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

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