

# COOPERATIVE EXTENSION SERVICE

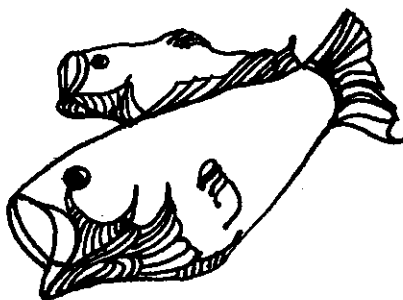
Mississippi State University. United States Department of Agriculture. Counties Cooperating



## Sea Grant NEWSLETTER

November 1976

### Potential International Markets for Mullet



Mississippi mullet in Italy? It isn't as strange as it sounds, according to Dr. Giovanni B. Giglioni, professor of management at Mississippi State University.

International markets for mullet have been a Sea Grant goal to capitalize on international markets for this under utilized species, probably more numerous than any other fish in Mississippi and Alabama waters.

Potential Italian markets were the focus of this project, since Italians have eaten mullet since Roman times and no doubt will continue to do so. Domestic production of mullet in Italy is not adequate to satisfy the demand, and mullet have to be imported from several countries.

The problem hinges on supply, which appears to be waning for Italian producers. That is where Mississippi and Alabama fishermen are affected. Estimates are that Gulf Coast fishermen could easily supply 2.8 million pounds of mullet per year.

Italian importers refuse to buy frozen mullet, so the most feasible means of transporting fresh mullet to Italy is by chartered airliner. The mullet could be picked up in Gulfport or Mobile and flown to Italy in 15 hours at a cost of 42 to 50 cents per pound, depending on quantity. That would be 75,000 to 90,000 pounds per load.

Results of the market study indicate that producers and sellers of fresh mullet in Mississippi and Alabama have an opportunity to make substantial profits by supplying international needs. Jet transportation enables coastal producers to compete favorably with other suppliers in the sphere of international marketing of under utilized domestic seafood resources.

The Sea Grant Advisory Service is conducted by the Cooperative Extension Service for the Sea Grant Consortium composed of the Gulf Coast Research Laboratory, Mississippi State University, University of Mississippi and the University of Southern Mississippi. Send correspondence to Sea Grant, c/o Dr. C. David Veal, Box 4646, West Beach Blvd., Suite 1E, Biloxi, Mississippi 39531

## New Legislature Requires Improved Management

The states must now keep pace with the trend for improved management techniques, and the alternative is the loss of resource to Federal management, according to Charles Lyles, Director of the Mississippi Marine Conservation Commission.

Recent legislation puts the U. S. Government in cooperation with the states in the business of managing our fisheries to provide a sustaining yield, so the states must now keep pace with the trend for improved management, Lyles said. This management is not accomplished by using opinions, nor is it constructed in an atmosphere charged with emotion. It is a complicated science, just as complicated as space technology and in some respects just as costly. Too often political expediency is the primary concern, he said.

According to Lyles, the requirements for a fishery management program falls into five categories. The first is adequate implementing legislation. An organization must be capable of administering fishery matters and must have the responsibility of managing the state's fishery resources. Public policy must state clearly that the resources are the property of the state and that harvesting will be done as a privilege--not an inherent right, and it will be done at a time, place and by such means as the organization which has been charged with the responsibility so designates. Fees, licenses, and taxes will be set by the legislature. The implementing legislation should also set the general direction the agency should follow in developing and managing its resource.

Another requirement is a data base to be used in the decision-making process. The data base should include catch and value statistics for commercial catches and sport fisheries, area of capture, time spent making the catch, and species and size of gear as well as horsepower of the engine and revolutions of the engine while such gear as otter trawls is under tow. There must also be biological data on the life history of the animals to be managed and information on the food habits of the animal which has been obtained by stomach analysis.

The next requirement is adequate funding to provide for the implementation of the plan. Since there will never be adequate funds for all the research that needs to be done, a system of priorities must be established and only that research that has top priority can be undertaken. The most pressing need is research into life histories of heavily exploited species and an adequate monitoring and assessment programs, according to Lyles.

Finally, there must be a program of staffing by professional people to do the important job of managing. It will take more money to employ this caliber of person, but it is a must.

Without these no meaningful management is possible, Lyles said.

## Use of Seafood Processing Waste Productivity of the Estuarine Area

The Mississippi seafood industry is faced with a serious problem, especially the shrimping industry.

Present methods of extraction, canning, and freezing result in as much as 65 percent solid waste from hand picked shrimp and 82 percent when machine processed. Processors in Biloxi estimate that 75 percent of the shrimp is waste, including solid wastes, blood, oil, and dissolved substances.

Waste products have always been dumped into waters adjacent to the processing plants, but Mississippi Air and Water Pollution Control Commission regulations now require seafood processing plants in Mississippi to remove practically all solids from waste water before discharge into any estuarine area. These solid wastes are then disposed of in landfills, at considerable expense to the processors.

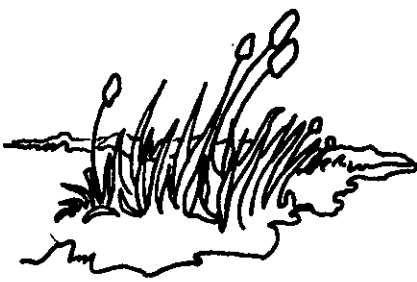
Sea Grant researchers at Mississippi State University and the University of Mississippi have directed their efforts toward easing this cost burden by evaluating shrimp processing waste as potential fish feed or as a supplement to the usual list of fish feed constituents. Channel catfish and bluegills readily accepted the waste in a laboratory situation and in open ponds.

An experiment was initiated to determine if there were microorganisms present in the guts of channel catfish which break down chitin and make the protein available to the fish. A gram-negative rod or coccibacillus and a gram-variable coccus were isolated. These organisms grow in colonies on agar containing chitin. The relationship between the two appeared to be simbiotic, although each could grow independently of the others.

One of the major objectives of this project was to measure the effect on water quality and plankton production when materials from a marine organism were introduced into fresh water. Plankton was sparse throughout the experiment in the Mississippi State University pond. No adverse effects were found in plankton communities in either the Game and Fish Commission Pond or in the Education and Research Center ponds. Physico-chemical parameters fell well within the acceptable range. Sodium varied with geographical location, but no excessive increases due to the shrimp wastes were found in any of the ponds.

Although shrimp processing wastes alone do not contain all the nutrients needed for a complete catfish diet, the high protein content make these substances valuable sources of protein. Seafood processors also may find this information beneficial in securing a financial gain from a noxious waste product.

# Assessment of Alabama Coastal Marshes for Coastal Zone Management Planning



With the help of Sea Grant funding, Judy Stout, of the University of South Alabama, is conducting a project to assess the productivity of Alabama coastal marshes for accurate information to be used in coastal zone management. Although extensive studies on marsh productivity have been made along the Atlantic Coast, little has previously been done along the Gulf Coast and none in Alabama. Development

and conservation plans require this type of information to provide the best use of marsh resources to meet current and future needs.

The project involves an aerial survey of the entire Alabama coastline to define 26 study areas. The sites were selected to provide broad coverage of geographic areas, vegetation types, and environmental settings.

Samples were taken in March, June, and late September 1975 to include the growing season. Vegetation profiles for each station were compiled for cumulative seasonal data throughout the growth period. Marsh types could readily be grouped by their typical species composition and distribution.

Mapping by marsh species is approximately 85 percent complete for Mobile County, and both Baldwin and Mobile Counties will be completed late in 1976.

Clip samples of vegetation have been taken at each station, and interpretations now being made include species composition and abundance, species growth patterns, species standing crop, and tidal inundation. Final collection will be made in September 1976, and the determination will include: annual net primary productivity for each marsh type, annual net primary productivity for each dominant species, total acreage of each marsh type, total acreage for each dominant species, and potential productivity of total Alabama marshlands.

## Annual Site Review Held

The annual site review of the Mississippi-Alabama Sea Grant Program was held at the Alabama Dauphin Island Sea Lab on October 6 and 7. The Office of Sea Grant Programs, Washington, D. C. selected panel members with expertise in at least one of the areas of the program. The panel reviewed and evaluated the research program.

Oral presentations were given in defense of 15 research projects in the four Mississippi-Alabama programs. Areas covered included living resources, coastal policy studies, seafood processing, and environmental studies. Also, programs were presented in marine education, advisory services, and program management and development.

The bi-state Sea Grant Consortium administers marine research, education, and advisory services for Mississippi and Alabama from its new offices at the Gulf Coast Research Laboratory, Ocean Springs, Mississippi. Nine institutions of higher learning participate and comprise the Consortium: Auburn University, Gulf Coast Research Laboratory, Mississippi State University, Tuskegee Institute, University of Alabama (Tuscaloosa), University of Alabama in Birmingham, University of Mississippi, University of South Alabama, and University of Southern Mississippi.

Closer coordination between the two states, successful completion of research projects, improved administrative actions, and improved cooperation between the participating institutions are indicators of the progress that has been made toward achieving the objectives of the Bi-state Consortium and the National Sea Grant office.

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