



Economic Impact Analysis Virginia Department of Planning and Budget

9 VAC 25-260 – Water Quality Standards
Department of Environmental Quality
September 17, 2008

Summary of the Proposed Amendments to Regulation

The State Water Control Board (board) seeks to amend the Water Quality Standards by designating special “shellfish aquaculture enhancement zones” on the Eastern Shore of Virginia. These zones would be granted additional protection by requiring applicants for permits to discharge into Eastern Shore waters to have completed a valid analysis of whether wastewater management alternatives other than a discharge would be technically feasible, produce less of an environmental impact, and not result in significant social and economic impacts to beneficial uses and to the locality and its citizens. If the analysis demonstrates that an alternative meets these criteria, then that alternative must be pursued for approval prior to the board taking action on the application to discharge into the shellfish aquaculture enhancement zone.

Result of Analysis

The benefits likely exceed the costs for all proposed changes.

Estimated Economic Impact

The goal of this proposed regulation amendment is to improve the sustainability of aquaculture, while at the same time, preventing the shifting of the potential pollution impact from surface water to ground water. This proposal is the result of a Governor’s initiative dating back to early 2006, and results from cooperation among the Secretaries of Natural Resources, Health and Human Resources, and Agriculture and Forestry.

The proposed change would modify criteria that are used to protect Eastern Shore waters that are used or could be used for shellfish aquaculture. If this amendment is promulgated, these waters which include all tidal rivers and creeks on the Eastern Shore (Accomack and

Northampton Counties) including the tidal waters within the barrier islands on the eastern seaside of the Eastern Shore (does not include Atlantic Ocean waters) and all tidal rivers and creeks on the western bayside and including the Chesapeake Bay to a point one mile offshore from any point of land on the Eastern Shore, would be designated as shellfish aquaculture enhancement zones.

The proposed requirement that discharge applicants seek alternative wastewater management methods if specified conditions are met would apply in situations where proposed discharges would result in shellfish condemnation by the Virginia Department of Health. In these situations, the applicant would need to first complete a valid analysis of whether wastewater management alternatives other than a discharge would be technically feasible. This phase would involve an assessment of the land availability for alternative treatment of surface water discharge and also the related soil composition and type. Such an assessment would cost approximately \$30,000 and could vary based on the nature and size of expansion.¹ According to the Department of Environmental Quality applicants for discharge already do this when applying for discharge permits from DEQ. Thus the proposed technical feasibility analysis requirement would not in practice add cost.

If the technical feasibility analysis demonstrates that any of the identified alternatives are technically feasible, then the applicant is required to have an assessment of the environmental and socio-economic effects of adopting the select alternative technology conducted. Environmental analysis would include a review of groundwater impacts, swimming or recreational impacts and shellfish condemnations. Socio-economic impact analysis of any technically feasible alternative would include an analysis of the affordability of the land, technology, positive and negative tax revenue impacts to the locality, eco-tourism, recreation and aesthetics. Such an analysis that includes an accounting assessment of the technology options and mitigation measures and socio-economic welfare assessment for a typical proposed expansion of a locality's wastewater discharge would cost the applicant approximately \$ 35,000 to \$55,000.²

¹ Cost estimate from Department of Environmental Quality

² Ibid

If the alternatives analysis demonstrates that the proposed new or expanded discharge into the shellfish aquaculture enhancement zone is the only technically feasible alternative or produces the least environmental impact of all the technically feasible alternatives, then the permit application for discharge into the shellfish aquaculture enhancement zone is processed in accordance with the Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation (9 VAC 25-31). If the analysis demonstrates that a technically feasible alternative produces less of an environmental impact than that associated with the proposed new or expanded discharge but results in significant adverse social and economic impacts to beneficial uses and to the locality and its citizens, then the permit application for discharge into the shellfish aquaculture enhancement zone is processed in accordance with the VPDES Permit Regulation. If the analysis demonstrates that a technically feasible alternative produces less of an environmental impact than that associated with the proposed new or expanded discharge and does not result in significant adverse social and economic impacts to beneficial uses and to the locality and its citizens, then processing of the VPDES application is suspended while the applicant makes a good faith effort to obtain approval from the appropriate regulatory authorities for the alternative. Processing of the application shall be resumed only if the alternative form of wastewater management is disapproved by the appropriate regulatory authorities.

To the extent that alternative wastewater management methods are found that are technically feasible, less environmentally harmful, and do not cause significant adverse social and economic impacts to beneficial uses and to the locality and its citizens, the requirement that these alternative wastewater management methods are pursued when specified conditions are met may produce significant benefit for the aquaculture industry, consumers of clams and oysters, and the general public who seek recreation in the shellfish aquaculture enhancement zone. Some firms who supply environmental, social and economic impact analysis may benefit as well.

Some local governments, private builders and developers will encounter the additional cost of having an assessment of the environmental and socio-economic effects of adopting the select alternative wastewater management method. If alternative wastewater management methods are found that are technically feasible, less environmentally harmful, and do not cause significant adverse social and economic impacts to beneficial uses and to the locality and its citizens are found in practice, then the benefits to the environment, the aquaculture industry,

consumers of clams and oysters, and the general public who seek recreation in the shellfish aquaculture enhancement zone will likely outweigh the cost to discharge applicants of the assessment of the environmental and socio-economic effects of adopting the select alternative wastewater management method.

Businesses and Entities Affected

The proposed amendment affects any public or private entity that proposes new construction or expansion of existing facilities to discharge sanitary waste into estuarine waters in Accomack or Northampton Counties, or close enough to such waters as to create the potential for bacterial contamination if there were a treatment plant failure. The proposal also potentially affects environmental engineering firms, economic consulting firms, aquaculture firms, and the general public who seek recreation in the shellfish aquaculture enhancement zone.

Localities Particularly Affected

The proposed amendments particularly affect Accomack and Northampton Counties and the Towns of Accomac, Belle Haven, Bloxum, Cape Charles, Cheriton, Chincoteague, Eastville, Exmore, Hallwood, Keller, Melfa, Nassawadox, Onancock, Onley, Painter, Parksley, Saxis, Tangier, and Wachapreague.

Projected Impact on Employment

Aquaculture firms will likely benefit by the proposed requirements in that fewer portions of tidal waters that have potential for aquaculture may be rendered unsuitable for aquaculture. In the long run this may increase employment in that industry. Demand for services from environmental engineering firms and economic consulting firms will likely moderately increase due to the proposed requirement for analysis of environmental, social and economic impacts of technically feasible alternatives. Consequently there may be a small increase in employment for some of these firms.

Effects on the Use and Value of Private Property

Aquaculture firms will likely benefit by the proposed requirements in that fewer portions of tidal waters that have potential for aquaculture may be rendered unsuitable for aquaculture. In the long run this may increase the growth and collection of edible clams and oysters, increasing the size and value of the aquaculture industry in Virginia. Demand for services from

environmental engineering firms and economic consulting firms will likely moderately increase due to the proposed requirement for analysis of environmental, social and economic impacts of technically feasible alternatives. Consequently there may be a small increase in the value of some environmental engineering firms and economic consulting firms .

Small Businesses: Costs and Other Effects

Small aquaculture firms will likely benefit by the proposed requirements in that fewer portions of tidal waters that have potential for aquaculture may be rendered unsuitable for aquaculture. Some small environmental engineering firms and economic consulting firms may benefit by having greater demand for their services due to the proposed requirement for analysis of environmental, social and economic impacts of technically feasible alternatives.

Some small builders and developers considering doing business on the Eastern Shore will encounter greater costs if the technical feasibility analysis demonstrates that any of the identified alternatives are technically feasible.

Small Businesses: Alternative Method that Minimizes Adverse Impact

The proposed requirements will increase costs for small builders and developers doing business on the Eastern Shore; but there are no obvious alternative methods that would reduce the adverse impact and still produce the desired policy of greater protection of the shellfish aquaculture enhancement zones.

Real Estate Development Costs

The proposed requirements will in some incidences increase real estate development costs on the Eastern Shore. When the technical feasibility analysis demonstrates that any of the identified alternatives are technically feasible, then the discharge applicant is required to have an assessment of the environmental and socio-economic effects of adopting the select alternative technology conducted under the proposed regulations. Such analysis would cost the applicant approximately \$ 35,000 to \$55,000.³

³ Cost estimate from Department of Environmental Quality

Legal Mandate

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.04 of the Administrative Process Act and Executive Order Number 36 (06). Section 2.2-4007.04 requires that such economic impact analyses include, but need not be limited to, the projected number of businesses or other entities to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. Further, if the proposed regulation has adverse effect on small businesses, Section 2.2-4007.04 requires that such economic impact analyses include (i) an identification and estimate of the number of small businesses subject to the regulation; (ii) the projected reporting, recordkeeping, and other administrative costs required for small businesses to comply with the regulation, including the type of professional skills necessary for preparing required reports and other documents; (iii) a statement of the probable effect of the regulation on affected small businesses; and (iv) a description of any less intrusive or less costly alternative methods of achieving the purpose of the regulation. The analysis presented above represents DPB's best estimate of these economic impacts.