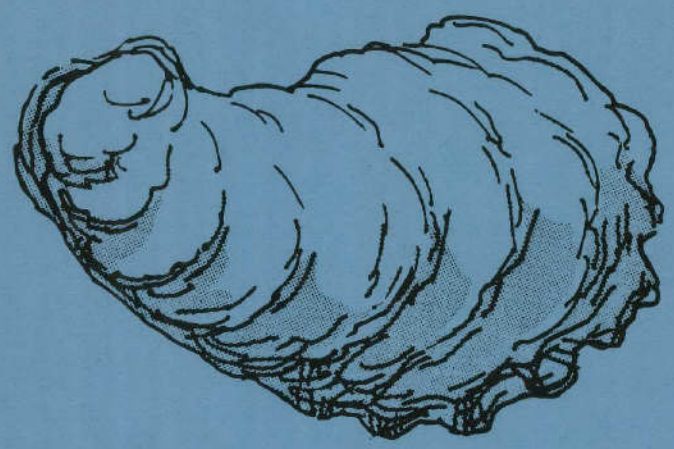
TEXAS OYSTER FISHERY MANAGEMENT PLAN

Fishery Management Plan Series
Number 1

ECONOMIC IMPACT STATEMENT



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ECONOMIC IMPACT ANALYSIS OF THE TEXAS PARKS AND WILDLIFE DEPARTMENT OYSTER FISHERY MANAGEMENT PLAN

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INTRODUCTION

In 1985, the Sixty-ninth Texas Legislature delegated to the Texas Parks and Wildlife Commission the authority to regulate the oyster fishery in Texas bays. Before existing regulations are changed, the Department is required to prepare an Oyster Fishery Management Plan and Economic Impact Statement in accordance with Chapter 76 of the Parks and Wildlife Code. This document is the economic impact statement. It includes a brief discussion on the current economic status of the oyster industry, and projects the economic impacts of the proposed policy recommendations in the Oyster Management Plan. The Oyster Management Plan recommendations reflect statutory guidance within Texas Parks and Wildlife Code Ann. §76.301 (Vernon Supp. 1988); the economic impact statement addresses each of the plan's recommendations regarding projected impacts on the economy of the oyster industry and the State.

Texas oysters are taken from public reefs for sale and for placing on private oyster leases for cleansing before ultimate sale. Public reefs and private leases account for 17,532 and 2,356 acres of bay bottom, respectively statewide. Approximately 15 percent (3,414 acres) of reef acreage is in polluted or occasionally polluted areas and is not approved for general harvest. Average annual landings in Texas were 3.6 million pounds from 1978-1987 and the average ex-vessel value per year during that time was approximately 5.8 million dollars. Between 1978 and 1982 the ex-vessel value of oysters landed in Texas ranged between about 1 and 5 million dollars. Landings in 1983 reached an all-time high with an ex-vessel value of just over 11 million dollars. The value of landings since 1983 has declined through 1987. Total ex-vessel value for coastwide landings reached a five-year low in 1987 of $6,739,900, even while prices per pound were increasing during the same five-year period.

The economic status of the Texas oyster industry has been generally declining. This is substantiated by available data for reported landings, oyster abundance, seasonal closures due to low oyster abundance, and extremely high harvest participation. Since 1985 coastwide market-oyster abundance has decreased approximately 20 percent each year.

In five out of the last ten oyster seasons partial seasonal closures have been necessary because oyster populations were in a damaged or overworked condition either coastwide or in Galveston Bay (Galveston Bay accounts for 80 percent of coastwide landings, 1977-87). Closures have been needed due to low abundance of oysters in each of the last three seasons. Current oyster abundance for 1988, as measured by the Texas Parks and Wildlife resource sampling program, is not significantly greater than the same months during 1987. In fact, the data for April 1988 (the last month of the harvest season) in the areas open to general commercial harvest in the Galveston Bay system were at historic lows.

In spite of the decline in oyster abundance in the Galveston Bay system, participation in the oyster industry has continued to increase. The number of commercial oyster dredge licenses sold in 1972 (the last year for which comparable data exist) was 195. In 1987, 801 oyster dredge licenses were sold. This indicates a 400 percent increase in the number of licenses issued during the past 15 years. Although income is not likely to be distributed equally among participants, the average income per oyster

dredge license declined between 1972 and 1987 by 34 percent. Landings per license decreased by over 80 percent from 1972 to 1987. Thus, only a dramatic increase in the price per pound kept the fishery from suffering even greater economic hardship.

The Texas oyster fishery as described above is symptomatic of a typical open-access (no limit to the number of boats fishing) fishery. The fishery is virtually unrestricted with respect to access, is overcapitalized, and the resource is threatened with depletion. The recommendations proposed in the Oyster Management Plan should ensure the long run viability of the oyster industry, protect the resource from depletion, and achieve optimum yield in the long run.

IMPACTS OF PROPOSED OYSTER MANAGEMENT PLAN RECOMMENDATIONS

The recommendations in the Oyster Management Plan represent approaches or policies to manage the fishery in the future. The recommendations will lead to changes in the long run in several areas of the industry. The desired effects are to create more economically efficient and effective management, and a more economically efficient and profitable oyster industry. Improvements associated with management and increasing efficiency in the oystering industry will aid in maximizing the economic benefits to the oystering industry and the state while simultaneously ensuring the long run protection of the resource. The estimated economic impacts of each of the plan's recommendations are as follows:

RECOMMENDATION 1 - STATUTORY AUTHORITY: Implementation of Chapter 76 Parks and Wildlife Code may lead to fundamental changes in oyster management. However, change should take place at a rate that minimizes disruption in the oyster fishery and provides for an orderly transition from statutory authority to management by the Texas Parks and Wildlife Department. A process of clarifying and simplifying existing regulations should be a high priority under the proposed Oyster Management Plan.

Economic Impact: Through the clarification and simplification of existing regulations and through orderly transition from statutory to regulatory authority social and economic disruptions to the oyster fishery will be minimized. Costs to the oystering industry will be minimized with an orderly and well-planned transition from management by statute to management by regulation. Improved efficiency will increase economic benefits to the industry and the state.

RECOMMENDATIONS 2 - JOINT MANAGEMENT: The Texas Parks and Wildlife Department will continue to work with these groups to coordinate oyster management. This coordinated effort can provide for more effective management of the oyster resources of Texas. As the specifics of this Plan are to be developed by the adoption of rules and regulations by the Texas Parks and Wildlife Commission, and because it is vital to have the continued input of all individuals and groups interested in the oyster

resources of Texas, an advisory committee consisting of persons from the oyster industry and individuals and groups interested in the oyster resources of Texas shall be selected by the Chairman of the Texas Parks and Wildlife Commission for the purpose of advising, with the Texas Parks and Wildlife Department staff, on the preparation and formulation of each and every rule and regulation necessary to carry out the Oyster Plan prior to the presentation of said rules and regulations to the Commission for its action.

Economic Impact: Through continued joint management efforts with the Texas Department of Health, National Shellfish Sanitation Program and the Interstate Shellfish Sanitation Conference, Texas Parks and Wildlife Department will help to insure product quality, which leads to greater market efficiency, minimizes product waste and helps to assure that public health is not compromised. This impact can not be quantified at this time.

RECOMMENDATION 3 - BAG AND POSSESSION LIMIT: Bag limits should generally not be used in the oyster fishery, but possession limits should continue to be applied to reduce fishing mortality and distribute harvest among users.

Economic Impact: The reduced fishing mortality that results from possession limits reduces the threat of depletion that unregulated harvest levels generate. However, to the extent that possession limits impede the use of the most efficient harvesting processes, they tend to increase costs to the oyster harvesters. The resulting distribution of harvest that occurs from the use of possession limits insures that the economic benefits in the system are distributed among the industry participants.

RECOMMENDATION 4 - SIZE LIMIT: No change in the current size limit is recommended because minimum size limits are achieving the objectives of the plan at this time.

Economic Impact: The current size limit, along with other management controls on the amount of oysters harvested, allows for optimum harvest of the resource while maintaining adequate spawning stock. The costs associated with foregoing harvest of smaller oysters are minimal and necessary to assure adequate levels of spawning stock. This in turn leads to maximizing economic benefits from the system, while preventing depletion.

RECOMMENDATION 5 - TIME PERIODS: Restricting the harvest of oysters to specific time periods (including, but not limited to, certain times during the day, or certain months during the year), along with area closures (where an area can be a portion of a bay system, a bay system, or the entire state), are the primary means for managing the Texas oyster fishery. The mortality of small oysters due to fishing

activities should be reduced or eliminated. The practice of prohibiting oyster harvest when the abundance of spat and small oysters is high should be continued.

Seasonal closures should generally be applied coastwide. However, when a single bay system is closed other bays should remain open when it is determined that the oyster populations in those bays could withstand the additional harvest that would occur. The other bays should be closed if it is determined that their oyster populations could not support the additional harvest.

Economic Impact: Time period restrictions, like size limits, help protect the common property resource from overharvest. The timing of seasons and their associated closures should aid in distribution of the economic benefits to all participants in the industry. The short run costs to harvesters and industry participants will be minimized through timely closing and seasonal closures of areas, and will insure long run economic benefits to the fishery through optimizing the population of harvestable size oysters. Reducing the harvest of small oysters will increase the economic benefits by increasing the number and weight of oysters harvested in the long run.

RECOMMENDATION 6 - CLOSED AREAS: Area closures in unpolluted waters, as well as specific time period restrictions, and size limits should be the primary management tools for managing the oyster fishery. Areas closed to oystering should continue to be based on the abundance of spat, small and market oysters. The boundaries of closed areas should be identified to assist fishermen in recognizing closed areas, and to enhance law enforcement.

Economic Impact: The effects of this recommendation are the same as those for the bag, possession, size, and time period recommendations. Additionally, clearly identified boundaries will reduce the total costs associated with law enforcement as well as the operating costs of harvesters; therefore, economic benefits to the industry will increase.

RECOMMENDATION 7 - MEANS AND METHODS: In general, the current regulations are achieving the objectives of the Plan at this time.

Economic Impact: Current management strategies are maximizing the economic benefits and there will be no change in the economic impact as a result of this recommendation.

RECOMMENDATION 8 - LICENSES: The licensing and fee system should be as simple as possible. It should be designed to produce revenue to pay for management and recover the economic rent associated with the removal of the states resources. A commercial oyster fisherman should be required to be licensed. Each boat used in the commercial oyster fishery should also be licensed. A Commercial Oyster Boat license should replace the

Commercial Oyster Dredge license and the Saltwater Commercial Fishing Boat license.

Economic Impact: Through simplification of the licensing system, and having the state collect full value for allowing the harvest of its resources, the economic costs of administering licenses will be reduced and the economic benefits to the industry and the state can be maximized. The cost of individual licenses may increase.

RECOMMENDATION 9 - PENALTIES AND COMPLIANCE: Penalties for violating regulations should be increased, especially for violation of the primary management tools of area closures, time periods and size limits. The civil restitution and license revocation and suspension provisions of current law should be continued.

Economic Impact: Penalty increases will reduce the incentives for violators to illegally remove oysters by increasing the costs to illegally fish. Compliance with the current laws and regulations will maximize economic benefits from the biological system and aid in maintaining the viability of the resource.

RECOMMENDATION 10 - ALLOCATION: The necessary data should be obtained to assess the feasibility of implementing a limited entry program into the Texas oyster fishery to achieve optimum yield.

Economic impact: Assessing the feasibility of a limited entry program for the Texas oyster fishery will cost the state and industry in the short run. Ultimately, the benefits to the state and the industry of obtaining the information should lead to greater economic and managerial efficiencies.

RECOMMENDATION 11 - STOCKING: Stocking in public waters to enhance natural populations should be used to supplement natural recruitment when sufficient research has demonstrated its efficacy and when necessary. However, stocking of oysters should not be permitted in Texas public waters without prior notification and approval of the Texas Parks and Wildlife Department. Additionally, it should not be legal to transplant oysters, native or non-native, into Texas for culture or stocking without notification and approval of the Texas Parks and Wildlife Department.

Economic Impact: Supplementing natural recruitment through stocking will add assurance that the appropriate stock levels can be maintained. Stocking programs will lead to greater costs for the state and the participants in the fishery. If stock levels are maintained or harvest levels can be raised significantly as a result of stocking, economic benefits will increase over the long run.

RECOMMENDATION 12 - MARICULTURE DEVELOPMENT: The Texas Parks and Wildlife Department should continue to monitor the development of mariculture techniques and the commercial production of oysters.

Economic Impact: Through monitoring the development of mariculture techniques, developments that may aid in increasing the economic benefits from the fishery will be identified.

RECOMMENDATION 13 - HABITAT MAINTENANCE, RESTORATION, AND ENHANCEMENT: The long-term viability of the Texas oyster fishery depends on maintenance and enhancement of natural oyster reefs. All the money collected from this program should be dedicated to shell recovery and cultch replacement. Therefore, an industry financed shell recovery and cultch replacement program should be implemented for natural reefs. The Department should continue to aggressively protect and enhance oyster habitat and water quality via all available resource protection agencies and programs.

Economic Impact: Protection or enhancement of habitat will guarantee adequate stocks of the resource in the future, thus ensuring stability and continued economic benefits to the oyster fishery and the state. Short run costs to the state and participants in the fishery will increase in order to implement a recovery and replacement program, however, the net economic benefit to the oystering industry and state will be positive.

RECOMMENDATION 14 - FISHERY INDEPENDENT MONITORING: The present monitoring program should be maintained or enhanced to meet Legislative mandates and to continue to determine trends in population abundance and stability, movement, growth, mortality and the impacts of environmental influences.

Economic Impact: Monitoring of stocks and habitat aids in decision making to maintain and enhance the resource. Enhancement of current monitoring programs will increase costs. Resource maintenance and enhancement will ensure economic benefits for the future.

RECOMMENDATION 15 - FISHERY DEPENDENT MONITORING: The present monitoring program should be enhanced to meet Legislative mandates and to continue to determine fishery harvest trends, economics and impacts of sociological influences.

Economic Impact: Enhancement of current monitoring programs to determine harvest trends, economics, and sociological influences will increase the economic benefits of management and increase the costs associated with monitoring the status of the fishery. The increased monitoring will allow for more timely and efficient decisions.

RECOMMENDATION 16 - ASSESSMENT AND EVALUATION: Continued assessment and evaluation are necessary to meet Legislative mandates and to address data needs reviewed in this Plan.

Economic Impact: Continued assessment and evaluation will improve the scientific knowledge of the oyster fishery in Texas. While increasing the costs of monitoring and evaluation, the efficiency in management gains will lead to maximum economic benefits from the resource.

RECOMMENDATION 17 - COMMUNICATION AND EDUCATION: The Texas Parks and Wildlife Department should continue to maintain a high level of interdepartmental and interagency communication to more fully benefit from the free flow of information concerning oyster research, adverse environmental conditions and changes in economic and societal goals.

Economic Impact: Continued and improved communication and education will improve management of the resource. Managerial improvements will increase stability of the economic benefits of the industry.

RECOMMENDATION 18 - OYSTER LEASES: The rules or regulations governing the oyster lease system should be simplified, clarified and updated. The fee system in the oyster lease program should produce revenues to pay for administrative costs and recover economic rent from participants. The criteria for issuing leases should be modified to insure that before any changes in the number and location of leases are made, they are needed to satisfy the objectives of this plan and other saltwater fisheries.

Economic Impacts: The clarification and simplification of the rules and regulations will have effects similar to that of Recommendation 8 -- licenses. A fee system in the oyster lease program will increase the economic benefits to the state and also increase the costs of participation in the leasing program. Modifying the criteria for issuing leases and insuring that any modifications meet the objectives of the Oyster Management Plan will increase the economic benefits to the state and insure orderly changes in the management and administration of the leasing program.

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