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The Value of Virginia's
Saltwater Recreational Fishery

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The Value of Virginia's Saltwater Recreational Fishery

No accurate estimate of Virginia's saltwater recreational fishery exists at present although several national surveys provide indications of how the Commonwealth ranks among other coastal states, e.g. National Marine Fisheries Service Marine Recreational Fishery Surveys, 1979, 1981; 1980 National Survey of Fishing, Hunting and Wildlife - Associated Recreation, U.S. Fish and Wildlife Service and Bureau of the Census. There is no doubt that Virginia's recreational fishery, supported by the waters of Chesapeake Bay, its tributaries and the nearshore waters along the ocean shoreline, results in millions of dollars in expenditures each year. Unfortunately, only portions of this fishing activity have been looked at in any detail with regard to economic impact. However, these provide a frame of reference for the value of the fishery. They also provide background against which to consider a projection of the fishery's value as derived from a 1979 study of Maryland's saltwater sport fishery.

In the study entitled "Recreational Boating in Virginia: A Preliminary Analysis" (T. Murray and J. Lucy, VIMS, 1981), a conservative estimate of the total economic impact of recreational boating activity in Virginia was \$120 million (1980 dollars). Approximately 44% of the time spent in marine recreational boating activities is known to be taken up by fishing ("Economic Activity Associated with Marine Recreational Fishing", Centaur Management Consultants, Inc., 1977 and "Virginia's Coastal Marina Industry: A Descriptive Analysis", J. Lucy, VIMS, 1979). Assuming 50% of Virginia's recreational boating activity to take place in marine waters (a reasonable estimate considering

registered and documented boats in counties/cities bordering tidal water), one could roughly say that approximately \$26 million of direct economic impact occurred in Virginia during 1980 from marine recreational fishing activity (44% x \$60 million). However, total direct spending in Virginia's 134 boat charter and head boat fleet alone amounted to \$8.5 million in 1980 ("Virginia's Charter and Head Boat Fishery: Analysis of Catch and Socioeconomic Impacts," A. Marshall and J. Lucy, VIMS, 1981). Therefore, \$26 million is likely a very low and unrealistic estimate of the direct economic value of the Virginia marine recreational fishery.

As mentioned previously, national surveys have been made of freshwater and marine recreational fishing which include Virginia. However, such studies generally rely upon too small a sample size (persons interviewed) to make it valid to break out individual state data. With this caution in mind, one can look at the recent 1980 National Survey of Fishing, Hunting and Wildlife-Associated Recreation study and find that Virginia anglers were estimated to have spent over \$135 million on their activities (only a summary of this publication is available to me at this time). Of these revenues, 22% were estimated to have resulted from non-Virginia resident anglers. The "average" fisherman was estimated to spend about 20 days per year fishing while spending an average of \$20 per day on his sport. Across the country, saltwater fishermen were estimated to spend more per day than freshwater counterparts, but also took fewer trips per year. Marine anglers were estimated to spend \$38.75 per day in 1981 on their activity and own \$446 worth of fishing equipment each ("Socioeconomic Aspects of Marine Recreational Fishing," KCA Research, Inc., 1983). In Virginia marine anglers were estimated to make up over 33% of the state's total recreational fishermen. Therefore, one could broadly project that Virginia's marine recreational fishery in 1980 resulted in expenditures of over \$44 million

(33% x \$135 million). Again, the accuracy of this estimate is questionable because of the relatively small proportion of the survey likely including Virginians and the typical restricted sample size of national surveys.

In light of the preceding difficulties with studies on portions of Virginia's marine recreational fishery and national studies containing relatively small samples of Virginia anglers, it seems best to attempt a comparison with Maryland's fishery. A rather comprehensive study of Maryland's saltwater recreational fishery was completed for 1979 (the state payed to increase the survey effort of its anglers in an ongoing national study of marine recreational fishing contracted by the National Marine Fisheries Service). For 1979 the study estimated that 913,000 persons fished in Maryland tidal waters (Chesapeake Bay and the Ocean City area), spending approximately \$132 million ("1979 Maryland Saltwater Sport Fishing Survey," J. Williams, H. Speir, S. Early and T. Smith, Md. Dept. Natural Resources, 1982).

Since fishing patterns and available fishing opportunities are quite similar in Virginia and Maryland, and Virginia residents were interviewed in the study (9% of the fishing trips estimated for Maryland were by Virginians), the Maryland study's results can be used to estimate the value of Virginia's fishery. In the Maryland study, a table from the larger national recreational fishery survey indicates that during 1979 Virginia had an estimated 889,000 saltwater recreational fishermen. This estimated number of marine anglers also falls within the 90% confidence interval (882,000 - 1,078,000 anglers) estimated for Virginia in 1973 - 74 ("Participation in Marine Recreational Fishing - Northeastern United States 1973 - 74," NMFS, 1975). By a simple algebraic calculation comparing Maryland's total

anglers (913,000) and their expenditures (\$132 million) to Virginia's estimated anglers (889,000), an approximate value of \$129 million can be derived for the Virginia saltwater recreational fishery.

However, caution must be used in quoting this figure since the estimated number of Virginia saltwater anglers in the 1979 national survey was obtained from only 907 interviews within the state. This resulted in a very broad 90% confidence interval range of 167,400 - 1,610,600 anglers. Because of this very broad confidence interval, it is probably best to consider a range of value for the Virginia saltwater recreational fishery. The value range that would correspond to the previously mentioned confidence interval would be \$24 million to \$233 million. However, the fact that a similar regional survey in 1973 - 74 obtained an estimate of Virginia saltwater anglers somewhat close to that of the 1979 national survey indicates that the value of Virginia's 1979 fishery lies somewhere in the vicinity of \$129 million.

As with the Maryland study, one needs to expand the actual expenditures made by saltwater anglers to accurately reflect the total economic impact the activity has on surrounding communities. A factor of three (3) is used in the Maryland study, and applying it to the Virginia estimate results in a projected economic impact of \$387 million with a 90% confidence interval of \$72 million to \$699 million.

Considering the sources of information available at this time, this estimate of the value of Virginia's saltwater recreational fishery is the best that can be made. Serious thought needs to be given to the means to improve our knowledge of this fishery and the major contribution it makes to the Commonwealth.