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## Position of the Virginia Institute of Marine Science on the Use of Hydraulic Dredging for the Taking of Hard Clams

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POSITION OF THE VIRGINIA INSTITUTE OF MARINE SCIENCE  
ON THE USE OF HYDRAULIC DREDGING FOR THE TAKING  
OF HARD CLAMS

Prepared for the Office of the Governor  
Commonwealth of Virginia  
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By

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POSITION OF THE VIRGINIA INSTITUTE OF MARINE SCIENCE  
ON THE USE OF HYDRAULIC DREDGING FOR THE TAKING  
OF HARD CLAMS

It is VIMS policy to support the development and operation of marine resource harvest methods which lower the costs of production and increase productivity through increased efficiency of harvest. Where such mechanisms threaten either the viability of the stock, the market, the industry or the environment by their efficiency, we support and can recommend relevant conservation measures such as closed seasons or areas, quotas, limited entry, or gear restrictions.

The Institute has conducted studies of the impact of harvesting upon the stocks and the environment. Also it has reviewed the studies on hydraulic harvesting conducted by the states of Maryland, Florida, and those of our own staff and we find that it is less disruptive of the bottom ecology than the currently used standard oyster dredge, (Appendix I) or patent tongs.

The oft cited example of the hydraulic dredge overfishing Chincoteague Bay in Maryland was the result of no regulations whatsoever, and poor resultant outside recruitment due to the slow circulation/replacement of the Bay's enclosed waters.

In 1978 VIMS prepared a statement of "Alternate Management Schemes" (Appendix II), for the VMRC to consider in rewriting Regulation X, (Pertaining to the Catching and taking of Clams). Our recommendations for the Seaside of the Eastern Shore are

contained therein, and with modifications related to the length of the escalator could be applicable on a case by case basis state wide. Further, sensitive areas, including for example, parts of the Seaside of the Eastern Shore, any seagrass beds, or Baylor Grounds, should be closed to the use of the dredge.

The major factor that needs to be considered here is not the bottom destruction but the impact on the market and the alleged dislocation of the work force by the more efficient hydraulic harvester.

STANDARD OYSTER DREDGE

HYDRAULIC DREDGE

+	-	+	-
<p>Inexpensive</p> <p>Less down time</p> <p>Few parts</p> <p>Small boat</p>	<p>High mortality to juveniles, and adults</p> <p>Destroys eelgrass beds</p> <p>Destroys bottom and benthos (150'/min X 24")</p> <p>Modifies or removes 5 to 6" of bottom - shell or small organisms may be swept from the area</p> <p>Less energy efficient</p> <p>Worse CPUE</p> <p>Labor intensive</p>	<p>Low mortality to young clams and adults</p> <p>Easier on bottom and benthos (8-12'/min X 24")</p> <p>Shell or small organisms are returned to same area as where harvested</p> <p>More energy efficient</p> <p>CPUE better</p> <p>Less labor intensive</p>	<p>Destroys eelgrass beds</p> <p>Leaves a trench which gradually fills</p> <p>Expensive</p> <p>More down time</p> <p>Many moving parts</p> <p>Requires large boat</p>

ALTERNATIVE MANAGEMENT SCHEMES FOR THE DREDGING  
OF HARD CLAMS ON SEASIDE OF EASTERN SHORE

1. No dredging for clams
  - a. On any Baylor Bottom
  - b. In any eel grass bed
2. Phase out standard oyster dredging for clams
3. Advocate hydraulic dredging for clams
  - a. Limit pump intake to 6" and discharge to 4"
  - b. Limit cutting bar to 24"
  - c. Limit length of escalator to 30'
  - d. Limit size of grating behind cutting bar to 3/4" opening  
(saves "nicks" and reduces sediment plume)
  - e. Limit activity to >150' for lease boundary
4. Restrict harvest by:
  - a. Monday - Friday only
  - b. Limit catch by Bu./man, Bu./boat, Bu./Acre, No. of boats/  
Acre, etc.
5. Season  
Close season after 4 July - economics  
No biological reason to limit season