towns where I work, Mt. Desert where I keep my vessels in the harbor and operate from (and live), Tremont where the farm is located and occasionally use the harbor, and Southwest Harbor where I lease commercial wharf space.
- f. None of the fisherman who fish where my farm is or where I have applications pending showed up at my lease hearings, not one. We all get along well and enjoy working together. The reason you did not hear from the lobster fishermen is because they do not have issues with aquaculture, if they did they would have been there in triplicate, I can assure you. We have worked things out.
- g. I have raised a family in this community and we have many friends. With three children now of high school and college age, they have many friends in this community. All through grade school we took classes on tours of the farm and a picnic on the beach at Hardwood Island, it's been an annual event. We never refuse to give tours and get classes of grade school age children every year.
- h. We have many, many visitors every summer, up to 100 kayakers a day, and 60+- guests of neighbors and friends on a 4th of July barge party out on an Island near the farm, but local people out for a cruise stop by frequently.

Don't let all the jumping up and down by the hard-core opposition fool you, the farm has been accepted on the bay. I would also point out that, other than the lawyers, my lease hearings were relatively quiet last summer, in particular when compared to the hearings in Perry. Clearly there is great fear with these groups of significant expansion and many farms in Blue Hill Bay and west, thus the need to oppose all finfish applications and most shellfish applications. This fear is unfounded in my view, the lease opportunity is high quality good leases, but few and far between.

Personally, I believe there is limited but significant opportunity west of Blue Hill Bay for finfish, meaning few but very productive sites will eventually develop. An applicant who takes time to work with local fisherman and others in selecting sites and developing an operating plan, the pre-application process, can make a go of it in these areas. I shipped fish from Stonington for about a year and we were well received, we were encouraged to work out of Stonington. Working things out with the fishing community would be

relatively easy providing the applicant asks for advice and then takes it. The key to success is for an applicant to listen carefully to what the locals have to say, and then take it to heart and act on it.

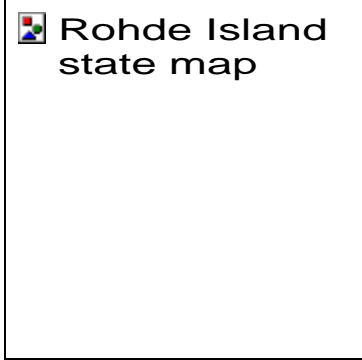
C. Fleming, State and Federal Law.

There has been little response to the considerable time and effort invested by CLF to try to assist the TF in the legal and technical aspects of the summary and findings sections of the report, so I have largely given up on trying to straighten most of these out. Unfortunately, these mistakes damage the credibility of the report in the eyes of the public that is much better educated about these issues than they appear to be given credit for.

I will at minimum note (again) that the discussion of the Harding decision is incomplete in that it fails to acknowledge 1) that the lease criteria were different in 1983 and included consideration of local zoning laws, which the court noted would include consideration of the diminution of private property value at issue in the case, and 2) that the court recognized, as stated in an earlier Opinion of the Justices, that the Public Trust Doctrine and the uses it protects evolve with the changing needs of a growing society. So, even if some people are concerned about the narrow issues of impacts to private property values, Harding may not answer the question, especially if the issues were cast differently as a reflection of a larger public interest. The fact is we cannot conveniently define all the uses protected by the Public Trust Doctrine, as this section appears to (narrowly).

In addition, the whole section narrowly characterizes public comments, as the aquaculture industry has for years, as being concerned about private property rights and concerns about views from private property (this is reinforced later in the document in the discussion about the changing coast). Whether or not these issues, at least as characterized in the report, are protected by the Public Trust Doctrine, this gross characterization of the comments is inaccurate and dodges real public trust issues reflected in these and other public comments related to protecting the ecology and the scenic and natural character of the coast, and the many other uses of public trust resources related to this character. It also dodges the fact that if the legislature wanted to, it could explicitly consider these issues through legislation, as it has in numerous other statutes and state policies.

D. Bauer. Bay Management.



Rhode Island
state map

The following is text from the RI CZM program website and its use as a potential model for bay management. “The Coastal Resources Management Council is an environmental regulatory and management agency responsible for the preservation, protection, development and where possible the restoration of the coastal areas of the state. In 1971, the Rhode Island General Assembly passed legislation that created the Coastal Resources Management Council (CRMC). Legislative findings recognized the importance of coastal resources to the social and economic welfare of the state, and charged the CRMC with the explicit policy “...to

preserve, protect, develop, and where possible, restore the coastal resources of the state for this and succeeding generations through comprehensive and coordinated long-range planning and management designed to produce the maximum benefit for society from such coastal resources; and that the preservation and restoration of ecological systems shall be the primary guiding principal upon which environmental alteration of coastal resources shall be measured, judged and regulated (R.I.G.L. 46_23).

In order to properly manage coastal resources, the General Assembly has given the CRMC explicit powers and duties. Specifically, the CRMC is charged with the primary responsibility for the continued planning and management of the resources of the state's coastal region; is authorized to formulate policies and plans to adopt regulations necessary to implement its various management programs; coordinate its functions with local, state, and federal governments on coastal resources issues (including advising the Governor, the General Assembly, and the public on coastal matters and acting as binding arbitrator in any dispute involving both the resources of the state's coastal region and the interests of two (2) or more municipalities or state agencies; and, is responsible for the designation of all public rights-of-way to the tidal water areas of the state, and carrying on a continued discovery of appropriate public rights-of-way.”

APPENDIX K: SUMMARY OF RECOMMENDATIONS

Statutory/Regulatory:

Statutory

Amend the Maine Revised Statutes to:

- Adopt the Task Force vision and value statements to help guide the State’s future relationship with the aquaculture industry (**IV.1**) (12 MRSA §6070; Appendix A.1 Section 3)
- Clarify that municipalities do not have the authority to determine the location of moorings associated with aquaculture lease sites, or to charge mooring fees within the boundaries of aquaculture leases. (**VII.13**) (38 MRSA, Chapter 1, §3; Appendix A.1 Section 11)
- Clarify that a community actively engaged in a shellfish co-management program with the state of Maine has the right to lease areas in the intertidal zone to the extreme low water mark within the municipality to individuals for the purpose of private shellfish aquaculture. (**VII.16**) (12 MRSA, §6673; Appendix A.1 Section 10)
- Omit the charge to the Department to “quantify” the impact of noise at the boundaries of the lease site, and add language regarding mitigation measures. (**VII.18**) (12 MRSA §6072 sub§7-A; Appendix A.1 Section 6)
- Require the Department to take the number and density of all aquaculture leases in an area into consideration in evaluating a proposed lease under the decision criteria. (**VII.22**) (12 MRSA §6072 sub§7-A; Appendix A.1 Section 6)
- Move activities related to development of the aquaculture industry from DMR to the Department of Economic and Community Development (DECD) and promotion to the Department of Agriculture. (**VII.25**) (5 MRSA §13056, sub-§6 and 7 MRSA §401-B, first ¶; Appendix A.1 Sections 1 & 2)
- Eliminate the requirement for an adjudicatory hearing upon five or more requests for both a renewal of a lease and a transfer of a lease. (**VII.26**) (12 MRSA §6072 sub§12, and sub§12-A; Appendix A.1 Sections 7 & 8)
- Replace the hearing procedure for lease renewal and transfers with a 30-day comment period in which the Department will accept written comments. The Department will hold a scoping session upon five or more requests. (**VII.27**) (12 MRSA §6072 sub§12, and sub§12-A; Appendix A.1 Sections 7 & 8)

- Permit the Department the discretion to hold a hearing for a renewal or a transfer if it deems it necessary. **(VII.28)** (12 MRSA §6072 sub§12, and sub§12-A; Appendix A.1 Sections 7 & 8)
- Increase the maximum lease acreage from 250 to 500 acres. **(VII.30)** (12 MRSA §6072 sub§2-E, sub§12, and sub§12-A; Appendix A.1 Sections 4, 7 & 8)
- Eliminate the established time period of April 1st to Nov. 15th within which the Department may conduct its site visit. **(VII.36 and VIII.4)** (12 MRSA §6072 sub§5-A; Appendix A.1 Section 5)
- Eliminate the requirement for a public hearing for an experimental lease upon five or more requests. **(VII.40)** (12 MRSA §6072-A sub§6; Appendix A.1 Section 9)
- Require DMR to provide a 30 day comment period on proposed experimental leases. Upon 5 or more requests, DMR will hold a public scoping session. The Department will have discretion to hold a public hearing if it deems necessary. **(VII.41)** (12 MRSA §6072 sub§5-A; Appendix A.1 Section 9)
- Include “conserved lands” owned by federal, state, or municipal governments or protected through fee ownership or conservation easement with funding from the Land for Maine’s Future Program in the decision criteria. The Commissioner must consider the impact of the proposed lease on public use and enjoyment of conserved lands within 1,000 feet. **(VIII.2)** (12 MRSA §6072 sub§7-A(F); Appendix A.1 Section 6)
- Direct the State Planning Office (SPO) to maintain a list of conservation lands as defined above, and direct DMR to request this information from SPO prior to the pre-application scoping session. **(VIII.2)** (12 MRSA §6072 sub§7-A(F); Appendix A.1 Section 6)

Statutory changes considered by the Task Force and rejected:

- DMR should not consider the view of riparian landowners in making lease decisions. **(VII.23)**
- DMR should not adopt the visual impact assessment method used in Chapter 315 (Code of Maine Rules) in aquaculture lease siting. **(VII.21)**

Regulatory

Amend the regulations to:

- Require that the pre-application meeting currently held at the DMR lab in Boothbay Harbor between the applicant and the Department is instead held in the municipality where the lease is proposed, and includes the harbormaster and/or a municipal official. **(VII.10)** (Appendix A.2)
- Require that a pre-application scoping session is held. **(VII.4 and VII.11)** (Appendix A.2)
- Allow a municipality to recommend that the Commissioner establish certain conditions on a proposed lease, and require the Department to consider any conditions recommended, and provide a written explanation to the municipality if the condition is not imposed. **(VII.17)** (Appendix A.2, section 2.37(2))
- Provide mitigation measures for noise and light. **(VII.19)** (Appendix A.3)
- Provide limitations on height, size, mass and color of buildings and equipment. **(VII.20)** (Appendix A.4)
- Assess a reasonable fee for renewal and transfer applications, (following the completion of the comprehensive fee review that DMR has undertaken.) **(VII.29)**
- Establish a tiered rental fee system, correlating rental fees with the type of activity and the size of the lease. The tiered rental fee system should create incentives for remaining under a certain acreage (following the completion of the comprehensive fee review that DMR has undertaken.) **(VII.31)**
- Establish a schedule of penalties for lease violations. **(VII.35)**
- Develop a definition of the practice of polyculture. **(VII.38)**
- Allow an applicant to define the start date of their lease as any date within 12 month of approval of the experimental lease application. **(VII.42)**
- Provide standards for assessing the impact of a proposed aquaculture facility on the public use and enjoyment of conserved lands. **(VIII.3)**
- Define “indigenous” as organisms known to occur or to have occurred in an area. **(IX.11)**
- Include genetically modified organisms (GMOs) as defined by the International Council for Exploration of the Sea (ICES) as “non-indigenous” or new species. **(IX.12)**

- Develop a definition for “area” or “waterbody” in an ecological context. **(IX.13)**
- Ensure that Maine’s aquaculture regulatory and husbandry practices are compatible with the Recovery Plan for Atlantic Salmon. **(IX.16)**

Administrative:

The Task Forces recommends that the DMR take the following actions, which do not require a statutory or regulatory change:

- The State should encourage industry cooperation to protect fish and shellfish health and biosecurity, such as that practiced in Cobscook Bay for finfish. **(VI.3)**
- DMR should identify mediation resources, make a list available to all parties involved in lease-related conflicts, and update the list annually, so that conflict resolution may be an option for interested parties to pursue, outside the existing lease process. **(VII.8 & VII.9)**
- DMR should create a form letter to be sent to the municipalities with the completed application that includes a box to be checked if the municipality would like intervener status. **(VII.14)**
- DMR should assess the results of the new enforcement initiative. **(VII.32)**
(Appendix E)
- DMR should conduct site visits during times appropriate to characterize conflicting uses or the ecological significance of the site. **(VII.37)**
- The State should consider developing some reasonable incentive for the expansion of polyculture type lease applications. **(VII.39)**
- DMR should explore incentives in the leasing process for aquaculturists to employ methods such as polyculture to reduce nutrient enrichment. **(IX.2)**
- DMR should review the list of currently approved species to ensure that undesirable organisms are removed until scientific reviews are complete. **(IX.14)**
- DMR should manage species movements as requests arise so that the most current information on biology and ecology is employed. **(IX.15)**
- DMR should explore the possibility for alternate sources of funding for the aquaculture hearings officer and pathologist positions in the course of its comprehensive review of aquaculture fees. **(IX.23)**

Research:

The Task Force recommends that the DMR and the University of Maine convene a group of research organizations, industry representatives, and pertinent NGOs for the purposes of setting priorities for aquaculture research, determining which species have the most potential for development and should be the focus of research efforts, and accessing bond funds to support aquaculture research. As a starting point, the Task Force identified the following broad research category needs in their deliberations (**X.5**):

- Ecological impact studies (e.g. nutrient carrying capacity, modeling of nutrient loading, assessment of monitoring needs, predictive nutrient loading based on biomass in the pens, risk assessment associated with PCBs (and other toxins) in farmed fish. Eutrophication studies – proportionate contribution from discharging aquaculture, impact of shellfish aquaculture on primary productivity, predictive capacity for benthic impacts);
- Gear/Husbandry technology and development (e.g improved anti-escapement gear, improved tagging technologies, alternative feed development to minimize the use of forage fish);
- Genetics and stock development (e.g breeding for disease resistance and growth); and
- Socio-economic studies (cost/benefit to coastal communities, market research, value added/niche markets).

As a result of their review of the ecological impacts of aquaculture, Task Force specifically recommends studies to:

- Determine whether specific relationships exist between finfish aquaculture and phytoplankton community shifts, HABs, and benthic algae. (**IX.1**)
- Determine if aquaculture discharges can be managed through polyculture or other means. (**IX.1**)
- Develop effective Best Management Practices, standards, and monitoring regimes. (**IX.6**)
- Determine what, if any, impacts shellfish aquaculture is having in Maine through a screening study that would emphasize worst-case conditions. (**IX.10**)
- Determine wild smolt emigration routes and pathways of exposure to assess risk from salmon farms. (**IX.19**)

- Determine the impacts on wildlife, especially nesting birds. Research should identify the causes of any adverse impacts and develop practices to avoid them. **(IX.21)**

The Task Force supports continued work by DMR and DEP to:

- Remove all sources of pollution along Maine's coast. **(IX.4)**
- Manage aquaculture in a manner that will maintain a diverse benthic species composition and confine impacts to the immediate lease area. **(IX.5)**
- Monitor the environment for the presence of toxic contaminants and ecological impacts. **(IX.7)**
- Participate in USFDA environmental studies on Slice™. **(IX.8)**
- Coordinate the MEPDES and FAMP monitoring provisions to avoid redundancy and use FAMP data to the maximum extent possible to cover MEPDES requirements. **(IX.24)**

The Task Force also:

- Suggests caution to avoid impeding professional veterinary practices to prescribe and use medications in a timely manner and explore new drugs while safeguarding surrounding species. **(IX.9)**
- Encourages and supports collaborative research between industry, state and federal wildlife agencies. **(IX.22)**
- Encourages industry to participate in ambient water quality monitoring. **(IX.25)**
- Recommends that DMR and IF&W encourage the development of aquaculture techniques for wild stock enhancement. **(X.17)**

The Task Force recommends that study continue on the topic of bay management. Specifically, the Task Force recommends:

- The Legislature should charge DMR to convene a group specifically to study bay management. That group should utilize the values and information collected, discussed, and debated by the Task Force. There are two topics the group should investigate: 1) how best to define bay management, and 2) whether this concept can meet the needs of Maine people. **(VI.2)**

Information:

The Task Force identified a need for improved information sharing. DMR should:

- Continue to work proactively to inform the public on the lease process to make it less intimidating. **(VII.2)**
- Provide more informal opportunities for information exchange between the applicant, the Department, and the public, such as a pre-application scoping session. **(VII.3)**
- Work with Sea Grant and the Maine Coastal Program to update the existing aquaculture information brochure and circulate it widely. **(VII.5)**
- Develop a set of information posters to provide information on the lease process, particularly the decision criteria, to be used at the lease hearings and scoping sessions. **(VII.6)**
- Use the pre-application scoping session as an opportunity for informal education about the leasing process. **(VII.7)**
- Explain the opportunity for intervenor status to the municipality at the pre-application meeting in the municipality. **(VII.15)**
- Work with the state agencies responsible for tourism and coastal planning to foster a collaboration between tourism and aquaculture, two important elements of Maine's natural resource-based economy. To this end, the Maine Coastal Program at the State Planning Office should work with the existing Working Waterfront Coalition (a diverse group of government, industry and nonprofit groups with an interest in the conservation of Maine's marine-related economy) to develop an informational campaign aimed at coastal residents and visitors (further detail provided in Section VIII.A). **(VIII.1)**
- Convene several appropriate organizations to develop a public information plan. The group should identify areas where public information is needed and develop a plan to address these information needs. The group should consider the following categories of education needs (further detail provided in section X) **(X.1)**:
 - Regulatory
 - Environmental Concerns
 - Legislative Actions
 - Publicity About Industry
 - K-12 Education
 - University Education

- Encourage recreational/hobby aquaculture as a way to engage and educate the public about aquaculture. **(X.1)**
- Ensure that the Department of Economic and Community Development's promotion of aquaculture includes a public affairs function, duties to include **(X.3)**:
 - Communication with the public, the industry and the legislature about leasing, regulatory and policy issues regarding aquaculture;
 - Solicitation of public and industry input and feedback on policy ideas under consideration;
 - Distribution of press releases, organization of press conferences as appropriate;
 - Convening of focus groups, meetings and forums to bring together diverse interests as needed; and
 - Development of regular vehicles for communication (email lists, e-newsletters, etc.) between the department and constituent groups.

Development:

The Task Force recommends:

- Moving lead responsibility for development of the aquaculture industry to the Department of Economic and Community Development (DECD) as part of its business development and science and technology programs. **(X.9)** (5 MRSA §13056, sub-§6; Appendix A.1 Section 1)
- Moving responsibility for market promotion of aquaculture to the Department of Agriculture (DAFRR) to become part of their market development and product promotion programs and benefit from USDA financial support. **(X.10)** (7 MRSA §401-B; Appendix A.1 Section 2)
- The formation of an Aquaculture Industry Development Working Group, led by DECD, with committed participation from the Maine Aquaculture Innovation Center and DMR. The charge of the Aquaculture Industry Development Working Group would be to advise and provide technical expertise to the DECD on aquaculture development and DAFRR on aquaculture promotion, to develop aquaculture business incentives, to link aquaculture with existing business support programs and services, and to find funding or reallocate resources for a grant writer and a business development specialist in aquaculture. **(X.11)**
- That DECD convene business development meetings between the state and multi-national salmon firms to determine what they need to encourage local entrepreneurs to grow fish for them and what they need to continue fish processing in Maine. **(X.14)**

- That the Department of Agriculture engage in product promotion activities that will result in Maine aquaculture products being recognized as sustainably produced, superior quality products in the Northeast region (more detail provided in section X.C). **(X.15)**
- That DECD provide the tools and support needed by aquaculture entrepreneurs to succeed in their businesses. These include: **(X.16)**
 - Linking aquaculture entrepreneurs to existing small business services and training programs;
 - Providing matching funds to entrepreneurs to allow them to attend conferences, visit aquaculture sites in other parts of the world and get training in culture methods;
 - Initiating research trade missions to mussel production areas in Canada and Europe as a way of expediting rope cultured mussel production in Maine. Research trade missions for other species should be considered, as well;
 - Ensuring that affordable access to the water is available on a coast-wide basis to those building aquaculture businesses;
 - Exploring the concept of developing “Lighthouse Zones”, meaning specific tax incentives or tax credits for those investing in aquaculture; and
 - Providing micro-loans or grants to stimulate entry into the business and support start up companies.

Endorsements of Current Status :

- After extensive public input and considerable deliberations the Task Force was divided on the issue of bay management. Due to the enormous complexity of and disagreement about the nature, scale, and detail of bay management, the recommendation of the Task Force is to not proceed with implementing bay management specifically for aquaculture at this time. **(VI.1)**
- DMR should continue to use a formal APA process for aquaculture leasing **(VII.1)**.
- Jurisdiction over leasing in subtidal areas should remain with the State. **(VII.12)**
- The current system in which the Commissioner makes the final lease decision should be retained. **(VII.24)**
- DMR should continue to implement the FAMP funded by a harvest tax. **(IX.23)**

Requests of the University of Maine:

The Task Force asks that the University of Maine:

- Assist DMR in convening a group of research organizations, industry representatives, and pertinent NGOs for the purposes of setting priorities for aquaculture research (see Research recommendations above) **(X.6)**.
- Add an aquaculture seat on the Agricultural Advisory Council. This will help ensure that there is adequate faculty and focus on aquaculture. **(X.7)**
- Fill their shellfish aquaculture position as soon as possible. **(X.8)**

Requests of the Governor and the Legislature:

- The Task Force supports more funding for a greater aquaculture enforcement effort. **(VII.33)**
- The Legislature should charge DEP to review discharge permits to marine waters to ensure that cumulative impacts from all sources to the receiving water are considered. **(IX.3)**
- The Governor and the Legislature should request Congressional support for closer collaboration and cooperation with federal services. **(IX.17)**
- The Governor should insist on full participation of state, federal and industry sectors on the research on marking, tagging and identification. **(IX.18)**
- The Governor should require equitable treatment of all salmon aquaculturists, public and private, to implement permit conditions. (e.g. genetic testing, marking, fish health, and reporting be part of any permits for public hatcheries rearing Atlantic salmon) **(IX.20)**
- The Legislature should require the DEP to evaluate the new MEPDES permit monitoring requirements for value and efficacy by 2005 and adjust as necessary. **(IX.26)**
- The Legislature should charge DEP and DMR to coordinate any user fees and funding mechanisms they develop so as to minimize the cost of environmental monitoring without comprising the quality of the monitoring programs. **(IX.27)**
- The Legislature should require the DEP and DMR to review the combined costs of their monitoring and environmental impact assessment programs and

consider alternatives designed to achieve the same level of vigilance at lower cost. **(IX.28)**

- The Governor and legislative leaders should encourage the Maine Congressional Delegation to secure funds for aquaculture public information. **(X.2)**
- The Governor, the Legislature and industry should strongly voice their support and expedite the recently initiated plan for the Maine Institute for Aquaculture at the University of Maine. The proposed Institute would greatly strengthen aquaculture research for Maine and address many of the findings of this Task Force. **(X.4)**
- The Legislature should support the Maine Aquaculture Innovation Center and the DMR in their work to provide technical support and develop Maine's aquaculture industry; and the Maine Technology Institute in its work to provide research and commercialization grants for aquaculture. **(X.12 & X.13)**