

FINAL

STRATEGY: Management Initiatives for Shellfish Aquaculture

CATEGORY: Aquaculture

Summary

This strategy is intended to facilitate the identification and implementation of options to protect water quality for shellfish aquaculture and continue the development of information necessary to manage aquaculture activities in order to avoid conflicts with other reasonable and permissible uses of state waters and State-owned submerged lands and avoid impacts to other aquatic resources through existing regulatory review procedures. Through this effort we hope to identify and evaluate alternative management strategies for adoption and implementation. This will include the potential for re-enactment of the water column leasing legislation and the assessment of opportunities for the public use of Baylor Grounds for aquaculture activities. This effort will include an evaluation of options for local ordinances designed to manage land use adjacent to areas designated for aquaculture.

Since the draft strategy was originally submitted on March 3, 2006, aquaculture issues have taken on an even higher priority for the Commonwealth. Therefore, this strategy will receive a higher level of funding than originally proposed.

The issue of water quality, shoreline development and suitable sites for aquaculture was highlighted in June 2006 when a development along Chincoteague Bay in Accomack County submitted an application for a sewage discharge permit from DEQ. As proposed, the discharge would result in a major shellfish ground closure. Although the permit decision is still pending, the issue caught the attention of Governor Kaine, who requested that the Secretaries of Natural Resources, Agriculture and Health identify the tools and options Virginia has for evaluating and protecting suitable waters for shellfish culture.

Furthermore, although progress was made in developing a water column-leasing program for aquaculture activities under a previous Section 309 strategy, the General Assembly failed to appropriate funds to implement the program and so the legislation must be re-introduced. A permit for non-commercial oyster gardening was developed, adopted and implemented, as has been a regulation for on-bottom use of existing shellfish leases. This regulation was mainly developed for hard clam aquaculture although some oyster growers have developed procedures that are covered by this regulatory authorization.

As the restoration of wild oysters remains elusive, it becomes even more important to provide adequate opportunity for the production of cultivated shellfish. A recent discussion among scientists, resource managers and industry professionals agreed that the public use of our 240,000 acres of public Baylor grounds should be re-evaluated and provision should be considered for the public use of Baylor Grounds for aquaculture activities. The terms “aquaculture parks” or “enterprise zones” have been proposed for such use. Since the Baylor Grounds were surveyed and established in the late 1800’s the management of these areas has historically included harvest restrictions and the transplantation of shell and seed. Recent management efforts have included the establishment of brood stock reefs and designation of adjacent harvest areas.

This strategy would involve identification of suitable areas within the Baylor grounds and other established public grounds, as well as “unassigned” subaqueous bottom, for shellfish growing and the identification or possible leasing or use program(s) to allow cultivation in those areas. Even a very small percentage, e.g. 5%, of the Baylor grounds would provide opportunity for 12,000 acres of shellfish growing area. This effort would initially involve a legal evaluation of authorized uses for Baylor Grounds and the identification of any impediments for the establishment of aquaculture areas within Baylor Grounds with the understanding that any program would need to recognize that these grounds were set aside and protected for public use. The process for final designation of sites for “aquaculture parks” or “enterprise zones” would involve public review.

For this effort adjustments needed to be made to the 2004 “Aquaculture Use Suitability Model” developed under the previous Section 309 strategy by VIMS. Current and future shellfish farming techniques may make different areas more or less suitable than they had been previously. Consideration will also be given to the possibility of moving aquaculture further from land so as to avoid high use conflict areas and take advantage of high algae/high oxygen areas near the surface of the water. However these goals will have to take into account logistical and economic feasibilities of working a bit further offshore.

A model local ordinance for designating areas as low density or no additional discharge areas could be developed. Both state and local actions must be coordinated to adequately protect areas for shellfish culture. Coastal GEMS will be used to help assess land/water interactions. Additional data such as current local zoning, hydrodynamic situations and bottom types may also be needed.

Shellfish farming, although positive for the economy and for ecological removal of algae from eutrophied systems, can create negative ecological and aesthetic impacts if not conducted properly. Through the VA CZM Program’s Seaside Heritage Program, work began on developing Best Management Practices for clam farming on Virginia’s Eastern Shore. In the absence of an organized shellfish growers’ association, it was difficult to secure industry “buy-in” for these BMPs. Industry input and acceptance of BMPs is considered to be critical to the success of a BMP program.

This strategy would complete development of a set of Best Management Practices for shellfish farming (including clams, oysters and any other shellfish that are likely to be cultivated in Virginia in the near future) for all of Virginia’s waters. BMPs relevant to a particular permit would then become attached to aquaculture or shellfish growing permits. The strategy would investigate the best mechanisms for this approach by reviewing similar practices in other states such as Florida.

Enforceable Polices/Outcomes

(This should be a bulleted list of the enforceable polices or implementation outcomes that this strategy will achieve.)

- A legal evaluation of the feasibility of establishing a lease, permit or use program or regulation for commercial shellfish growing activities within designated aquaculture parks in Baylor or unassigned public bottom.
- A lease, permit or use program or regulation for commercial shellfish growing activities within designated aquaculture parks

- A model ordinance for adoption by local governments to protect areas for shellfish growing
- A process for formal designation of aquaculture and conservation areas within public and unassigned grounds
- GIS map(s) of suitable aquaculture park areas within existing public and unassigned grounds
- GIS map(s) of potential conservation areas within existing public and unassigned grounds
- A set of BMPs to be attached as appropriate to shellfish aquaculture permits describing aquaculture BMPs that must be followed in order to maintain the permit or license.

Tasks	Timeframe	Budget Estimate
Task 1: Identify areas suitable for shellfish growing within public, unassigned and Baylor grounds by updating shellfish aquaculture suitability model. Synthesize existing data and collect new data such as local land zoning and hydrodynamic situations, as needed. A project advisory committee of resource managers, scientists and industry professionals would advise the effort.	Year 1 Oct 2006 – Sep 2007	\$85,000
Task 2: Legal review of Baylor Ground use options Identify areas suitable as conservation areas within public, unassigned and Baylor grounds. Use existing data and where critical, collect new data.	Year 1 Oct 2006 – Sep 2007	\$40,000
Task 3: Review existing aquaculture BMP programs in other states (or countries) and select the best models that might suit Virginia. If suitable models cannot be found, develop an original strawman.	Year 1 Oct 2006 – Sep 2007	\$14,000
Task 4: Develop a strawman aquaculture park permit; conduct stakeholder meetings with key affected communities; prepare a draft program incorporating stakeholder concepts; have draft program reviewed by Attorney General’s Office. Prepare draft legislation.	Year 2 Oct 2007 – Sep 2008	\$50,000
Task 5: Convene an advisory group of industry practitioners, scientists and resource managers. Present best BMP models identified in Task 3 and/or the strawman developed under Task 3. Meet periodically to develop a consensus on appropriate shellfish aquaculture BMPs.	Year 2 Oct 2007 – Sep 2008	\$50,000
Task 6: Develop a model local ordinance designed to protect nearshore waters for aquaculture development.	Year 2 Oct 2007 – Sep 2008	\$40,000
Task 6: Nominate aquaculture and conservation sites for public review and adoption process.	Year 3 Oct 2008 - Sep 2009	\$20,000
Task 7: Draft new permit or license conditions reflecting the use of the relevant attached BMPs and the consequences of not following those BMPs. (1/4 FTE)	Year 3 Oct 2008 - Sep 2009	\$20,000
Task 8: Incorporate model ordinance into willing local governments’ zoning.	Year 3 Oct 2008 - Sep 2009	\$30,000
Task 9: Incorporate model ordinance into additional willing local governments’ zoning.	Year 4	\$56,000

	Total	\$405,000
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Budget

Year 1	Year 2	Year 3	Year 4	Year 5	Total Request
\$139,000	\$140,000	\$70,000	\$56,000	\$0	\$405,000