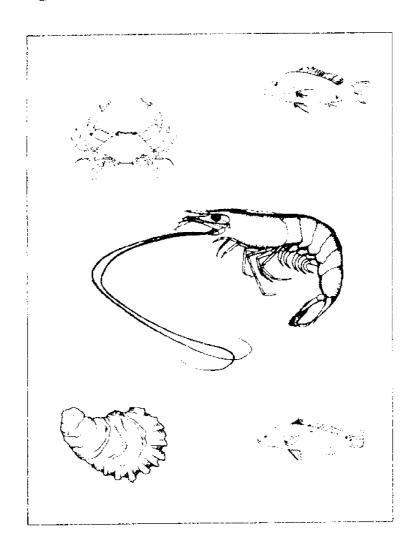
# Interim Guide

# Governmental Permitting and Regulatory Requirements Affecting Texas Coastal Aquaculture Operations



Aquaculture

Mike Hightower Texas A&M University Sea Grant College Program

> Charles Branton Environmental Consultant

Granvil Treece Texas A&M University Sea Grant College Program

#### Interim Guide

# Governmental Permitting and Regulatory Requirements Affecting Texas Coastal Aquaculture Operations

# Mike Hightower

Deputy Director
Texas A&M University Sea Grant College Program
Program Coordinator
Texas Marine Advisory Service

#### Charles Branton

Environmental Consultant Austin, Texas

#### Granvil Treece

Aquaculture Specialist
Texas A&M University Sea Grant College Program

TAMU-SG-90-504 July 1990 CIRCULATING COPY
Sea Grant Depository



Texas A&M University Sea Grant College Program Dr. Thomas Bright Exeuctive Director



Aquaculture Council of Texas John W. Mecom, Jr. Chairman



General Land Office of the State of Texas Garry Mauro Commissioner Publication of this document partially supported by Institutional Grant No. NA89AA-D-SG139 to the Texas A&M University Sea Grant College Program by the National Sea Grant Program, National Oceanic and Atmospheric Administration, Department of Commerce, the Aquaculture Council of Texas and the General Land Office of the State of Texas.

\$10.00 Additional copies available from Sea Grant College Program Texas A&M University P.O. Box 1675 Galveston, Texas 77553-1675

TAMU-SG-90-503 2M July 1990 NA89AA-D-SG139 A/F-1

# **Table of Contents**

Introduction	
Governmental Permitting and Regulatory Requirements	1.1.1
Aquaculture Executive Committee	1.1.
Current Committee Members	
Summary Tables of Permits, Licenses, Certificates and Regulations	
Affecting Aquaculture Operations	
Description	21
Prerequisites to Submission of Permit Applications	2.1
Site Development Involving Wetlands/Submerged Lands	21
Service Facilities Construction	
Water Use and Wastewater Discharge	
Species Obtainment	
Species Grow-out and Harvest for Processing and/or Sale	
Processing for Sale	
Wholesale/Retail Sale of Cultured Species	2.1.
Average Processing Times for Obtaining Permits, Licenses, Approvals, etc	2.1.10
Agency Role and Responsibilities	
•	
Federal Government Agencies	
U.S. Army Corps of Engineers	
Section 10 Permit	3.1.
Section 404 Permit	3.1.
U.S. Environmental Protection Agency	3.2.3
National Pollutant Discharge Elimination-System Permit	3.2.1
U.S. Fish and Wildlife Service	3.3.1
Construction-Project Review	3.3.1
Fish and Wildlife Import/Export License	3.3.2
Designated-Port Exemption Permit	
National Marine Fisheries Service	3.4.1
Construction Project Review	
U.S. Coast Guard	3.5.1
Regulation for the Marking of Structures and Floating Obstructions	3.5.1
Private Aids to Navigation	3.5.1
U.S. Food and Drug Administration	3.6.1
State Government Agencies	
Texas General Land Office	3.7.1
Lease/Easement	
Texas Department of Agriculture	2.0.1
Fish-Farmer's License	
Fish-Farm Vehicle License	
Cultured-Fish Processing Plant License	2.9.7
Bill of Lading for Certain Vehicles	3,8,3
Marketing of Cultured Redfish and Speckled Trout	383
Texas Parks and Wildlife Department	201
Sand, Gravel, Shell and Marl Permit	301
Private Oyster Leases	303
Oyster-Transplanting Permit	307
Oyster-Harvest Permit	393
Commercial Oyster-Boat License	
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Shellfish Culture License	3.9.4
General Exotic-Shellfish Culture Permit	3.9.5
Shellfish-Sourcing Permit	3.9.6
Red Drum and Speckled Seatrout-Sourcing Permit	3.9.6
Exotic-Species Permit	3.9.7
Freshwater Commercial-Fishing Boat License	3.9.8
Saltwater Commercial-Fishing Boat License	3.9.9
Bait-Dealer's License	3.9.9
Wholesale Fish-Dealer's License	3.9.10
Wholesale Fish-Truck Dealer's License	3.9.10
Retail Fish-Dealer's License	3.9.11
Retail Fish-Truck Dealer's License	3.9.11
Alligator-Farmer's Permit	3.9.12
Alligator-Import Permit	3.9.12
Alligator Hide Tag	3.9.13
Alligator-Broodstock Regulations	
Facility Regulations	3.9.13
Facility Regulations Texas Water Commission	3.10.1
Section 401 Certification	3.10.1
Discharge Permit	3.10.2
Reclamation-Engineer Permit	3.10.3
Water-Use Permit	3.10.4
Texas Department of Health	3.11.1
Transplant Permit	3.11.2
TDH Notification	3.11.2
Harvest Permit	3.11.2
Certificate of Compliance	3.11.3
Crabmeat-Plant License	3.11.3
Food-Manufacturer Registration	3.11.4
Texas Animal Health Commission	3.12.1
Certification of Veterinary Inspection	3.12.1
Texas State Historic Preservation Officer and Texas Antiquities Committee	3.13.1
Application Review Requirements	3.13.1
Local Government Authorities	E 1
Local Governments	3.14.1
Glossary	
Glossary	4.1.1
Olossa y Riskinski kilonia i kilonia	
Harmful or Potentially Harmful Species	
Harmful or Potentially Harmful Exotic Fish	5.1.1
Harmful or Potentially Harmful Exotic Shellfish	5.2.1
Harmful or Potentially Harmful Exotic Plants	5.3.1
Resources	
Additional Passauras Contrats	611

# Governmental Permitting and Regulatory Requirements

A significant number of federal, state and local government agencies are involved in the regulation of an aquaculture operation. This involvement includes site selection, facility design and construction, operations, species obtainment, production, processing, and marketing.

The regulatory environment is often a source of concern to individuals, investors and corporations due to the possibility of unanticipated delays and increased capital and operating expenses. The source of this concern is frequently based on a small percentage of proposed projects that encounter regulatory difficulties.

In most cases, regulatory difficulties arise because of inadequate planning, lack of knowledge of the process by the applicant, and incomplete information concerning the agencies' respective requirements. This is not to imply that improvements cannot be made in the regulatory environment, but rather to point out that information on government regulations is available and agency representatives are responsive to requests for assistance concerning their agency's jurisdiction. However, it is not the responsibility of an agency representative to be knowledgeable of the regulations of all other agencies that may have regulatory authority over some phase of a proposed project. This responsibility remains with the project applicant.

In view of the need to provide prospective aquaculturists, as well as established operators who may wish to expand, with information and sources of contact regarding applicable government agencies, this manual lists each federal and state agency that has been determined to have authority over aquaculture operations. Under each agency heading are descriptions of the agency's role, responsibility and regulatory requirements. In most cases, the following format is used for presentation of these requirements:

- Agency role and responsibility
- Regulatory requirements (permit, license, certification, etc.)
- · Procedures and contacts
- Review and coordination
- Processing time requirements
- · Issuance, fees and terms

Local government agencies also are presented and discussed in general terms.

Aquaculture is a relatively new and emerging industry not only in Texas but throughout the United States. Most regulatory programs in place today were established prior to the time when aquaculture was recognized as having sufficient significance to warrant particular attention. Within the past few years the industry has grown from a few parttime culture efforts to corporate operations with substantial capital investments.

Some adjustments have been made in the existing regulatory framework to accommodate the needs of the industry. Others, no doubt, will need to be made as the industry grows and matures. In 1989, the Texas Legislature recognized the potential of aquaculture to the Texas economy in the Fish Farming Act of 1989. The Texas Department of Agriculture was designated as the lead agency and directed to establish and implement a fish farming program for Texas. At the same time, the legislature created the Aquaculture Executive Committee to assist in promotion of the aquaculture industry. This three-member committee consists of the Commissioner of the Texas General Land Office (GLO), the Commissioner of the Texas Department of Agriculture (TDA) and the Chairman of the Texas Parks and Wildlife Commission (TPWC).

Changes in the current regulatory framework will take time. The current and future needs of the industry must be assessed, plans developed, programs initiated and appropriate changes made. This will involve cooperation and coordination at both the federal and states levels. Additional federal and state legislation may be needed. State agency boards and commissions must be convinced that proposed regulatory changes would be in keeping with their respective agencies' roles and responsibilities.

During the evaluation process, however, there is a need to understand and document the current permitting and regulatory process. While certain changes may be forthcoming, the basic framework will

likely remain intact. The purpose of this document is to present, on an interim basis, the permitting and regulatory requirements that exist at the current time. The specific objective is to provide a guide to assist aquaculturists who are planning to expand current operations and to prospective aquaculturists who are considering entering the business.

# Aquaculture Executive Committee

The Fish Farming Act of 1989 (S.B. No. 1507) was created by Acts of 71st Texas Legislature Regular Session, 1989. In addition to transferring authority from the Texas Parks and Wildlife Department to the Texas Department of Agriculture, the Act also created the Aquaculture Executive Committee, and directed the Committee to employ an Aquaculture Liaison Officer to perform the following tasks:

- Coordinate activities between state agencies as they pertain to the aquaculture industry.
- Report to the Aquaculture Executive Committee every six months, or more often at the discretion of
  the officer, and to the Texas Legislature before the beginning of each regular session concerning the
  status of the aquaculture industry in the state.
- Assist the committee in adopting rules in support of the aquaculture industry while still ensuring that
  aquaculture operations do not have a negative impact on marine or freshwater biological systems.

In addition, the Act directed the Aquaculture Executive Committee to do the following:

- Monitor the status of the aquaculture industry.
- · Evaluate recommendations for promoting the aquaculture industry.
- Identify means for improving the cooperation between agencies having regulatory authority over the industry.
- Promote the timely development of the industry in an environmentally sound manner.

#### **Current Committee Members**

Chairman Chuck Nash Texas Parks and Wildlife Commission 4200 Smith School Road Austin, Texas 78744

Commissioner Jim Hightower Texas Department of Agriculture Stephen F. Austin Building P. O. Box 12847 Austin, Texas 78711 Commissioner Garry Mauro Texas General Land Office 1700 N. Congress Avenue Austin, Texas 78701

Aquaculture Liaison Officer Not appointed as of July 1990

# Summary Tables of Permits, Licenses, Certificates and Regulations Affecting Aquaculture Operations

# Description

The regulatory programs of all agencies that were determined to have a potential impact on aquaculture were reviewed and are summarized in the following tables. These tables should be used to identify regulations that may affect a particular project. The identification should then be verified for applicability by reviewing the more detailed descriptions of the regulations that are presented on an agency-by-agency basis in the Agency Role and Responsibilities section. This section provides a listing of the regulations that are likely to pertain to a specific project. Subsequent discussions and meetings with staff members of the relevant agencies should confirm the applicability of the regulations.

The intended use of the tables, to potential aquaculturists as well as established operators who may wish to expand operations, are as follows:

- Provide a useable source of information for aquaculturists to become familiar with the general
  permitting and regulatory requirements of each of the regulatory authorities.
- Enable regulatory requirements to be included in the initial site selection and evaluation process.
- Provide references to identify specific permits or regulations on an agency-by-agency basis, allow for a more detailed review consultation, and determine project applicability.
- Assist in determinations of the time and money costs attributable to regulatory compliance and the impact to the economic feasibility of the project.
- · Prepare detailed project plans and specifications consistent with agency rules and regulations.
- Develop a permitting sequence plan for submission of relevant permit or license applications in a manner that reduces project delays.

# Prerequisites to Submission of Permit Applications

The site selection and evaluation process is important to the determination of the permits and licenses that may be required to construct and operate the aquaculture facility. Of greater importance is determination of whether the site is appropriate for the development of a profitable operation. When several sites are being considered, the site selection and characterization process will assist in selecting the best site. There are other important prerequisites to the submission of project permit applications; the following is a suggested list of steps to be taken:

- Seek technical assistance. The Texas Marine Advisory Service, Texas Agriculture Extension Service
  and the Texas Department of Agriculture should be the initial contacts for assistance. Later, contacts
  with the staff of the regulatory agencies is advisable.
- Review and become familiar with the general regulatory and permitting requirements applicable to aquaculture operations.
- Evaluate the potential aquaculture site(s) to include: land characterization, restraints analysis, species
  suitability analysis, economic or cost analysis, and an assessment of the permit and regulatory
  implications. The evaluation should encompass the entire operation, i.e. production and bulk sales,
  processing, and sales at the wholesale or retail levels.
- Prepare preliminary conceptual designs for site development, service facilities construction and an
  operating plan for the facility.
- Meet and discuss the preliminary plans with officials from agencies having regulatory authority over

the project. The project plans should also be discussed with local officials. Obtain information on regulatory requirements, suggestions on design modifications, and any additional information or plans needed for submission of future permit applications. Several meetings or discussions may be required.

- Update the economic or cost analysis of the project in view of the comments and recommendations received.
- Prepare detailed plans and specifications for site development, facility construction and facility operations.
- Prepare a permit application sequencing plan.
- Initiate the permit application process, beginning first with local governments and then proceeding to applicable state and federal agencies.

Completion of these preliminary steps should help in the timely processing of all applicable permits and authorizations to ensure that major permit requirements have not been overlooked, and to prevent the need for major project design modifications midway into the permitting process.

# Site Development Involving Wetlands/Submerged Lands

The permits and regulations of specific government entities that may affect the siting and site development activities for an aquaculture facility are summarized in Table 1. This table is designed for use in evaluating potential regulations arising from land preparation activities necessary to support service facility construction and the basic site work that is usually completed prior to construction of buildings.

Site development example activities listed in Table 1 are referenced to land grading and clearing, construction of foundations, construction of service roads, dredging or filling, bulkheading, levee construction, digging of drainage canals, trenching for water supply and discharge lines, and other similar activities that are land disturbing. Permitting implications of these activities depend on where the activities will take place and the types of lands and waters affected. For example, dredge or fill activities in navigable waters will require a section 404/10 Permit from the Corps of Engineers, an easement or lease from the Texas General Land Office and possibly a Sand, Shell, Gravel and Marl Permit from the Texas Parks and Wildlife Department.

Table 1. Site Development Involving Wetlands/Submerged Lands

Example Activities	Agencies	Permits, Licenses, Required Reviews, etc.
Pipelines, piers, dredging, spoiling, intake structures, wetlands use	COE	404/10 Permit
Any structure/activity on or over state-owned submerged lands	GLO	Easement, Lease or Structure Registration
Removal of sand, shell, gravel or marl from submerged lands	TPWD	Sand, Shell, Gravel, Marl Permit
Structures or activities within the 100-year floodplain	TWC	Reclamation Engineer Permit
Proposed COE 404/10 Permit Activity	FWS, NMFS TPWD, TAC	Review and coordination of proposed activity before issuance of COE Permit

#### Service Facilities Construction

State and local government agencies may have direct or indirect regulatory authority over the design and construction of aquaculture service facilities. Service facilities include hatchery facilities, production or growout facilities including ponds, tanks and raceways, depuration facilities, processing plants and similar facility construction.

Table 2 presents the agencies that may have applicable plan approval and facility-inspection regulations. For example, aquaculturists who plan on raising tilapia must satisfy the Texas Parks and Wildlife Department's culture facility requirements in order to obtain a permit authorizing the culture of tilapia. Failure to incorporate these requirements in the facility design and construction plans may result in later facility modification in order to qualify for a tilapia permit. The Texas Department of Health has specific regulations concerning the design of shellfish-depuration facilities and for all processing plants.

This table should be used to determine if plan approval or construction inspections are required for the species to be cultured and whether depuration or processing will be a part of the aquaculture operation. Additional details can then be obtained by reviewing the agency and regulatory program descriptions.

Table 2. Service Facilities Construction

Example Activities	Agencies	Permits, Licenses, Required Reviews, etc.
Hatcheries for exotic finfish, shell- fish <sup>1</sup> , game fish and alligators	TPWD	Approval of Plans
Hatcherles for exotic finfish, shellfish, game fish and alligators	Relevant City or County	Approval of Plans, Inspection
Production/grow-out facilities for exotic finfish, shellfish, game fish & alligators	TPWD	Approval of Plans
Production/growout facilities for exotic finfish, shellfish, game fish and alligators	TDH	Classification of Molluscan Shellfish Growout Areas
Depuration activities (shellfish²)	TDH	Certification
Processing facilities (shellfish)	TDH	Certification

<sup>&</sup>lt;sup>1</sup>TPWD defines shellfish as all mollusks and crustaceans (see glossary).

<sup>&</sup>lt;sup>2</sup>TDH defines shellfish as clams, mussels and oysters (see glossary).

# Water Use and Wastewater Discharge

Tables 3 and 4 illustrate that regulations affecting aquaculture facility production and operations pertain primarily to compliance with and permit conditions applicable to the facility, including water use and wastewater-discharge conditions. "Freshwater diversion" or "saltwater withdrawal" refers to the source(s) of water for operating the facility and "discharge" pertains to where the water will go when disposed of from the aquaculture facility or when the water leaves private lands.

By comparing a preliminary site-development plan against the table, an initial list of potential permits and regulations can be prepared. The applicability of a particular permit to the project can then be determined by referring to the permitting agency and permit description that is presented in the section "Agency Role and Responsibilities."

Table 3. Water Use

Example Activities	Agencles	Permits, Licenses, Required Reviews, etc.
Freshwater diversion (surface waters)	TWC	Water Use Permit
Freshwater diversion (surface waters)	Affected River Authority	Review/Comment
Saltwater withdrawal (bays, estuaries, etc.)	TWC	Notice of Use
Freshwater withdrawal (underground)	Affected Water District	Withdrawal Permit

Table 4. Water Discharge

Example Activities	Agencies	Permits, Licenses, Required Reviews, etc.
Discharge into public waters (fresh or saltwater)	EPA	NPDES Permit
Discharge into public waters (fresh or saltwater)	TWC	Discharge Permit
Discharge into publicly owned waste treatment facility	Relevant City or County	Approval and Possibly Pretreatment
Discharge for land irrigation	TWC	Discharge Permit

# **Species Obtainment**

The aquatic species that may be raised in aquaculture operations are regulated primarily by the Texas Parks and Wildlife Department and the Texas Department of Agriculture. The U.S. Fish and Wildlife Service regulates imports and exports.

Table 5 lists the general and specific species that currently require a permit, facility inspection prior to permit issuance, and licenses authorizing culture. Additional information on the specific species authorized for culture is presented in the description of the Texas Parks and Wildlife Department's regulatory programs. Information on the regulatory programs of the other listed agencies also may be obtained by referring to the specific agency descriptions in Section 3.

**Table 5. Species Obtainment** 

Species	Agencies	Permits, Licenses, Required Reviews, etc.
Tilapia and other approved exotic finfish	TPWD	Tilapia Permit, Facility Inspection, Transport Invoice
Tilapia and other approved exotic finfish	TAHC	Possible Certificate of Veterinary Inspection
Tilapia and other approved exotic finfish	TDA	Fish-Farm License
Native shellfish	TPWD	Shellfish-Culture License, Shellfish-Sourcing Permit
Native or exotic shellfish	TDA	Fish-Farm License
Native or exotic shellfish	TDH	Water-Quality Approval
Exotic shellfish	TPWD	Shellfish-Culture License, General Exotic Shellfish-Culture License, Facility Inspection
Exotic shellfish	TAHC	Certificate of Veterinary Inspection
Alligators (in-state sources)	TPWD	Alligator-Farmer's Permit
Alligators (out-of-state sources)	TPWD	Alligator-Farmer's Permit, Alligator-Import Permit
Alligators (out-of-state sources)	TAHC	Certificate of Veterinary Inspection
Imports/exports of all species with a value exceeding \$25,000/yr for propagation or sale	FWS	Import/Export License
Import/export of fish or shellfish other than the nine designated "Ports-of-Entry"	FWS	Designated Port Exemption Permit

# Species Grow-out and Harvest for Processing and/or Sale

Table 6 indicates regulations governing species harvest for processing or sale pertaining to permit compliance as well as growing water approvals and post-harvest quality control standards, including the handling, storage, and transportation quality control standards.

Table 6. Species Grow-out and Harvest for Processing and/or Sale

Example Activity	Agencies	Requirements
Grow-out, daily operation, water pass- through and harvest operations (all cultured species)	EPA USFDA TWC TPWD TDH	Compliance with NPDES Permit Compliance with Drug Use Regulations Compliance with Discharge Permit Exotic Species Containment Growing Waters Approval and Post- Harvest Quality Control Standards

### **Processing for Sale**

The processing of cultured aquatic food products falls under the regulatory authority of government agencies summarized in Table 7.

In general, the processing of cultured aquatic species for human consumption that are produced by the licensed fish farmer require a Cultured Fish Processing Plant License and, depending upon the species processed, one or more of the following authorizations:

- Food Manufacturers Registration
- · Certificate of Compliance
- · Crabmeat Plant License

In order to obtain the applicable processing authorizations, the processing facility must be inspected by the Texas Department of Health for compliance with its plant design and operation regulations. Aquaculturists should incorporate these regulations into the initial planning and design of processing facilities prior to construction. Local health authorities (city, county) may also have regulatory authority over processing facilities.

Processing plant operations must also comply with applicable permit conditions including water use and process wastewater discharges.

Finally, licensed fish farmers who purchase aquatic species for processing and sale will be required to obtain a Wholesale Fish-Dealer's License in addition to the authorizations listed above.

Table 7. Processing for Sale

Example Activity	Agencies	Permits, Licenses, Required Reviews, etc.
Transport to off-site processor (fish or shellfish)	TPWD	Transport Invoice (Tilapia)
Transport to off-site processor (fish or shellfish)	, TDA	Fish-Farm License and Bill of Lading or Fish-Farm Vehicle License
Transport to off-site processor (fish or shellfish)	TDH	Adherence to quality control standards
Produced/processed by licensed fish farm (fish or shellfish)	TDA	Cultured Fish-Processing Plant License
Processing or packaging oysters, clams or mussels	TDH	Certificate of Compliance
Processing or packaging of picked crabmeat	TDH	Crabmeat-Plant License
Processing of all species for human consumption except oysters, clams, mussels and crabs	TDH	Food-manufacturer registration
Purchase for processing (all species of edible aquatic products)	TPWD	Wholesale Fish-Dealer's License
Purchase of edible aquatic products (fresh or frozen) for sale to consumers	TPWD	Retail Fish-Dealer's License
Any drug additives for any purpose during grow-out, processing, handling, etc.	TDH USFDA	Adherence to drug use regulations

# Wholesale/Retail Sale of Cultured Species

Table 8 indicates the licenses required for the wholesale and/or retail sale of cultured species from either an establishment or vehicle. After a species has been processed for sale, in addition to the numerous certifications, permits and licenses required to obtain, grow, produce and process a cultured product for sale, the primary authority governing sale of the cultured species falls under the TDA and TPWD.

Table 8. Wholesale/Retail Sale of Cultured Species

Example Activity	Agencies	Permits, Licenses, Required Reviews, etc.
Wholesale from establishment	TPWD	Wholesale Fish-Dealer's License
Wholesale from establishment	TDA	Fish-Farmer's License
Retail from establishment	TPWD	Retail Fish-Dealer's License
Retail from establishment	TDA	Fish-Farmer's License
Wholesale from vehicle	TPWD	Wholesale Fish-Truck Dealer's License
Wholesale from vehicle	TDA	Fish-Farmer's License
Retail from vehicle	TPWD	Retail Fish-Truck Dealer's License
Retail from vehicle	TDA	Fish-Farm Vehicle License

the obtainment of some of these licenses may not be necessary if the vehicle is owned and operated by the holder of a Fish Farmer's License. Also, in many cases possession of licenses for wholesale/retail sales from a fish farm or establishment does not negate other permits, licenses and certificates required by other agencies for the production, transportation, possession, processing and sales of cultured fish or shellfish raised in private ponds or harvested from public waters. Please refer to section on Agency Role and Responsibilities for further clarification and requirements.

# Average Processing Times for Obtaining Permits, Licenses, Approvals, etc.

The previous tables presented summaries of the various permits, licenses and other regulations that may be involved in aquaculture operations. Table 9 lists the average agency processing times that may be required to obtain the necessary approvals for each major stage in facility siting, constructing, operating, processing and marketing cultured aquatic species. It must be emphasized that these time periods are estimates and the actual processing time will vary depending on site location, species to be cultured, project design, completeness of agency applications, knowledge of agency requirements, etc.

This information may be used by the potential aquaculturist in developing a permit sequencing plan. A properly constructed sequencing plan is an important guide for the preparation and submission of permit applications in order to avoid unexpected delays. The plan, also considering the grow-out period of the species selected for culture, may be used to determine the total amount of time involved to market the first crop of cultured species.

Table 9. Average Processing Time for Obtaining Permits, Licenses, Approvals, etc.

Example Activity	Agencies	Permits, Licenses, Approvals, etc.	Processing Time
Site development	COE EPA	404/10 Permit NPDES	3-4 mos. 6 mos.
	TWC	Discharge Permit	6 mos.
	TWC	Reclamation Engineer Permit	6 mos.
	TWC	401 Certification	5 wks.
	GLO	Easement/Lease	2-3 mos.
	TDH	Water-Quality Approval	3 mos.
Service facilities	TPWD	Plan and Facility Reviews	3 wks.
construction	TDH	Plan and Facility Approval	3 wks.
Species obtainment	FWS	Import/Export Permit	2 mos.
opecies obtaining	TDA	Fish-Farm License	2 wks.
	TPWD	Shellfish-Culture License	2 wks.
	11	Shellfish-Sourcing Permit	2 wks.
		General Exotic Shellfish-Culture License	3 wks.
		Tilapia Permit	2 mos.
		Red Drum/Speckled Trout Sourcing Permit	3 wks.
		Alligator-Farmer Permit	1 mo.
		Alligator-Import Permit	1 mo.
Harvest	TPWD	Oyster-Harvest Permit	2 wks.
1 Iui vest		Commercial Oyster-Boat License	1 wk.
		Freshwater Commercial Fishing-Boat License	1 wk.
		Saltwater Commercial Fishing-Boat License	1 wk.
		Alligator Hide Tags	3 wks.
Processing	TDA	Cultured-Fish Processing Plant License	1-2 mos.
1 Toccosing	TDH	Food Manufacturer's Registration	2 wks.
	1211	Certificate of Compliance	2 wks.
		Crabmeat-Plant License	2 wks.
Marketing and sale	TDA	Fish-Farm Vehicle License	2 wks.
min one	TPWD	Commercial Fisherman's License	1 wk.
	** ***	Wholesale Fish-Dealer's License	1 wk.
		Wholesale Fish-Truck Dealer's License	1 wk.
	†	Retail Fish-Dealer's License	1 wk
	[	Retail Fish-Truck Dealer's License	1 wk.
	ĺ	Bait-Dealer's License	1 wk.

# U.S. Army Corps of Engineers

# Agency Role and Responsibilities

The U.S. Army Corps of Engineers (COE) is responsible for preventing the alteration of or obstruction to the navigable waters of the United States, protection of wetlands resources, and the maintenance and protection of the nation's water resources. These responsibilities are carried out through the issuance, or denial, of permits authorizing certain activities involving wetlands, and navigable or other waters of the United States.

# Regulatory Requirements

#### Section 10 Permit

A Section 10 Permit is required by Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 403, for any structure and work in or affecting navigable waters. Examples include piers, intake pipes, discharge pipes, dikes for ponds, open water growout or depuration facilities, or any other structure determined to be an alteration of navigable waters or a potential hazard to navigation.

#### Section 404 Permit

A Section 404 Permit is required by Section 301 of the Clean Water Act, 33 U.S.C. 1344, for the discharge of dredged or fill material into waters of the United States that might affect wetlands. Coastal submerged lands, wetlands or marshes may be publicly or privately owned and are generally characterized as lying between terrestrial uplands and the aquatic system. It must be emphasized that the COE does not make ownership determinations as its authority regulates a public resource, regardless of ownership. The elevation of these wetlands is usually less than three feet above mean sea level. Freshwater wetlands may include natural lakes, playa lakes, man-made lakes, and marshes adjacent to rivers and streams. Some examples of activities requiring a 404 permit include bulkheads, road fills, dredging canals or channels, pumping basins, levees, any fill operation, spoil disposal, etc.

#### Permit Application

In order to obtain a permit for construction activities, an application must be completed and submitted to the appropriate COE district office. Completed permit applications must include vicinity and location maps, detailed descriptions of the proposed activity, and drawings of any construction to be undertaken.

Applications for construction activities on the Texas coast and inland along the coastal plain and piney woods should be submitted to the following office:

Department of the Army Galveston District, Corps of Engineers Regulatory Branch 444 Barracuda P. O. Box 1229 Galveston, Texas 77553 (409) 766-3934

Applications for construction activities in other areas of the state fall under the jurisdiction of various COE District Offices, including Forth Worth (north central, east, central, southwest and northwest), Tulsa (extreme north, Oklahoma Panhandle), and Albuquerque (Trans Pecos). Contact the nearest COE office to determine the appropriate district office for a specific project location.

#### Permit Review and Coordination

Upon receipt of a permit application, the COE regulatory branch will review the application for

completeness and make a determination as to whether a Section 10, Section 404, or both permits are required. Incomplete applications are returned. Complete applications will be processed and a public notice will usually be issued within 15 days from the date the application is determined to be complete. Pre-application meetings with COE staff are recommended.

The public notice will identify the applicant, the location and the proposed work to be done. The notice also will indicate that plans for the proposed work are available for public review and comment. The review and comment period is usually 30 days; however, this period can be reduced to 15 days for minor projects, or extended beyond the usual 30-day period when the comments received justify a longer review period.

The COE is required by federal laws and executive orders to solicit comments on the application from certain governmental agencies during the public review period. The required coordination on Section 10 and Section 404 permits is as follows:

#### Agency

- 1. U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- 3. National Marine Fisheries Service
- 4. Texas Parks and Wildlife Department
- 5. Federal Emergency Management Agency
- 6. U.S. Coast Guard
- Texas Antiquities Committee and State Historic Preservation Officer
- 8. Texas Water Commission

#### Law/Regulation

Fish and Wildlife Coordination Act, 16 U.S.C. 661 *et seq.* and Executive Order 11990 (for nos. 1-4)

Executive Order 11988, Floodplain Management Rivers and Harbors Act of 1899, Section 10 National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq.

Section 401, Clean Water Act, 33 U.S.C. 1251 et seg.

The Texas General Land Office also routinely reviews COE permit applications to determine if stateowned public lands are involved for which state leases or easements may be required. Depending upon the nature and location of the proposed project, other state agencies, local governments, trade associations, citizens groups, environmental organizations and individuals may review the proposed project and submit comments to the COE.

At the end of the public comment period, the COE will evaluate the project application, including any comments received, and make a decision to issue the permit as presented, deny the permit, issue the permit with agreed upon modifications and/or special conditions, or hold a public hearing to obtain additional information prior to making a final decision.

Public hearings are held on a very small percentage of the permit applications. Project modifications, or conditions placed on the permit can remedy serious objections in most cases. However, if a public hearing is held, it could easily add several months to the processing of the permit application.

# **Permit Processing Time Requirements**

A permit is usually issued within three to four months after the receipt of a completed application. If a public hearing is held the time requirements can be increased by two to four months.

#### Permit Issuance, Fees and Terms

The COE will give notice when a permit application has been approved. A permit will be issued upon the payment of a \$100.00 permit fee. The construction permit is valid for three years. Renewals are usually available upon written request to the COE explaining the reason for the request and subsequent delay in initiating the activity.

# U.S. Environmental Protection Agency

# Agency Role and Responsibilities

The U.S. Environmental Protection Agency (EPA) is responsible for the protection of the nation's air and water quality, including potential adverse impacts to public health and fish and wildlife resources. These responsibilities are carried out through regulatory, permitting and enforcement programs.

# Regulatory Requirements

# National Pollutant Discharge Elimination-System Permit

Of significance to aquaculture operations in Texas is EPA's regulation of pollutant discharges into U.S. waters under the Clean Water Act, as amended (33 U.S.C. 1251 et seq.). Section 402 of the Act requires that a National Pollutant Discharge Elimination-System (NPDES) Permit be issued by the EPA prior to discharge into the waters of the United States.

A hatchery, fish farm or other aquatic animal production facility is usually a point source of discharge and subject to the NPDES permit program (40 CFR, Part 122, Subpart B, 122.24(a) & (b)). EPA rule 40 CFR, Part 122, Appendix C, however, authorizes the granting of exemptions from the NPDES permitting program if a production facility contains, grows or holds aquatic animals that satisfy the following criteria:

- Facilities raising cold-water fish species or other cold-water aquatic animals in ponds, raceways, or other similar structures that do the following:
  - Produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year
  - Feed less than 2,272 kilograms (approximately 5000 pounds) during the calendar months of maximum feeding
- Facilities raising warm-water fish species or other warm-water aquatic animals in ponds, raceways or other similar structures that do the following:
  - Produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year
  - Closed ponds that discharge only during periods of excess runoff

Aquaculture projects within a "defined managed area" of U.S. waters determined by EPA to be ineligible for an initial exemption, or a continued exemption and that discharge into that area for the maintenance of production of harvestable fresh water, estuarine, or marine plants or animals, are subject to the NPDES permit program (Section 318; Clean Water Act, as amended, and in accordance with 40 CFR, Part 125, Subpart B).

Aquaculture facilities engaging in processing activities that result in waste-water discharges into U.S. waters are subject to NPDES permitting requirements. This means production facilities that are exempt from NPDES permitting requirements (above) would be required to obtain a permit if they undertake processing activities that result in waste-water discharges.

Discharges into publicly owned treatment works (local sewage treatment systems) are not subject to NPDES requirements. However, pretreatment standards of the publicly owned treatment works will apply. The applicant should consult with the publicly owned treatment facility for standards and authorization prior to any discharges into the system.

#### Permit Application

The first step in the permitting process is to obtain a permit requirement determination from the Region VI, EPA Office. This can be accomplished by a letter requesting a determination. A description of the facility, operation plans, preliminary or conceptual designs, and information on anticipated waste-water discharges from the facility should be included.

After the proposal is reviewed, the EPA will notify the owner or operator of any required permits and

provide appropriate application forms to be completed and returned for processing.

Requests for information, determinations of permit requirements and permit application forms should be submitted to the following office:

Federal Activities Branch (6E-F) U.S. Environmental Protection Agency Region VI 1445 Ross Avenue, Suite 1200 Dallas, Texas 75202 (214) 655-7180

#### Permit Review and Coordination

Upon receipt of a permit application, the application will be reviewed for completeness. A determination will then be made as to whether the proposed discharge falls under "new source" or "existing source" permit requirements. If a new aquaculture facility is being proposed, it will be classified as a "new source" and the EPA will request that an Environmental Information Document (EID) be prepared and submitted by the applicant. Based on a review of the EID, the EPA will issue a public notice of the following:

Preliminary Finding of No Significant Impact Statement (FNSIS).

Preliminary Finding of Significant Impact (FSI), which requires the preparation of an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA).

During the public-notice phase, the EPA is required by federal law and executive order (40 CFR Part 6) to provide a review and comment opportunity to certain federal and state agencies, including the following:

#### Agency

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
National Marine Fisheries Service
National Park Service
Federal Emergency Management Agency
Texas Parks and Wildlife Department
Texas Antiquities Committee and
State Historic Preservation Officer

#### Law/Executive Order

Executive Order 11990 (Wetlands) Endangered Species Act Executive Order 11990 (Wetlands) Wild and Scenic Rivers Act Executive Order 11988 (Floodplains)

Endangered Species Act

Historic Preservation Act of 1966

At the discretion of the EPA, other agencies may be afforded the opportunity to review or comment on the proposed operation. Interested individuals and organizations may also submit comments. Following a review of the comments received, the EPA will make a decision to hold a public hearing and/or issue the permit, deny the permit or issue the permit with modifications or special conditions.

#### **Processing Time Requirements**

In the majority of applications, permits are processed and issued within six months. The requirement for an EIS and/or a public hearing can easily extend the processing period to 12 months or more.

#### Permit Issuance, Fees and Term

The applicant will be notified upon issuance of a discharge permit. Permits may be issued up to a period of five years before renewal. The EPA does not charge a fee for permit application or issuance.

#### Regulation of Pesticides

The EPA also regulates the use and application of pesticides through the registration and establishment of tolerance levels. The EPA may remove pesticides from the marketplace temporarily or permanently if it is determined that the chemicals pose an unacceptable risk to the public or fish and wildlife (Federal Insecticide, Fungicide, and Rodentcide Act, 7 U.S.C. Section 136).

Many pesticides pose a threat to aquatic species if introduced in sufficient quantities into growing waters. Some pesticides also may be deposited in the animal's body tissue. If tissue concentrations pose a threat, the aquatic species may be deemed unfit for human consumption and sale prohibited. Pesticide contaminated growing waters may cause another potential problem in that discharges into public waters will require approval, and possibly permits, from the EPA and the Texas Water Commission. Denial of a request to discharge could render the growing area temporarily or permanently useless to the aquaculturist.

# U.S. Fish and Wildlife Service

# Agency Role and Responsibilities

The U.S. Fish and Wildlife Service (FWS), U.S. Department of the Interior, is primarily responsible for the protection and management of fish, migratory birds and wildlife. With the exception of migratory birds and endangered species, the FWS's jurisdiction generally covers the inland, nontidal, areas of Texas.

Programs administered by the FWS that could affect aquaculture development and operation include review and comment on proposed construction projects and the regulation of fish and wildlife imports and exports.

# **Regulatory Requirements**

# Construction-Project Review

Federal agencies that issue permits, loans, loan guarantees or grants for construction projects must coordinate with and consider FWS comments concerning impacts to fish and wildlife that may be associated with the project (Fish and Wildlife Coordination Act, 16 U.S.C. Section 661 et seq., as amended). This includes Section 404/10 permits issued by the U.S. Corps of Engineers and NPDES discharge permits issued by the U.S. Environmental Protection Agency. An objection raised by the FWS is usually a serious impediment to permit approval and may result in the need to modify the proposed project or offset damages to fish and wildlife species and/or their habitat. This especially is the case if endangered species are involved (Endangered Species Act, 16 U.S.C. Sections 703-712).

For information concerning FWS programs or permit reviews of projects located along the coast, the following offices should be contacted:

North coast (Matagorda, Wharton, and counties north)

Ecological Services U.S. Fish and Wildlife Service 17629 El Camino Real Houston, Texas 77058 (713) 229-3681

South coast (Lavaca, Jackson, and counties south)

Ecological Services U.S. Fish and Wildlife Service Corpus Christi, Texas 78412 (512) 888-3346

For projects located in other areas of the state, information on the appropriate office to contact may be obtained from the above or from the FWS regional office at the following address:

U.S. Fish and Wildlife Service

U.S. Department of the Interior

P.O. Box 329

Albuquerque, New Mexico 87103

(505) 766-2091

#### Regulation of Imports and Exports

The FWS is responsible for regulating the import and export of fish and wildlife. This includes shipments across international boundaries as well as across state lines within the United States. Legal authority for regulation is presented in Title 50 CFR, Parts 10-24 and is based on several federal laws including the following:

- Endangered Species Act (16 U.S.C. Sections 703-712)
- Marine Mammals Protection Act (16 U.S.C. Sections 1531-1543)
- Migratory Bird Treaty Act (16 U.S.C. Section 3371)
- Injurious Wildlife Act (16 U.S.C. Section 152)
- Lacey Act (18 U.S.C. Section 42, et seq.)

### Fish and Wildlife Import/Export License

#### License Requirements

Any person who imports or exports animals or fish with a value exceeding \$25,000 per year for purposes of propagation or sale must first apply for and obtain a Fish and Wildlife Import/Export License from the FWS.

#### License Application

Information and application forms for a Fish and Wildlife Import/Export License may be obtained from the following office:

U.S. Fish and Wildlife Service

U.S. Department of the Interior

P.O. Box 329

Albuquerque, New Mexico 87103

(505) 766-2091

#### License Review and Coordination

Upon receipt of a license application, a review for completeness will be conducted. Other agencies are not generally involved in the review. Usually the license application is processed in the FWS regional office. However, if the species are on the international listing of endangered flora and fauna the application will be forwarded to the FWS Office of Management Authority for review.

#### License Processing Time Requirements

The FWS is allowed 60 days to process license applications. In most cases, the license is processed in approximately three weeks. If endangered species are involved, 90 days may be involved in obtaining a decision on the license.

#### License Issuance, Fees and Terms

Following processing, a license will be issued to the applicant. The applicant will be informed that they must also comply with all applicable state regulations as well as with regulations of the county of origin or destination.

The license fee is \$125.00 and is valid for one year. A fee of \$25.00 will also be charged for each import or export shipment and will be charged regardless of whether the importer or exporter is required to have this license.

A completed "Declaration for Importation or Exportation of Fish and Wildlife" clearance form must also be completed and submitted to the FWS inspector at the port-of-entry for approval. This approval is required to obtain a shipment release from the U.S. Customs Service.

## Designated-Port Exemption Permit

#### Permit Requirements

The nine designated ports-of-entry for the import or export of fish and wildlife species include Dallas, New Orleans, Miami, Chicago, New York, Seattle, Los Angeles, San Francisco and Honolulu. Ports-of-entry are usually at international airports or seaports. If a different city is preferred as the port-of-entry, a Designated-Port Exemption Permit may be obtained.

#### Permit Application

Information and application forms for a Designated-Port Exemption Permit may be obtained from the following FWS office:

U.S. Fish and Wildlife Service U.S. Department of the Interior P.O.Box 329 Albuquerque, New Mexico 87103 (505) 766-2091

#### Permit Review and Coordination

Upon receipt, the application and any other required documentation will be reviewed and processed. Other government agencies are not usually involved in the processing.

# **Permit Processing Time Requirements**

The FWS is allowed 60 days to process the application. In most cases processing is completed in three weeks.

#### Permit Issuance, Fees, and Terms

Following processing, the permit will be issued. The permit will identify the designated port-of-entry. The permittee will also be notified which FWS inspector's office will inspect the shipment. The \$25.00 permit is valid for two years. A minimum inspection fee of \$55.00 per shipment will also be charged. Additional fees will be charged if the shipment must be inspected on weekends, after regular business hours, or if the inspector must travel significant distances.

# **National Marine Fisheries Service**

# Agency Role and Responsibilities

The National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration, U.S. Department of Commerce, is primarily responsible for the management and protection of marine fish, habitat and certain marine animals (16 U.S.C. Section 1361 *et seq.*, as amended). To some extent, the NMFS is the marine counterpart to the U.S. Fish and Wildlife Service in regard to fisheries management and protection.

### Construction Project Review

As was the case with FWS, the Fish and Wildlife Coordination Act requires federal construction and permitting agencies to coordinate with and consider the comments of the NMFS prior to issuing permits, loans, loan guarantees, or grants for projects that may affect marine fish species (16 U.S.C., Section 661 et seq., as amended). Generally, the NMFS reviews construction project applications for any potential impacts to fish species and fisheries habitats located in tidal (salt) water.

For information concerning NMFS programs or permit reviews, the following office should be contacted: Habitat Construction Division
National Marine Fisheries Service
4700 Avenue U
Galveston, Texas 77551
(409) 766-3699

# U.S. Coast Guard

# Agency Role and Responsibilities

Under the U.S. Department of Transportation, one of the U.S. Coast Guard's major roles is maintaining and regulating safe navigation in U.S. navigable waters. The marking of obstructions that may present a hazard to navigation is a specific regulatory program administered by the Coast Guard and was authorized by the Rivers and Harbors Act of 1899. Specific regulations concerning the marking of obstructions are described in 33 CFR, Part 66.

### Regulatory Requirements

# Regulation for the Marking of Structures and Floating Obstructions

Any structure, mooring, buoy or dam in or over U.S. navigable waters (as determined by the Coast Guard) must be marked by lights and other signals for the protection of maritime navigation in the manner required by the Coast Guard. The prescribed lights and signals must be installed, maintained and operated at the expense of the owner, or operator, of the obstruction (33 CFR, Part 66, Subpart 66.01). The required lights and signals are referred to as private aids to navigation. This could include piers, water intake pipes, discharge pipes, floating cages and other similar obstructions that may be associated with an aquaculture operation.

# Private Aids to Navigation

#### Requirements

When it is determined that proposed construction in U.S. navigable waters constitutes a potential hazard to navigation, the Coast Guard will notify the owner or operator that a private aid to navigation is required. Generally the Coast Guard becomes aware of proposed obstructions through the required coordination with the U.S. Army Corps of Engineers (COE) in the processing of Section 404 and Section 10 permits for construction in or near U.S. navigable waters. Where navigational aids are required, the requirement will usually be a condition of the COE permit.

The Coast Guard also investigates complaints from mariners regarding unmarked obstructions and may require either the removal or marking of the obstructions if they constitute navigational hazards.

#### Application for Private Aids to Navigation

In cases where Section 404 or Section 10 permits are being processed by the COE it is not necessary to contact the Coast Guard. The Coast Guard will issue a notice to the permit applicant if private aids are required and forward instructions, requirements and an application form.

Where information is needed from the Coast Guard prior to submission of permit applications to the COE, or for other reasons, assistance may be obtained from the following office:

Commander (OAN)
Eight Coast Guard District
Private Aids Section
Hale Boggs Building
500 Camp Street, Room 1141
New Orleans, Louisiana 70130
(504) 589-6236

#### Review and Coordination

Upon receipt by the Coast Guard, the application will be reviewed for compliance with their regulations. Other agencies are not usually involved in reviewing the application relevant to Coast Guard regulations.

#### **Application Processing Time Requirements**

Applications are usually processed within 30 days, unless additional information is needed or the application fails to meet Coast Guard requirements.

#### Application Issuance, Fees, and Terms

Upon approval, a copy of the signed application will be forwarded to the applicant. The signed application will constitute authorization and a requirement to install and maintain the prescribed lights and signals. A "Notice to Mariners" will be issued by the Coast Guard to provide information concerning installation of a new private aid to navigation. No fees are assessed and the authorization is valid as long as there is a need to mark the obstruction.

# U.S. Food and Drug Administration

# Agency Role and Responsibilities

One of the Food and Drug Administration's (FDA) responsibilities is the approval and regulation of drugs that can be used in aquaculture operations (Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 301 et seq.).

Drug regulations include the use of drugs as additives to feed as well as drugs used for the treatment of diseases and parasite infestations in aquatic animals to be sold for human consumption. The Texas Department of Health (TDH) also has authority over drug additives to feed (it is important to note that drugs do not include pesticides, which are regulated by the EPA).

# Regulatory Requirements

Depending upon the drug and the drug concentration, commercial feed mills, as well as individuals who desire to produce medicated feed, may be required to first submit an application and obtain approval from the FDA. Medicated feed mixtures that require a waiting period prior to marketing will usually require FDA approval. In most cases aquaculture operations that purchase commercially prepared feed will not be affected by these regulations. However, larger operations could fall under these regulatory requirements if they produce their own feed mixtures.

Drugs used for the treatment of diseases and parasitic infections also require FDA approval. The process involves two steps. First, the drug must be approved; and second, the use of the drug for aquaculture applications, including dosage, must be approved. It is important that the aquaculturist use only FDA approved drugs and carefully follow the application instructions. In some cases a waiting period will be recommended between treatment and marketing. The waiting period should be carefully observed. Otherwise, the aquaculture products may be declared by the FDA, TDH or local health authorities as being unfit for human consumption and confiscated from the market.

#### Approved Drugs and Medicated Feed Applications

Information on specific drugs approved for aquaculture use and Medicated Feed Application forms may be obtained from one of the following FDA offices:

Food and Drug Administration 3032 Bryan Dallas, Texas 75204 (214) 655-5315

or

Division of Food and Drugs Texas Health Department 1100 West 49th Street Austin, Texas 78756 (512) 458-7248

# **Texas General Land Office**

# Agency Role and Responsibilities

The Texas General Land Office (GLO) is responsible for the management and use of state owned public lands. It should be noted that this agency is propriatory and not regulatory. State-owned public lands include the following:

- · Public school lands
- Emergent and submerged lands up to the mean high-tide line in Texas bays
- Submerged lands extending from mean high tide offshore to three marine leagues (10.35 miles) into the Gulf of Mexico

A lease or easement must first be obtained from the GLO before any activity involving state lands may be undertaken (Chapters 33 and 51 et seq., Texas Natural Resources Code).

The majority of state-owned lands that might involve aquaculture activities are coastal submerged lands that begin at the mean high-tide line and extend out into the bays and estuaries. There are exceptions to submerged lands managed by the GLO and therefore an ownership determination should be requested from the GLO.

## Requirements

#### Lease/Easement

A lease or easement is required from the GLO for any activity that involves the use of state-owned lands. Some examples include dredging of channels or intake basins, levee construction, building of piers or docks, bulkheading, road construction, and pipeline placement.

#### Lease/Easement Application

Application forms may be obtained from the following divisions:

Coastal Division
Texas General Land Office
1700 North Congress Avenue
Stephen F. Austin Building
Austin, Texas 78701
(512) 463-5225

Field Offices
Texas General Land Office
105 San Jacinto
La Porte, Texas 77571-5445
(713) 470-1191

Texas General Land Office 111 W. Wilson Naylor Building, 2nd Floor Aransas Pass, Texas 78336-2526 (512) 758-7228

#### Review and Coordination

Upon receipt of a completed application, the GLO staff will make a determination if the proposed project would in fact involve state lands. With an affirmative finding, a field inspection will be made of the site. A field report will then be made on the project and may include recommendations that certain conditions be placed in the lease or easement contract. Following staff assessment and legal review, a contract will be forwarded to the applicant for signature. Upon receipt of the signed contract, the Land Commissioner will sign and validate the contract and return an executed copy to the applicant.

Coordination of GLO applications with other federal and state agencies is done on a selective basis depending upon the nature and extent of the proposed project. When deemed appropriate, the GLO will

coordinate with agencies such as the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Texas Water Commission, Texas Parks and Wildlife Department, and the Texas Antiquities Committee.

#### **Processing Time Requirements**

Usually two to three months is required to obtain an executed lease or easement contract.

#### Lease/Easement Issuance, Fees, and Terms

Upon validation by the Land Commissioner, the contract will be forwarded to the applicant. Fees usually involve an initial \$50.00 filing fee plus an annual fee throughout the term of the contract. Annual fees vary depending upon the construction activity and the size and nature of the structure and/or use of state-owned lands. The term and fees of the lease or easement are usually negotiable.

# **Texas Department of Agriculture**

# Agency Role and Responsibilities

The Texas Department of Agriculture (TDA) is responsible for encouraging the raising of cultured fish, the development of the fish farming industry, and the marketing of fish-farm products (Section 13.003(C), Texas Agriculture Code, as amended by the Fish Farming Act of 1989).

Effective September 1, 1989, the TDA also was made responsible for establishing a comprehensive fish-farm program addressing fish farming on owned or leased lands and waters (Section 13.003 Texas Agriculture Code). The objective of the fish-farm program is to develop and expand the fish farm industry in order to expand the state's economy and offer alternative farming opportunities. At a minimum, the program must include the following:

- · A plan for promoting fish-farm products
- Licenses and regulations for fish-farming operations
- Licenses and regulations for farm-raised fish and shellfish-processing plants
- Technical assistance to fish farmers
- Coordinated support to fish farmers from colleges and universities and other governmental entities
- Solicitation of financial support from the federal government for the fish-farm industry

The fish-farm program must be implemented and necessary rules adopted by the TDA no later than January 1, 1990 (Section 12(b), Fish Farming Act, Acts of the 71st Texas Legislature, Regular Session, 1989). Note: Delays have occured due to the ommission of funding for implementation of this act, but emergency rules became effective February 1, 1990. Permanent rules become effective May 1, 1990.

# Regulatory Requirements

# Fish -Farmer's License

#### License Requirements

Any person engaged in the business of producing, transporting, possessing and selling cultured fish or shellfish raised in private ponds for resale, consumption or stocking purposes must first obtain a Fish-Farmer's License from the TDA. The license does not apply to the business of producing, propagating, transporting, possessing and selling cultured fish for bait purposes (Chapter 134, Texas Agriculture Code).

#### License Application

A person may apply for a Fish-Farmer's License by submitting a completed application and the license fee to the following TDA office:

Fish-Farm Program
Texas Department of Agriculture
P. O. Box 12847
Austin, Texas 78711
(512) 463-7602

#### License Review and Coordination

Upon receipt of the license application and attendant fee, the TDA may consult with the TPWD and/or TDH concerning the proposed fish-farming operation.

#### License Processing Time Requirements

Usual processing requires from one to two weeks.

#### License Issuance, Fees and Terms

When all requirements of the TDA have been satisfied, they will forward a numbered license to the applicant. The current initial fee for this license is \$50.00 and is valid for two years after the date of issuance.

The Department will renew a Fish-Farmer's License on submission by the licensee of a completed application and a renewal fee unless the TDA determines that the licensee has violated Chapter 134, Texas Agriculture Code or a rule adopted under that chapter.

The renewal fee for a Fish-Farmer's License shall be based on the gross receipts from the sale of the cultured fish during the first 21 months of the period covered by the expiring license.

#### Fish-Farm Vehicle License

#### License Requirements

A vehicle used to transport fish or shellfish from a fish farm or for sale from the vehicle is required to have a Fish-Farm Vehicle License. This license is not required for a vehicle owned and operated by the holder of a Fish-Farmer's License.

### License Application

Same procedure as the Fish-Farmer's License.

#### License Review and Coordination

No other agencies are usually involved.

### License Processing Time Requirements

Same time period as the Fish-Farmer's License.

#### License Issuance, Fees and Terms

Same fee and terms as a Fish-Farmer's License.

# Cultured-Fish Processing Plant License

#### License Requirements

Any person operating a cultured fish or shellfish processing plant must first obtain a Cultured-Fish Processing Plant License from the TDA. In addition to this license, state law requires that a Certificate of Compliance (shellfish—oysters, clams and mussels), Crabmeat-Plant License and/or a Food Manufacturer Registration (all other aquatic species) must be obtained from the Texas Department of Health. Both agencies have rule making and inspection authority.

#### License Application

A person may apply for a Cultured Fish Processing Plant License by submitting a completed application and license fee to the following agency:

Fish-Farm Program

Texas Department of Agriculture

P. O. Box 12847

Austin, Texas 78711

(512) 463-7602

A separate license is required for each tract of land on which a cultured fish-processing plant is operated.

#### License Review and Coordination

Upon receipt of the license, the TDA may consult with the TDH on the proposed cultured fish-plant operation.

#### License Processing Requirements

Usual processing requires from one to two months. However, processing times may vary due to the size of the operation, species processed, etc.

#### License Issuance, Fees, and Terms

When all requirements of the TDA have been satisfied, the TDA will forward a numbered license to the

applicant. The initial fee for this license is \$100.00 and is valid for one year after the date of issuance. The TDA will renew the license upon submission of a completed application and the required renewal fee by the licensee unless the TDA determines that the licensee violated Chapter 134, Texas Agriculture Code or a rule adopted under that chapter.

The renewal fee for this license shall be based on the gross receipts from the sale of cultured fish during the first nine months of the period covered by the expiring license.

# Bill of Lading for Certain Vehicles

A vehicle from which no cultured fish sales are made, but that transports cultured fish from a fish farm, shall carry a bill of lading that shows the number and species of cultured fish carried, the name of the owner and the location and license number of the fish farm from which the fish were transported and the destination of the cargo.

# Marketing of Cultured Redfish and Speckled Seatrout

A licensed fish farmer engaging in the raising, sale, transportation or possession of cultured redfish or speckled seatrout shall adhere to one or more of the following depending on the circumstances (Section 134.019, Texas Agriculture Code):

- Invoices for Shipments of Redfish or Speckled Seatrout a fish farmer licensee shall prepare or cause
  to be prepared a Texas Finfish Import Invoice or an Intrastate Texas Finfish Import Invoice for all
  shipments of redfish or speckled seatrout shipped to or from or sold at his/her place of business.
- Labeling of Redfish or Speckled Seatrout each package of dead redfish or speckled seatrout and each
  container of live redfish or speckled seatrout shall be identified as to its contents following TDA
  format.
- Packaging Requirements for Importation of Redfish and Speckled Seatrout all redfish and speckled seatrout entering this state for sale, or being transported intrastate for sale, shall be packaged one species per package.
- Marking of Vehicles All motor vehicles, trailers or semitrailers transporting fish for commercial
  purposes shall exhibit the inscription "fish" on the right, left and rear sides of the vehicle. The
  inscription shall read from left to right and shall be plainly visible at all times while transporting fish.
  The inscription "fish" shall be attached to or painted on the vehicle, trailer or semitrailer in black arabic
  letters of good proportion in contrasting color to the background and be at least eight inches in height.

#### **Invoice Forms**

A person may obtain the appropriate Texas Finfish Import Invoice forms and other information on redfish and speckled seatrout by contacting the following:

Fish Farm Program Texas Department of Agriculture P.O. Box 12847 Austin, Texas 78711 (512) 463-7602 or (512) 463-7583

# Texas Parks and Wildlife Department

# Agency Role and Responsibilities

The Texas Parks and Wildlife Department (TPWD) is responsible for the conservation, management and protection of the state's fish and wildlife resources. These responsibilities are carried out through various planning, management, research, regulatory and enforcement programs. Of significance to aquaculture operations are TPWD's programs that involve review and comment on COE permit applications for proposed construction projects and the issuance of certain leases, licenses and permits by the department. Several federal permitting agencies are required by federal law to coordinate with and consider the comments of the TPWD prior to issuing construction permits.

# Regulatory Requirements

#### Sand, Gravel, Shell and Marl Permit

#### Permit Requirements

This permit is required prior to disturbance or the removal of materials from state waters including streams, rivers and bay bottoms (Section 86.002, Texas Parks and Wildlife Code).

#### **Permit Application**

To obtain a permit, an application form must be submitted to the TPWD. Information required includes a description of the project, the area from which the materials are to be removed, the quantity to be removed, and disposition of the materials.

Information on permit requirements and permit application forms may be obtained by contacting the following office:

Resources Protection Branch Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4864

#### Permit Review and Coordination

Following submission of a completed application, the TPWD will publish a Notice of Hearing in the *Texas Register*. A public hearing on the application is then held at TPWD headquarters in Austin (Sections 57.65-57.67, Title 31, Texas Administrative Code).

#### **Permit Processing Time Requirements**

A permit is usually issued within two months unless significant objections are raised.

#### Permit Issuance, Fees and Term

Issuance of the permit represents authorization to perform the proposed work. Fees are assessed only if the materials are removed. No fees are assessed when materials are removed and returned to state land, such as pipeline installation. Refer to the table below for the current fee schedule and permit terms.

Material to be Removed	Fee Schedule	Permit Terms
Sand and Gravel Permit	\$0.20/cubic yard	Two years
Shell or Mudshell Permit	\$1.71/cubic yard	One year
Marl	\$0.25/cubic yard	One year

### Private Oyster Leases

#### Lease Requirements

Any person may lease up to 100 acres of bay bottom for purposes of culturing oysters (Subchapter A, Chapter 76, Texas Parks and Wildlife Code). Check with TPWD personnel on the status of this leasing program, as moratoriums may still be applicable.

#### Lease Application

An application must be submitted to the TPWD stating the name of the applicant and the location of the land proposed for lease.

Information on the oyster lease program, current status and application instructions may be obtained by contacting the following regional TPWD Fisheries Offices:

Upper coast (San Antonio Bay and North)

Fisheries Director, Region IV Texas Parks and Wildlife Department P.O. Box 8 Seabrook, Texas 77586 (713) 474-2811

Lower coast (South of San Antonio Bay)

Fisheries Director, Region V Texas Parks and Wildlife Department 100 Navigation Circle Rockport, Texas 78382 (512) 729-2328

#### Lease Application Review and Coordination

Upon receipt of a lease application, the TPWD staff will make a determination whether the proposed location is suitable for lease and oyster culture. Areas containing natural oyster beds, areas already leased, and areas within 100 yards of the bayshore line may not be leased.

Coordination by the TPWD will take place with the Texas Department of Health regarding water quality suitability for harvesting oysters that will be cultured on the proposed lease location. Leases proposed in waters classified as polluted due to persistent contamination are unlikely to be approved. The Texas General Land Office will review the application for potential conflicts with existing GLO leases or easements. The U.S. Army Corps of Engineers will also review the application for any navigational conflicts. Following a determination that the proposed area is appropriate for leasing, the TPWD will hold a public hearing in the county where the lease will be located. If no significant objections arise during the hearing, the applicant will be required to have the location surveyed and marked by a surveyor.

#### **Application Processing Time Requirements**

Usual processing requires from three to six months.

#### Lease Issuance, Fees and Terms

When all applicable regulations and concerns have been satisfied, the TPWD will issue a lease certificate to the applicant. The certificate will include a legal description of the area to be leased. There is no application fee but the applicant must pay the actual cost of the survey.

Rental fees are assessed once oysters are harvested from the location and sold and are due annually thereafter. The current rental fee is \$3.00 per acre, per year.

There are no fixed terms on private oyster leases. However, failure to produce and sell oysters within five years or failure to pay annual fees will result in termination of the lease.

# Oyster-Transplanting Permit

#### Permit Requirements

An Oyster-Transplanting Permit must be obtained prior to taking oysters from public waters for the purposes of transplanting to a private oyster lease (Subchapter B, Chapter 76, Texas Parks and Wildlife Code).

#### Permit Application

Private oyster-lease holders may apply for an Oyster-Transplanting Permit. The application must state the applicant's name, purpose for taking oysters, quantity of oysters to be taken, and the location where the oysters will be placed.

Information and application instructions may be obtained by contacting the following regional TPWD Fisheries Offices:

Upper coast (San Antonio Bay and North)

Fisheries Director, Region IV Texas Parks and Wildlife Department P. O. Box 8 Seabrook, Texas 77586 (713) 474-2811

Lower coast (South of San Antonio Bay)

Fisheries Director, Region V Texas Parks and Wildlife Department 100 Navigation Circle Rockport, Texas 78382 (512) 729-2328

#### Permit Review and Coordination

Upon receipt of an application for an Oyster Transplanting Permit, the TPWD will review the application and coordinate with the Texas Department of Health concerning the waters from which the oysters will be taken. If the waters are suitable, the permit will be issued.

#### **Permit Processing Time Requirements**

Permits are usually issued within seven to ten days.

#### Permit Issuance, Fees, and Terms

Upon approval, the Oyster-Transplanting Permit will be forwarded to the applicant. No fees are charged. The permit expires upon completion of the transplanting.

# Oyster-Harvest Permit

#### Permit Requirements

A permit is required to harvest oysters from private oyster leases (Subchapter B, Chapter 76, Texas Parks and Wildlife Code).

#### Permit Application

Information and application instructions may be obtained from the following regional TPWD Fisheries offices:

Upper coast (San Antonio Bay and North)

Fisheries Director, Region IV Texas Parks and Wildlife Department P. O. Box 8 Seabrook, Texas 77586 (713) 474-2811

Lower coast (South of San Antonio Bay)

Fisheries Director, Region V Texas Parks and Wildlife Department 100 Navigation Circle Rockport, Texas 78382 (512) 729-2328

#### Permit Review and Coordination

Prior to issuing an Oyster-Harvest Permit, TPWD will coordinate with the Texas Department of Health to determine if the waters from which the oysters will be taken have been approved for harvesting.

#### **Permit Processing Time Requirement**

Permits are usually issued within seven to ten days.

## Permit Issuance, Fees, and Terms

Upon approval, the permit will be forwarded to the applicant. No fees are charged. Permit expires when the harvest is completed.

## Commercial Oyster-Boat License

#### License Requirement

A Commercial Oyster-Boat License is required for each boat used for transporting or for taking oysters for pay, sale, barter, exchange, or for any other commercial purpose from state-public waters by the use of a dredge, tongs or any other mechanical means (Subchapter C, Chapter 76, Texas Parks and Wildlife Code). This license covers the boat and crew for oysters only. The culturing of oysters in state waters, including oyster lease holders, is also subject to the requirements of this license.

## License Application

There is no formal application procedure. However, the boat's U.S. Coast Guard certification of documentation or state registration number must be presented at the time the license is issued. Licenses may be obtained from TPWD offices of by contacting the following division:

Law Enforcement, Field License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

## License Review and Coordination

Not applicable.

#### License Processing Time Requirements

The license may be obtained immediately when purchased in person. Purchase by mail requires approximately one week after receipt of the license application.

#### License Issuance, Fees, and Terms

Licenses may only be issued during the month of August. The fee is \$350.00 per boat. Licenses are valid September 1 and expire on August 31 the following year.

#### Shellfish Culture License

#### License Requirements

A licensed fish farmer engaged in the business of producing, propagating, transporting, selling or processing for sale shellfish raised on private land must first acquire a Shellfish-Culture License (Sections 134.001(4) and 134.011, Texas Agriculture Code and Chapter 51, Texas Parks and Wildlife Code). Shellfish means aquatic species of crustaceans and mollusks, including oysters, clams, shrimp, prawns and crabs of all varieties. A separate license is required for each tract of land on which shellfish are cultured.

#### License Application

A Shellfish-Culture License application may be obtained directly from the department by forwarding a letter that states the owner's or manager's name, home address, business address and the county where the business is located. This letter should be submitted to the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

#### License Review and Coordination

Not applicable.

## License Processing Time Requirements

License processing time is usually seven to ten days after receipt of a completed application.

#### Permit Issuance, Fees, and Terms

A numbered license will be issued. The fee is \$50.00 and the license term is 12 months, beginning on September 1 and expiring August 31 the following year.

## General Exotic-Shellfish Culture Permit

#### **Permit Requirements**

The holder of a Fish-Farm License and a Shellfish-Culture License must also obtain a General Exotic-Shellfish Culture Permit prior to the importation, possession, propagation or transport of exotic shellfish into or from the state (Section 51.009, Texas Parks and Wildlife Code). Exotic shellfish means non-native species of oysters, clams, shrimp, prawns and crabs of all varieties that are brought into the state for culture purposes. It should be noted that this permit will not be issued for shellfish defined as harmful or potentially harmful (see V-A-4). Shellfish taken from the high seas adjacent to the Texas coast are exempt (Section 51.009, Texas Parks and Wildlife Code).

#### License Application

A letter of application that states the name and address of permittee, the Shellfish-Culture License number, the location where exotic shellfish will be held, the species and the source of the exotic shellfish, a description of culture facilities and efforts taken to ensure that the exotic shellfish do not escape into the wild, and the name of any agent(s) who will be handling the shellfish should be forwarded to the following office:

Legal Counsel and Permits Branch Resource Protection Division Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4633

#### Permit Review and Coordination

The permit application will be reviewed for consistency with department regulations governing permit issuance. Other agencies are not involved.

#### **Permit Processing Time Requirements**

Usual processing is seven to ten days after receipt of a completed application. However, if a facility inspection is determined to be necessary, an additional two to three weeks could be required.

#### Permit Issuance, Fees and Terms

If the application satisfies departmental regulations, a permit will be issued. However, the permit will contain the following stipulations:

- The permittee will be prepared and will destroy the exotic shellfish if, for any reason, it appears that a release of the shellfish to public waters is imminent.
- The permittee will maintain the exotic shellfish in controlled conditions until such time as a sample of the shellfish has been examined and certified as "disease-free."

There is no fee for the permit. Once issued, the permit is valid for only one shipment of exotic shellfish. Subsequent shipments require a permit amendment for each shipment.

## Shellfish-Sourcing Permit

#### **Permit Requirements**

The holder of a Fish Farming License and a Shellfish-Culture License may obtain, from public waters, shellfish broodstock during closed shellfish harvesting seasons by obtaining a Shellfish-Sourcing Permit (Section 51.010, Texas Parks and Wildlife Code). Note: This permit is not required when shellfish are taken during open season.

#### **Permit Application**

A letter of application that states the name and address of permittee, the Shellfish Culture-License number, the numbers and species of shellfish to be collected, areas where shellfish are to be taken, the proposed method of taking and the period when shellfish will be taken should be forwarded to the following office:

Legal Counsel and Permits Branch Resource Protection Division Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4633

#### Permit Review and Coordination

Upon receipt of the application, it will be reviewed against TPWD regulations. The water quality classification of waters from which the shellfish will be taken is also evaluated. Coordination with the Texas Department of Health may be required.

#### Permit Processing Time Requirements

Usual processing is seven to ten days after receipt of a completed application.

## Permit Issuance, Fees and Terms

Upon issuance, the permit will contain the following stipulations:

- · The broodstock collected may not be sold, bartered, or exchanged.
- The permit must be carried by the broodstock collector during collection.
- That the permittee must furnish to law enforcement personnel the name of the collecting vessel, period and location where the collecting will be done.

There is no fee for the permit. The permit expires when the authorized collection is completed.

## Red Drum and Speckled Seatrout-Sourcing Permit

#### **Permit Requirements**

This permit is required for the taking from public waters a limited number of red drum (redfish) and/or speckled seatrout of spawning size for broodstock purposes (Section 66.2012, Texas Parks and Wildlife Code and Section 57.362, Title 31, Texas Administrative Code). Only licensed fish farmers may obtain a permit.

#### Permit Application

Application for a sourcing permit is made by letter that includes the applicant's name and address, Fish-Farmer's License Number, the species to be collected, the number of each species to be collected, the location of the collection area, the proposed collection method, the time period during which collection will take place, the proposed use of the broodstock, and a description of the culture facilities.

Letters of application should be submitted to the following office:

Legal Counsel and Permits Branch Resource Protection Division Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4633

#### Permit Review and Coordination

Upon receipt, the application will be reviewed for completeness and consistency with TPWD regulations. A facility inspection by department field staff may be required prior to approval.

#### **Permit Processing Time Requirements**

Permits are usually issued within seven to ten days after receipt of a completed application. If a facility inspection is required, an additional two to three weeks may be necessary.

#### Permit Issuance, Fees, and Terms

Upon issuance, the permit will contain the following stipulations:

- The broodstock collected may not be sold, bartered or exchanged.
- · The permit must be carried by the broodstock collector during collection.
- The permittee must furnish to law enforcement personnel the name of the collecting vessel, period and location where the collecting will be done.

There is no fee for the permit. The permit expires when the authorized collection is completed.

## Exotic-Species Permit

#### **Permit Requirements**

An Exotic-Species Permit must be obtained in order to possess, propagate, transport or sell certain allowable exotic species that are considered harmful or potentially harmful to native species (Sections 66.007 and 66.015, Texas Parks and Wildlife Code and Section 134.020, Texas Agriculture Code). All other exotic species listed in Section 5 that are considered harmful or potentially harmful cannot be placed in public waters.

Species for which Exotic-Species Permits may be obtained include the following:

- Blue tilapia (Tilapia aurea)
- Mozambique tilapia (Tilapia mossambica)
- · Hybrids between the above species
- Silver carp (Hypophthalmichthys molitrix)
- Black carp (Mylopharyngodon piceus, also known as snail carp) (Chapter 57.113, Title 31, Texas Administrative Code)
- Bighead Carp (Aristichthys/Hypothalmichthys nobilis)

Qualifications for obtaining an Exotic-Species Permit to culture one or more of the above species in private ponds (pond, reservoir, vat, or other structure) include the following criteria:

- Applicant must be a licensed fish farmer.
- The fish farm must be designed to prevent discharges of water containing adult or juvenile exotic species or their eggs from the permittee's property.
- Fish farms that are within the 100-year flood plain must be enclosed within an earthen or concrete dike
  or levee constructed to exclude all flood waters and in such a manner that no section of the crest of the
  dike or levee is less than one foot above the 100-year flood elevation. Dike or levee design or
  construction must be approved before issuance of a permit.
- The applicant has not violated any provision of the exotic species rules during the previous year (Section 57.116, Title 31, Texas Administrative Code).

#### Permit Application

To be considered for an Exotic-Species Permit, the application must do the following:

- Submit a completed Exotic-Species Permit Application.
- Possess a valid Texas Fish-Farmer's License.
- Demonstrate to the TPWD that the applicant meets the permit qualifications as listed above, and that
  the fish-farm facility is, or will be, constructed consistent with the required specifications for preventing escapement of the exotic species from the applicant's property.

- · Allow inspection of facilities.
- · Provide an adequate number of exotic species upon request for identification and analyses.
- Provide documentation upon request to identify any harmful or potentially harmful species for which
  a permit is sought (Sections 57.116 and 57.117, Title 31, Texas Administrative Code).

Additional information and application forms may be obtained from the following office:

Legal Counsel and Permits Branch Resource Protection Division Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4633

#### Permit Review and Coordination

The complete application will be reviewed against TPWD rules and regulations upon receipt. Usually other agencies are not involved in the review process.

#### **Permit Processing Time Requirements**

If the culture facilities are ready for inspection when the application is submitted, a permit can usually be issued within one to two months.

#### Permit Issuance, Fees and Terms

The nontransferrable permit will be issued to the fish-farm owner when all applicable regulations have been satisfied. No fees are charged. The permit expires on August 31 each year.

A permit may be renewed by submission of an application and an annual report to the TPWD by the fish-farm owner. The application must state whether any material or substantial changes have been made to the fish farm during the prior permit period. The renewal application must be received by the TPWD not more than 60 days (June) or less than 30 days (July) prior to the permit's expiration on August 31.

Upon finding that the applicant has not violated any provision of TPWD's exotic species rules during the previous one-year period, a renewal permit will be issued.

## Freshwater Commercial-Fishing Boat License

#### License Requirements

This license is required when a boat equipped with a motor or sails is used in nontidal state waters (freshwater) to catch fish, oysters or other edible aquatic products for pay or for the purpose of sale, barter or exchange (Section 47.005, Texas Parks and Wildlife Code). This includes boats used to harvest aquatic species that are cultured in nontidal state waters.

#### License Application

No formal application is required. A license may be obtained from TPWD law enforcement field offices or by contacting the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

## License Review and Coordination

Not applicable.

#### License Processing Time

A license may be obtained immediately if purchased in person. Purchase by mail could take up to one week or possibly longer.

#### License Issuance, Fees and Terms

Upon payment of the \$10.50 fee, the license will be issued for one year. Expiration is August 31 each year.

i

## Saltwater Commercial-Fishing Boat License

## License Requirements

A Saltwater Commercial-Fishing Boat License is required when a boat is used for the catching or assisting in catching edible aquatic life (except for shrimp, oysters and menhaden) from tidal waters for pay or for the purpose of sale, barter or exchange (Section 47.007, Texas Parks and Wildlife Code). This includes boats used to harvest aquatic species that are cultured in tidal waters.

## License Application

No application required. Licenses may be obtained from a TPWD law enforcement office or by contacting the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

#### License Review and Coordination

Not applicable.

## License Processing Time Requirements

A license may be obtained immediately if purchased in person. Purchase by mail could take up to one week or longer.

#### License Issuance, Fees and Terms

The annual license will be issued upon payment of a \$10.50 fee. License expires each year on August 31.

#### Bait-Dealer's License

## License Requirements

Any person engaged in business as a bait-shrimp dealer in a coastal county must first obtain a Bait-Shrimp Dealer's License for each bait stand or place of business (Sections 77.043 and 77.045(a), Texas Parks and Wildlife Code). A bait-shrimp dealer is defined as "a person who operates an established place of business in a coastal county of the state for compensation or profit for the purpose of handling shrimp caught for use as bait from the inside water of this state...." (Section 77.001(10), Texas Parks and Wildlife Code). This license authorizes the holder to sell, purchase and handle shrimp, minnows, fish and other forms of aquatic life for sale or resale for fish-bait purposes in coastal counties only (Section 77.045(a) and (b), Texas Parks and Wildlife Code).

#### License Application

No formal application is required. However, in order to obtain a license the applicant must have an established place of business for the sale of bait shrimp. Licenses may be purchased from a TPWD law enforcement field office or by contacting the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

## License Review and Coordination

Not applicable.

#### License Processing Time Requirements

A license may be obtained immediately if purchased in person. Purchase by mail could take up to one week or longer.

#### License Issuance, Fees, and Terms

The annual license fee is \$60.00 for each place of business and expires August 31 each year.

#### Wholesale Fish-Dealer's License

## License Requirements

A person who engages in the business of buying for the purpose of selling, canning, preserving, processing or handling for shipments or sale, fish, oysters, shrimp or other commercial edible aquatic products to retail fish dealers, hotels, restaurants, cases or consumers must purchase a Wholesale Fish Dealer's License (Sections 47.001(3) and 47.009, Texas Parks and Wildlife Code). A licensed fish-farmer who buys aquatic products for the above stated purposes is required to purchase this license. However, a licensed fish farmer who provides services to others (such as custom processing, packaging, labeling, shipping, etc.) for a see would not required to purchase the license.

## License Application

No formal application is required. Licenses may be obtained from TPWD law enforcement field offices or by contacting the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

#### License Review and Coordination

Not applicable.

## License Processing Time Requirements

A license may be obtained immediately if purchased in person. Purchase by mail could take up to one week or longer.

## License Issuance, Fees and Terms

The license fee is \$400.00. The license expires each year on August 31.

#### Wholesale Fish-Truck Dealer's License

#### License Requirements

A person who engages in the business of selling edible aquatic products from a motor vehicle to retail fish dealers, hotels, restaurants, cases or consumers must have a Wholesale Fish-Truck Dealer's License. In most cases, this will not apply to a licensed fish farmer. However, if the fish farmer engages in the buying and selling of edible aquatic products, the license may be required.

#### License Application

No formal application is required. Licenses may be obtained from TPWD law enforcement field offices or by contacting the following office:

License Sales
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744
(512) 389-4822

#### License Review and Coordination

Not applicable.

#### License Processing Time Requirements

A license may be obtained immediately if purchased in person. Purchase by mail could take up to one week or longer.

#### License Issuance, Fees and Term

The license fee is \$250.00 per vehicle. The license expires on August 31 each year.

#### Retail Fish-Dealer's License

#### License Requirements

A person engaged in the business of buying fresh or frozen edible aquatic products to sell to a consumer, is required to purchase a Retail Fish-Dealer's License (Section 47.001(4) and 47.011, Texas Parks and Wildlife Code). A licensed fish farmer who buys cultured or other fish products for sale at retail may be required to purchase this license.

## License Application

No formal application is required. Licenses may be obtained from TPWD law enforcement field offices or by contacting the following office:

Licenses Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

#### License Review and Coordination

Not applicable.

#### License Processing Time Requirements

A license may be obtained immediately when purchased in person. Purchase by mail will take approximately one week or longer.

#### License Issuance, Fees and Terms

A license is issued for a annual fee of \$30.00. It expires on August 31 each year.

#### Retail Fish-Truck Dealer's License

#### License Requirement

A Retail Fish-Truck Dealer's License is required to sell edible aquatic products from a motor vehicle to consumers (Section 47.013, Texas Parks and Wildlife Code). A licensed fish farmer who buys and sells edible aquatic products from a motor vehicle at retail could fall under this licensing requirement.

#### License Application

No formal application is required. The license may be purchased from TPWD law enforcement field offices or by contacting the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

#### License Review and Coordination

Not applicable.

#### License Processing Time Requirements

A license may be obtained immediately when purchased in person. Purchase by mail takes approximately one week or longer.

#### License Issuance, Fees and Terms

A license will be issued upon payment of a \$50.00 annual license fee. The license expires on August 31 each year.

## Alligator-Farmer's Permit

#### **Permit Requirements**

Any person who wishes to possess live alligators or propagate alligators for the purpose of selling the alligators, hides, meat or other parts of an alligator must first obtain an Alligator-Farmer's Permit (Section 65.003, Texas Parks and Wildlife Code and Sections 65.351-65.369, Title 31, Texas Administrative Code).

#### Permit Application and Facility Requirements

Applications for a permit may be submitted in letter form to the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

The letter should state the applicant's name, address, telephone number, height, weight, hair color, eye color, sex, date of birth and the location of the facility.

A facility inspection must be conducted by TPWD personnel prior to permit issuance to verify compliance with the following alligator-facility regulations:

- Facility must provide adequate security to prevent escapement of alligators and entry by wild alligators from outside the facility.
- Facility must have a reliable source of clean, fresh water.
- · Access to both dry ground and pooled water within the facility.
- · Provision for winter protection.
- Facility must provide for separation of alligators into at least three size groups.
- · Records of all changes in alligator stock must be maintained and quarterly reports are required.

#### License Review and Coordination

Information on permitted alligator farmers is made available to the Texas Department of Health for purposes of regulating the processing of alligator meat sold for human consumption.

#### **Permit Processing Time Requirements**

If the facility is ready for inspection at the time the permit application is submitted, a permit is usually processed within three to four weeks.

#### Permit Issuance, Fees and Terms

Upon facility approval and payment of a \$150.00 permit fee, the annual permit will be issued. The permit expires each year on August 31.

## Alligator-Import Permit

#### Permit Requirements

An Alligator-Import Permit is required to bring live alligators and alligator parts into the state (Section 65.003, Texas Parks and Wildlife Code and Sections 65.351-65.369, Title 31, Texas Administrative Code).

#### Permit Application

A letter of application should be submitted to the following office:

License Sales Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4822

The letter should state the applicant's name, address, telephone number, height, weight, hair color, eye color, sex and date of birth.

#### Permit Review and Coordination

Not applicable.

#### **Permit Processing Time Requirements**

Permit processing usually requires three to four weeks.

#### Permit Issuance, Fees and Terms

The annual Alligator-Import Permit fee is \$15.00 and expires August 31 each year.

## Alligator-Hide Tag

#### Tag Requirements

Hides of all alligators harvested must be tagged (Section 65.003, Texas Parks and Wildlife Code and Sections 65.351-65.369, Title 31, Texas Administrative Code).

## Tag Application

Alligator farmers may obtain tags upon written request to the TPWD at least 30 days prior to the scheduled harvest. Tags may also be obtained for individual alligators that died unexpectedly, provided a tag is requested prior to hide removal. The number of alligators harvested and hide-tagging procedures will be verified by TPWD personnel. Requests for hide tags should be submitted on Form PWD 372 and mailed to the following office:

Alligator Program Wildlife Division Texas Parks and Wildlife Department 4200 Smith School Road Austin, Texas 78744 (512) 389-4769

#### Tag Review and Coordination

Not applicable.

#### Tag Processing Time Requirements

Two to three weeks are usually required to issue the requested tags.

#### Tag Issuance, Fees and Terms

Fees for hide tags are \$5.00 each. Tags are valid for a specific harvest and any unused tags must be returned to the TPWD.

## Alligator-Broodstock Regulations

Section 65.003, Texas Parks and Wildlife Code and Sections 65.351-65.369, Title 31, Texas Administrative Code

#### **Authorized Sources**

Live alligators and alligator eggs may be purchased from the following sources:

- Licensed alligator farmers in other states
- Licensed alligator farmers in Texas
- Nuisance alligators that are occasionally available through the TPWD
- Tagged hatchlings from a hatchling tag recipient (land owner), or a licensed alligator hunter
- Alligator eggs from an authorized egg collector, or an alligator nest-stamp recipient (land owner)

#### Facility Regulations

Alligator Eggs—Alligator farmers are required to have facilities for housing eggs in an incubator providing constant temperature and humidity conditions. Eggs must be retained in identifiable original clutch groups and the alligator farmer must have a nest stamp for each cultch group (nest).

Hatchling Alligators—Alligator farmers are required to have facilities for housing hatchlings in rearing tanks containing wet and dry areas. The tanks must be of sufficient size and construction to allow all hatchlings to completely submerge in water and completely exit from water and orient in any direction without touching the sides of the tanks.

#### Information and Technical Assistance

Prospective alligator farmers may obtain additional information about the alligator farming program, names of licensed alligator farmers, contacts for broodstock, and sources of technical information by contacting the following office:

Alligator Program
Wildlife Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744
(512) 389-4769

## **Texas Water Commission**

## Agency Role and Responsibilities

The Texas Water Commission (TWC) is responsible for protection of the state's water resources. These responsibilities are carried out through planning, development of water quality standards, issuing discharge permits and enforcement of discharge limitations, regulating water use, and issuing permits for construction activities affecting state waters.

## Regulatory Requirements

## Section 401 Certification

#### Certification Requirements

Any activity that requires a Section 404 permit from the COE also requires a Section 401 certification from the TWC (Section 404, Clean Water Act, as amended). The certification is a statement from the TWC that the proposed construction activity would not cause a violation of the state's water quality standards.

#### Application for 401 Certification

The COE and TWC have developed a joint process whereby the 404 permit application serves as a "request for TWC water-quality certification." The COE forwards a copy of the application to the TWC during the public notice phase of 404 permit processing. Instructions are provided in the COE application materials that address the information needed by the TWC to facilitate a technical review of the water-quality aspects of the project. It is important that the requested information be provided in a timely fashion by the applicant in order to avoid delaying the 404 permit processing. Questions regarding information needed by the TWC should be referred to the following office:

Applications Unit Water-Quality Division Texas Water Commission P.O. Box 13087, Capitol Station Austin, Texas 78711-3087 (512) 463-8238

#### Certification Review and Coordination

Water-quality aspects of the project will receive a staff evaluation and a public review (Section 279, Title 31, Texas Administrative Code). Comments may be provided by the following sources:

- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- Texas Parks and Wildlife Department
- Local governments
- Organizations and associations
- General public

#### **Processing Time Requirements**

The usual processing time requires four to five weeks.

#### Certification Issuance, Fees, and Terms

The COE will be forwarded written notification of certification or denial. No fees are charged by the TWC. The certification has no stated term.

## Discharge Permit

#### Permit Requirements

Section 11.121, Texas Water Code, requires that a discharge permit be obtained prior to the discharge of wastes into or adjacent to the waters of the state. This includes the treatment, storage or disposal of waste water by land treatment or evaporation. The federal Clean Water Act, as amended, also requires that a National Pollution Discharge Elimination System (NPDES) permit be obtained from the EPA.

Certain discharges may be authorized by the TWC by rules or orders instead of a permit. This includes certain aquaculture flow-through operations where discharge waters are high quality. Discharges of small and medium size shrimp-packing operations are also regulated by rules.

#### **Permit Application**

Prior to submitting a formal application it is recommended that a letter be sent to the Water Quality Division of the TWC that requests a determination of any project permitting requirements. The letter should include the following:

- · General description of the operation
- · Fish to be raised and feed rate
- · Water supply source
- Discharge volume and duration
- Name and telephone number of contact person

Application forms are available from the TWC. The application requires the following types of information:

- Applicant
- Site information
- Disposal method
- Discharge points
- Technical discharge report

Completed applications should be submitted to the following office:

Executive Director
Texas Water Commission
Attn: Water Quality Division-Applications Unit
P.O. Box 13087, Capitol Station
Austin, Texas 78711-3087

#### Permit Review and Coordination

Upon receipt of a discharge permit application, the application will undergo a technical review for completeness. If complete, the applicant will receive acknowledgement of receipt. Copies of the application will then be forwarded to government agencies having responsibility for, or interests in, water quality (Section 305, Title 31, Texas Administrative Code). The agencies include the following:

- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Agency
- National Marine Fisheries Service
- Texas Parks and Wildlife Department
- · River authorities
- Local governments
- Others determined by the TWC

Following a technical review of the application, a recommendation for issuance or denial will be prepared. If the recommendation is for issuance, notices will be sent to potentially affected land owners. The applicant also will be required to publish a notice in a county-wide newspaper.

Following a 30-day review period, any comments received will be reviewed and a public hearing determination made.

#### **Processing Time Requirements**

Six months is usually required to process a complete application. If a public hearing is necessary the time requirement could range from 10 to 18 months.

#### Permit Issuance, Fees and Terms

Upon approval by the TWC, a permit will be issued. A fee of \$150.00 for filing a new or amended application is required. A fee of \$115.00 is required for a renewal application. The applicant is also required to bear the costs of publishing the notice of the application in a newspaper and any public-notice costs associated with a public hearing.

The discharge permit expires after a period of five years and may be renewed for subsequent five-year periods upon written request.

## Reclamation-Engineer Permit

## **Permit Requirements**

Construction within the 100-year flood plain of any stream, river or other flood-prone area where there is an effort to control, regulate or otherwise change the flood water of the stream is prohibited unless prior approval is obtained from the TWC or the appropriate city or county, if such city or county is participating in the National Flood Insurance Program (Section 16.236, Texas Water Code).

Cities and counties participating in the Federal Flood Insurance Program, authorized by the National Flood Insurance Act of 1968, have jurisdiction over construction within the 100-year flood plain. This includes construction, maintenance, or improvements to levees, dams or other improvements with the flood plain.

All coastal counties, and many other counties within the state, are currently participating in the federal program. In these counties, the local Flood Plain Administrator should be contacted for information on permitting requirements. The TWC has permitting authority in all other areas.

#### Permit Application

Permit applications may be obtained from the TWC. It is recommended, however, that a letter be forwarded to the TWC requesting that a permit requirement determination be made prior to submitting an application. The letter also should include a description of the proposed work, location map, a conceptual plan or drawings of the proposed construction, and the name and telephone number of a contact person. Other information may be requested by the TWC staff at a later date to assist in the determination. A determination can usually be obtained within one to two months.

Requests for permit applications, permit requirement determinations, and the names of local flood-plain administrators may be obtained from the following office:

Reclamation Permit Engineer Flood Plain Management Unit Texas Water Commission P.O. Box 13087, Capitol Station Austin, Texas 78711-3087 (512) 371-6317

#### Permit Review and Coordination

If a Reclamation Engineers Permit is required, the permit application will be reviewed for completeness. When complete, the applicant will receive a notice of receipt of a completed application. Public notice must then be issued (Section 301.53, Title 31, Texas Administrative Code) to government agencies, local officials and individuals who may be interested in the project, including the following:

U.S. Corps of Engineers

- Federal Emergency Management Agency
- · Texas Department of Health
- Texas Parks and Wildlife Department
- Texas Railroad Commission
- Texas Soil and Water Conservation Board
- Texas General Land Office
- Texas Historical Commission
- · Local river authorities
- County judge(s)
- Local health authorities
- Adjacent landowners

Following a staff technical review of the application, a recommendation to issue or deny the permit will be submitted to the TWC. Potentially affected and adjacent property owners will receive notice of the recommendation. The applicant will be required to publish notice in a newspaper having general circulation within the area. Public comments will be requested in the notice.

Based on comments received, a public hearing may or may not be held prior to the TWC decision on the permit (less than 5 percent of the applications for small construction projects result in public hearings).

#### Processing Time Requirements

Usually a Reclamation Engineers Permit is processed within six months. If a public hearing is held, the time requirement can increase to 10 to 18 months.

#### Permit Issuance, Fees and Terms

The TWC will notify the applicant of permit issuance. At that time, the TWC will request final construction plans and specifications for staff approval. Construction is then authorized.

A fee of \$100.00 is required when filing (submitting) the permit application and a filing fee of \$1.25 per page is also assessed. Other fees include the costs of mailing notices and publishing notices in a local newspaper. Any notices required for a public hearing must also be borne by the applicant.

The construction permit is valid for the estimated construction period, which must be stated in the application. Permit extensions may be obtained from the TWC in the event of valid unforeseen construction and/or financing delays.

#### Water-Use Permit

#### Permit Requirements

The TWC has regulatory authority over the diversion, impoundment and/or use of all state waters. The use of brackish or marine waters for land based aquaculture operations is exempt from the Water-Use Permit requirements (Section 11.1421, Texas Water Code). However, a notice must be submitted to the TWC prior to taking such water for aquaculture purposes. The aquaculturist must also submit a report every year that states the amount of water that has been diverted during the past year. The TWC has the authority to limit or stop water use during droughts or other emergencies.

The use of state waters, other than brackish or marine, is prohibited without first obtaining a permit from the TWC. However, an individual may, without obtaining a permit, construct a dam on privately owned property to impound up to 200-acre feet for domestic and livestock purposes. Aquaculture is considered an industrial use. Conversion of existing or creation of new impoundments for aquaculture would therefore require a Water-Use Permit (Sections 11.1421 and 11.143, Texas Water Code).

In addition to the requirement for a Water-Use Permit, unappropriated (surplus) water rights must be available in the water body from which the water is to be taken. In certain areas of the state, all water rights (to rivers and reservoirs) have been appropriated. In these limited situations it would be necessary to purchase water rights from an existing water-rights holder. The purchase of such water rights may require TWC approval.

#### Notice or Permit Application

Forms for submitting a notice of proposed use of brackish or marine waters for aquaculture operations are available from the TWC. Information requested on the form includes the following:

- Applicant's name and address (owner and operator)
- · Source of brackish or marine water
- · Quantity of water to be used annually
- Location map of project
- Annual report requirement

Water-Use Permit Applications require the following general types of information:

- Applicant's name and address (owner and operator)
- Source of water supply
- Amount and purpose of water use
- Rate and method of diversion
- Location of diversion point
- · Return of surplus water
- · Plan for conservation (efficient use) of water

Requests for information, forms for the use of brackish or marine waters, or Water Use Permit applications may be obtained from the following office:

Applications Unit Water Use Section Texas Water Commission P.O. Box 13087, Capitol Station Austin, Texas 78711-3087 (512) 371-6379

#### Permit Review and Coordination

Water-Use Permit applications are subject to public notice and review and comment (Section 301.53, Title 31, Texas Administrative Code) from government agencies and individuals including the following:

- All holders of Water-Use Permits and/or water rights from the water supply source
- Navigation districts within the river basin
- Texas Parks and Wildlife Department
- Other interested agencies and individuals

In addition, the applicant is required to publish notice in a newspaper having county-wide circulation within the county in which the water supply is located.

#### Processing Time Requirement

In most cases, Water-Use Permits are processed within six months. A public hearing could increase the time requirement to 10 to 18 months.

#### Permit Issuance, Fees and Terms

Fees include a \$100.00 application fee plus a \$1.25 filing fee for each page of the application. The applicant also bears the cost of public notices in a county-wide newspaper. One-time use fees will also be assessed and must accompany the application. Upon issuance of a water use permit, fees are assessed for water used or stored. These fees include the following:

- Storage fee: \$0.50 per acre foot stored
- Use fee: \$1.00 per acre foot diverted

Water-Use Permits may or may not have an expiration date. The TWC may periodically review the permit as related to the water actually being used versus the authorized use.

# **Texas Department of Health**

## Agency Role and Responsibilities

The Texas Department of Health (TDH) is responsible for the protection of the public health, including the regulation of food, drugs and cosmetics that may ultimately affect consumers.

These responsibilities are carried out by various licensing, registration, labeling, certification, inspection and regulatory programs. Legal authority for carrying out these programs is provided by Texas Health and Safety Code, subchapters A, B and C and the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.).

The Food and Drug and the Shellfish Sanitation Control Divisions, within the TDH, are primarily responsible for programs that affect aquaculture operations in Texas. These programs provide for the regulation of aquatic species that are raised in private or public waters and include water quality, production, harvesting, processing, transporting, storing, handling and packaging of cultured aquatic products to be sold for human consumption. The TDH also has regulatory authority over drugs that can be used in aquaculture operations.

## Regulatory Requirements

## Classification of Public Waters for the Taking of Aquatic Life

Based on water-quality surveys, the TDH may declare a public-water body, or a portion thereof, to be a prohibited area for purposes of harvesting any aquatic life (except oysters, clams and mussels) for human consumption (Subchapter A, Chapter 436, Texas Health and Safety Code). Designation of an area as prohibited for the taking of aquatic life may be permanent, temporary or long-term, depending upon the results of TDH water-quality surveys.

Aquaculture operations located in public waters, or operations using public waters as a water-supply source, could be prohibited from marketing for human consumption aquatic products cultured in waters that are declared to be prohibited.

#### Classification of Public Waters for the Taking of Shellfish

Shellfish (oysters, clams and mussels) held or marketed must come from approved growing waters. Approval is based on a water-pollution survey. The survey is an extensive sampling process that involves taking 15 sets of samples within a designated water area over a representative period of wet and dry weather conditions.

#### **Polluted Waters**

Water bodies, or portions thereof, within state jurisdiction that are classified as "polluted" must be closed to the taking of shellfish, including oysters, clams and mussels (Subchapter B, Chapter 436, Texas Health and Safety Code).

Polluted areas are defined as the following:

- Areas that have been surveyed and found to be subject to unpredictable pollution.
- Areas that have been surveyed and failed to meet other standards and requirements such as heavy
  metal or virus contamination for the harvesting and direct marketing of shellfish.
- Areas that have not been surveyed and as a result, the water quality is unknown.

Classification of polluted waters fall into the following categories:

- Restricted
- Conditionally restricted
- Prohibited

Shellfish may be transplanted or gathered for purification (depuration) from restricted or conditionally restricted areas during periods established by TDH, and subject to permitting by TPWD (Subchapter A, Texas Health and Safety Code). Shellfish taken from prohibited areas may not be sold for human consumption and includes those areas that have not been surveyed.

Private oyster-lease holders and shellfish-culture facilities that are located in public waters declared as polluted, or utilize such public waters as a water-supply source, would be prohibited from harvesting and directly marketing shellfish for human consumption.

## **Conditionally Approved Areas**

Conditionally approved areas meet the criteria for harvesting and direct marketing except when certain conditions occur. The conditions that result in a designation of polluted are predictable and usually directly related to rainfall intensity and duration within the water body's drainage area. During the period of time these waters are designated as polluted, harvesting is allowed only by permit and for purposes of transplanting or controlled purification (Subchapter A, Texas Health and Safety Code). When water-quality testing indicates that conditions have returned to normal and the shellfish are suitable for human consumption, shellfish harvesting may be resumed. Shellfish-culture operations located within, or using water from, conditionally approved water areas may be periodically prohibited from harvesting shellfish unless they are subjected to a purification (depuration) process prior to marketing.

#### Approved Waters

Approved water areas are those areas that have been surveyed by TDH and specifically approved as meeting growing area criteria under all conditions, except under unusual situations. Shellfish may be harvested for direct marketing from approved areas.

## Transplanting and Gathering for Depuration

Transplanting from polluted waters to approved or conditionally approved waters or to a depuration plant (facility) may occur under certain conditions as follows:

Transplanting—Shellfish may be transplanted from polluted areas to approved harvesting areas, provided that permission for such transplanting is first obtained from the TPWD. Upon completion of transplantation operations, the transplanter shall notify the Commissioner of (1) the bushels or barrels of shellstock transplanted, (2) the origin of the shellstock, (3) the reef or lease upon which the shellstock were transplanted, (4) the date the transplanting operations were completed. No transplanted shellfish may be harvested for marketing within 14 days following the completion of the transplanting operation. All boats and equipment used to transplant shellfish shall be thoroughly cleaned and sanitized prior to undertaking any subsequent shellfish harvesting.

#### Transplant Permit

A Transplant Permit must be obtained from the Texas Parks and Wildlife Department.

#### TDH Notification

Information on the quantity of shellfish transplanted, origin of shellfish, where placed and the date the transplant permit expired must be provided to the TDH. Transplanting to a depuration facility has similar, but more detailed, reporting requirements. In addition, the waters from which shellfish may be gathered for delivery to a depuration facility are more stringently regulated and the gathering and transportation must be supervised.

#### Harvest Permit

A Harvest Permit must be obtained from the Texas Parks and Wildlife Department. No shellfish may be harvested for marketing in less than 15 days following the date of expiration or cancellation of the Transplant Permit. Marketing of shellfish from a depuration facility does not require a harvest permit. The TDH has specific regulations governing depuration facilities (Sections 241.85 - 241-100, Texas Molluscan Shellfish Rules, TDH).

#### **Processing of Cultured Aquatic Products**

The TDH has regulatory authority over the handling, processing facility design, facility operations, processing procedures, packaging, labeling and shipping of all cultured aquatic products for human consumption (Texas Health and Safety Code and the Federal Food, Drug, and Cosmetic Act, Title 21 U.S.C. 301 et sea.).

## Certificate of Compliance

#### Certificate Requirements

Any person who processes or packages shellfish for sale as food after they have been harvested is classified as a shellfish dealer or shipper and must first obtain a certificate of compliance from the TDH. During the harvest operation, shellfish are placed in bags or other approved containers. Any activity in which the shellfish are removed from the original containers and placed in other containers would fall under the definition of processing or packaging and thus would require a Certificate of Compliance.

#### Certificate Application

In order to obtain a Certificate of Compliance, an application must be submitted to the Shellfish Sanitation Control Division of the TDH. Detailed floor plans and operating procedures of the existing or proposed facility for processing and/or shipping shellfish must also be submitted for review. Following a review of the application for consistency with TDH rules (Texas Molluscan Shellfish Rules), an inspection of the facility by TDH personnel will be conducted. When all regulations have been satisfied, a numbered Certificate of Compliance will be issued to the facility. The certificate will specifically state the activities that the certificate holder is authorized to undertake.

Information and application forms for a Certificate of Compliance may be obtained from the following office:

Shellfish Sanitation Control Division Texas Department of Health 1100 West 49th Street Austin, Texas 78756 (512) 458-7510

## Certificate Review and Coordination

The application for a Certificate of Compliance may also be reviewed by the Texas Department of Agriculture and the Texas Parks and Wildlife Department for compliance with their respective regulations. For example, a Cultured Fish Processing Plant License would be required by the TDA prior to facility operations.

#### Certificate Processing Time Requirements

If the facility is designed and constructed in compliance with TDH guidelines, a certificate can usually be issued within seven days of the plant inspection.

#### Certificate Issuance, Fees, and Terms

A numbered certificate will be issued to a specific facility. No fees are charged.

Certificates of compliance may be issued anytime during the year. However, all certificates expire on August 15 each year and a new application must be submitted to continue operations.

#### Crabmeat-Plant License

#### License Requirements

A Crabmeat-Plant License is required of any person who engages in the processing and packing of crabmeat for sale for human consumption (Section 241.01, Texas Crabmeat Rules, TDH). The TDH rules also cover plant design, construction and operations. Crabmeat plants are classified into the two following major categories for licensing purposes:

- Picking and packing plants
- · Picking, packing and pasteurizing plants

#### License Application

An application must be submitted to the TDH. A detailed floor plan and a complete description of the operating procedures of the plant, including flow of the products must accompany the application.

Information, rules, application forms and instructions may be obtained from the following office:

Shellfish Sanitation Division Texas Department of Health 1100 West 49th Street Austin, Texas 78756 (512) 458-7510

#### License Review and Coordination

Upon receipt of the required application information, a complete review will be conducted by the TDH. An inspection of the plant is required prior to license issuance. Coordination with the Texas Department of Agriculture, the Texas Parks and Wildlife Department, and other government agencies may take place to provide for compliance with their respective regulatory programs.

#### License Processing Time Requirements

If the plant is designed and constructed consistent with TDH guidelines, a license is usually issued within seven days of the plant inspection.

#### License Issuance, Fees and Terms

Upon approval, a numbered license will be issued for a specific plant and represents authorization to operate. No fees are charged. The license expires on the last day of February each year and a new application must be submitted prior to license expiration to continue plant operation.

## Food-Manufacturer Registration

#### Registration Requirements

With the exceptions of shellfish (oysters, clams and mussels) and picked crabmeat, anyone wishing to process aquatic species for sale for human consumption must first be registered as a food manufacturer with the TDH (Texas Health and Safety Code).

In addition, Section 431.222, Texas Health and Safety Code, requires that a food manufacturer must register, annually on or before September 1, each establishment that the manufacturer operates within the state and pay a fee for each establishment.

Manufacture means the process of combining or purifying food and packaging food for sale to the consumer at wholesale or retail (Section 431.222, Health and Safety Code). All food manufacturers in Texas must comply with minimum standards of construction and operation in order to be eligible for registration. Minimum standards are contained in the following:

- Texas Health and Safety Code and the Federal Food, Drug, and Cosmetic, Act Title21# U.S.C. 301 et seq.)
- Current Good Manufacturing Practice in Manufacturing, Processing, Packing, or Holding Human Food, (Code of Federal Regulations, Title 21, Part 110, Sections 110, 3-110.110)

#### Registration Application

Information, rules and registration forms may be obtained from the following office:

Division of Food and Drugs Texas Department of Health 1100 West 49th Street Austin, Texas 78756-3182 (512) 458-7248

A pre-registration inspection of the food-manufacturing facility will be conducted.

#### Registration Review and Coordination

Not Applicable.

#### Registration Processing Time Requirements

If the processing facility is constructed consistent with TDH guidelines and the operating procedures comply with minimum standard, registration is usually completed within seven days of the pre-registration inspection.

## Registration, Fees, and Terms

When all requirements are satisfied and the appropriate fee paid, a registration will be issued to the specific facility. Fees are based on the gross annual dollar volume of the establishment and range from a low of \$25.00 for a gross annual volume of less than \$25,000 up to a maximum of \$500.00 for an establishment with \$5 million or more in volume.

Registrations expire August 31 each year and are renewable by submitting a updated registration form and the appropriate fee.

#### Processing Guidelines

Guidelines for processing and requirements for processing facility design and operations have been prepared by the TDH for shellfish, crabs, catfish and alligators. Guidelines for other specific species will be prepared by TDH as the need arises.

Information on shellfish and crab guidelines may be obtained from the following office:

Shellfish Sanitation Division Texas Department of Health 1100 West 49th Street Austin, Texas 78756 (512) 458-7510

Information on catfish and alligator guidelines may be obtained from the following office:

Food and Drug Division Texas Department of Health 1100 West 49th Street Austin, Texas 78756 (512) 458-7248

#### Regulation of Drugs

Both the TDH and the Federal Food and Drug Administration (FDA) have regulatory authority over the use of drugs in aquaculture operations. Drugs marketed for aquaculture applications must be approved by the FDA. This includes the specific drug, the application rate, and the specific disease or parasite for which the drug may be used as a treatment.

The TDH has the authority to enforce FDA regulations, including the confiscation and/or removal from the market cultured aquatic species that have been rendered unfit for human consumption due to the unapproved use of drugs. It is important that the aquaculturist use only approved drugs and follow the manufacturer's directions. In some cases it may be necessary to delay marketing of the cultured species for a certain period of time following the use of drugs. These "waiting periods" should not be violated. Drugs with waiting periods are retained in the body tissue of cultured species and pose a threat to consumers if eaten while the drugs are present.

Information on drugs currently authorized for use in aquaculture operations may be obtained by contacting the following office:

Food and Drug Division Texas Department of Health 1100 West 49th Street Austin, Texas 78756 (512) 458-7248

## **Texas Animal Health Commission**

## Agency Role and Responsibilities

The Texas Animal Health Commission (TAHC) is responsible for the protection of the public and the state's domestic livestock industry from communicable diseases. This responsibility is carried out through inspection and certification of livestock within the state as well as animals that are imported into the state.

## Regulatory Requirements

## Certification of Veterinary Inspection

The TAHC requires that live animals shipped into the state be free of disease. The Texas Parks and Wildlife Department has primary responsibility for regulating the importation of aquatic animal, fish and shellfish species. Consistent with TAHC regulations, the Texas Parks and Wildlife Department (TPWD) generally requires a "disease free" certification as a condition to a permit for the importation of aquatic species into the state.

The "disease free" determination is called a Certificate of Veterinary Inspection. The certificate is issued by a veterinarian or qualified testing laboratory. Usually the certification is obtained prior to importation. However, in certain cases the animals may be brought into the state and held under controlled conditions while all, or a representative sample, of the aquatic animals are being tested for diseases.

## Certification Application

No application is necessary. Arrangements may be made with a veterinarian or test laboratory to perform the inspection(s).

#### Certification Coordination and Review

Not Applicable.

#### **Certification Processing Time Requirements**

Processing time requirements will range from immediate issuance to several days if laboratory tests are required.

#### Certification Issuance, Fees and Terms

Upon issuance, copies of the certification are distributed as follows:

- One copy to owner or importer
- · One copy to the TAHC
- One copy to the Animal Health Agency in the state in which the animals are located
- One copy is retained by the inspecting veterinarian or laboratory

Fees will depend on the number of animals to be inspected and the tests conducted. There is no term for the certification. It is simply a statement that the animals were inspected and found to be free of disease at the time of the inspection.

# Texas State Historic Preservation Officer and Texas Antiquities Committee

## Agency Role and Responsibilities

The State Historic Preservation Officer (SHPO), acting on behalf of the Texas Historical Commission, and the Texas Antiquities Committee (TAC) are jointly responsible for the protection and preservation of historical and archaeological resources within the state. (National Historic Preservation Act of 1966-SHPO, Section 191.131(b), Texas National Resources Code-TAC). These responsibilities are carried out primarily through review of loans, grants and construction permit applications that propose to undertake land-disturbing activities and potentially impact historical or archaeological resources. Both the SHPO and the TAC have the authority to issue or deny permits for the disturbance of known, or discovered, historic or archaeological resources. Scientific investigations may also be required as a condition of the permit, loan, grant, or in the event of discoveries during construction.

The SHPO has review authority over federal permits, loans and grant applications for construction on public as well as private lands. The TAC's authority also covers lands owned by the state and political subdivisions of the state.

## Application Review Requirements

Applicants for federal or state construction permits are not required to submit separate applications to the SHPO or the TAC. However, the permitting agencies are required to provide an opportunity for review and comment on permit applications and must consider the comments received from the SHPO and the TAC. The National Historic Preservation Act of 1966 directs federal agencies to coordinate with the SHPO. State laws and agency rules require state agency coordination with both the SHPO and the TAC.

The following is a list of federal and state agencies having permitting authority over aquaculture operations that will usually coordinate permit applications with the SHPO and the TAC:

#### Agency

U.S. Corps of Engineers
U.S. Environmental Protection Agency
Texas Parks and Wildlife Department
Soil Conservation Service
Texas General Land Office
Texas Water Commission

## Permit Application

Section 404/10 Permits
NPDES Permits
Sand, Shell, Gravel and Marl Permits

Flood Control Projects

Lease and Easement Applications

Discharge Permits, Water Diversion Permits and Reclamation Engineer Permits

In addition, agencies administering programs that provide financial support for construction projects through loans, loan guarantees or grants must also solicit comments from the SHPO and the TAC.

Information concerning the potential presence of significant historical or archaeological resources on or under a prospective aquaculture site may be obtained by contacting the following office:

Texas Antiquities Committee P.O. Box 12276 Capitol Station Austin, Texas 78711 (512) 463-6098

#### **Application Review Process**

Upon receipt of a project application from a permitting agency, the project location will be reviewed against known or suspected locations of historic or archaeological resources. If it appears that such resources could be destroyed by the proposed activity, a scientific survey may be required prior to construction. In cases where there are no known or suspected historic or archaeological resources in the project vicinity, the SHPO and/or TAC may or may not comment on the application.

#### **Review Time Requirements**

Reviews are usually completed within four to five weeks and do not usually delay permit issuance.

#### Permit Issuance and Fees

The SHPO and TAC have the authority to issue a number of permits. Most of these, however, are issued to scientists and researchers for study purposes. When potentially significant artifacts are discovered during construction activities, which is unlikely, a preliminary investigation of the discovery will be conducted. If the investigation reveals potentially significant resources, the applicant will be required to conduct a detailed survey of the area and a permit for the survey will be issued. Work will be postponed at the specific location during the survey. The survey will be conducted at the applicant's expense.

If the presence of significant historical or archaeological resources is confirmed by the survey, the applicant will be faced with three options:

- Withdraw the application
- Mitigate unavoidable damages
- Relocate or modify a portion of the project to avoid causing damage

Depending upon the situation, relocating or modifying a portion of the project may be the practical and timely alternative.

## **Local Governments**

The permit applications from most federal and state permitting agencies ask for information concerning the status of permits required by local political subdivisions. The aquaculturist's failure to identify and obtain necessary permits and approvals from appropriate local jurisdictions may result in a project delay.

While federal and state agencies are aware of some of the local permitting requirements and will advise the permit applicant, the ultimate responsibility lies with the applicant. It is important, therefore, that the applicant or a representative meet with local officials to describe the project and identify local permitting requirements and regulations. Most of this coordination should be done during the site characterization and evaluation process and prior to development of detailed project design and construction plans.

The following are examples of the types of aquaculture project activities in which local government authorities could require a local permit, assess fees or impose regulations on the project:

Activity	Local/Regional Authorities
Water supply	City, water district, river authority, underground water control districts
Wastewater and solid-waste disposal	Publicly owned water treatment facilities (cities or municipal utility districts), drainage districts, city or county landfill regulations, county septic-tank regula- tions
Land use	City-zoning ordinances
Construction	City or county flood-plain administrator, flood control or levee districts, city construction codes, county construction requirements as a condition of septic tank permits or use of county rights-of-way, city requirements within "extra-territorial jurisdiction," local health authorities
Electrical service	City, river authority, electric power company, rural electric cooperative, municipal utility district

## Glossary

The following definitions are presented to aid the user of this guide to understand the interpreted use of certain terms used by the agencies more easily. It should be noted that while certain terms are identical in spelling, their definitions may differ to some degree depending upon the use of the term by different agencies.

aquatic plant

all plants whose seeds germinate in either the water phase or the substrate of a body of water and which must spend part of their life cycle in water (TPWD).

certificate of compliance

a numbered certificate issued by the Commissioner of the Texas Department of Health only after an inspection of the plant operation has revealed that their rules and regulations have been complied with (TDH).

CG

U.S. Coast Guard

COE

U.S. Army Corps of Engineers

cultured fish

farm-raised fish or shellfish (TPWD, TDA).

culture

the business of producing, propagating, transporting, possessing and selling fish

raised in a private pond (TPWD).

depuration

the removal of contamination by any approved artificially controlled means from

live shellstock (TDH).

**EPA** 

U.S. Environmental Protection Agency

exotic fish species

a nonindigenous fish or shellfish species that is not normally found in the waters

of the state (TDA).

exotic species

a nonindigenous species of fish, shellfish, or aquatic plant not usually found in

public waters (TPWD).

**FDA** 

U.S. Food and Drug Administration

fish farmer

any person engaged in fish farming (TPWD, TDA).

fish farming

the business of producing, propagating, transporting, possessing and selling cultured fish raised in a private pond; but does not include the business of producing, propagating, transplanting, possessing and selling cultured fish propagated

for bait purposes (TPWD, TDA).

fish farm

the property including private ponds from which fish or shellfish are produced,

propagated, transported or sold (TPWD).

**FWS** 

U.S. Fish and Wildlife Service

**GLO** 

Texas General Land Office

indigenous

refers to a species of fish, shellfish or aquatic plant usually found in public waters

of the state.

native fish

all fish documented by the Texas Parks and Wildlife Department to live, spawn or reproduce in Texas public waters and whose first documented occurrence in Texas public waters was not the result of direct or indirect importation by people

(TPWD).

**NMFS** 

National Marine Fisheries Service

**NPDES** 

National Pollution Discharge Elimination System

nonindigenous refers to a species of fish, shellfish or aquatic plant not usually found in public

waters of the state.

owner a fish farmer licensed by the Texas Department of Agriculture (TDA).

private pond a pond, reservoir, vat, or other structure capable of holding cultured fish in

confinement wholly within or on the enclosed land of an owner, lessor or lessee

(TDA).

private pond a pond, reservoir, vat or other structure capable of holding cultured species of

fish, shellfish or aquatic plants in confinement wholly within or on the enclosed

land of an owner, lessor or lessee (TPWD).

public waters bays, estuaries and water of the Gulf of Mexico within the jurisdiction of the state,

and the rivers, streams, creeks, bayous, reservoirs, lakes and portions of those

waters where public access is available without discrimination (TPWD).

the evaluation of all factors having an effect on the sanitary quality of a shellfish growing area, including sources of pollution, the effects of wind, tides and currents in the distribution and dilution of the polluting materials and the

bacteriological quality of the water (TDH).

SCS U.S. Soil Conservation Service

sanitary survey

shellfish all edible species of oysters, clams or mussels, either shucked or in the shells, fresh

or frozen; does not include crabs, shrimp or lobsters (TDH).

shellfish aquatic species of crustaceans and mollusks, including oysters, clams, shrimp,

prawns and crabs of all varieties (TPWD).

shellstock shellfish that remain in their shells (TDH).

SHPO Texas State Historical Preservation Officer

structure any structure, work or improvement constructed on, affixed to, or worked on

state-owned lands including fixed or floating piers, wharfs, docks, jetties, groins, breakwaters, artificial reefs, fences, posts, retaining walls, levees, ramps, cabins, houses, shelters, landfills, excavations, land canals, channels, roads and pipelines

(GLO).

submerged lands any land extending from the boundary between the land of the state and the

littoral owners seaward to the low-water mark on any saltwater lake, bay, inlet, estuary or inland water within the tidewater limits and any land lying beneath the

body of water (GLO).

TAC Texas Antiquities Committee

TAHC Texas Animal Health Commission

TDA Texas Department of Agriculture

TDH Texas Department of Health

TPWD Texas Parks and Wildlife Service

transplanting the moving of shellfish from one growing area to another (TDH).

TWC Texas Water Commission

wetlands areas that are inundated or saturated by surface or groundwater at a frequency

and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar

areas. (EPA, COE).

wetlands areas that have a predominance of hydric soils and that are inundated or

saturated by surface or ground water at a frequency and duration sufficient to

wetlands

support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions; except lands in Alaska identified as having a high potential for agricultural development and a predominance of permafrost soils (SCS).

lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes:

- At least periodically, the land supports predominantly hydrophytes.
- · The substrate is predominantly undrained hydric soil.
- The substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (FWS).

# Harmful or Potentially Harmful Species

## Harmful or Potentially Harmful Exotic Fish

Lampreys

Family: Petromyzontidae

Freshwater Stingrays

Family: Potamotrygonidae

Arapaima

Family: Osteoglossidae

South American Pike, Characoids

Family: Characidae

African Tiger Fishes

Subfamily: Hydrocyninae

Piranhas and Priambebus

Subfamily: Serrasalminae

Rhaphiodontid Characoids

Subfamily: Rhaphiodontinae

Dourados

Subfamily: Bryconinae

South American Tiger Fishes

Family: Erythrinidae

South American Pike Characoids

Family: Ctenolucidae

African Pike Characoids

Families: Hepsetidae

Ichthyboridae

Knifefishes

Family: Gymnotidae

Electric eels

Family: Electrophoridae

Carps and Minnows

Family: Cyprinidae

Walking Catfishes

Family: Clariidae

Electric Catfishes

Family: Malapteruridae

All species except Ichthyomyzon and I. gagei

All species

Arapaima gigas

All species of genus Acestrorhyncus

All species

All species

All species of genera Hydrolycus and Rhaphiodon (synonymoun with Cynodon)

All species of genus Salminus

All species

All species of genera Ctenolucius and Luciocharax

(synonymous with Boulengerella and Hydrocinus

All species

Gymnotus carapo

Electrophorus electricus

All species of genera: Abramis, Aristichthys, Aspius, Aspiolucius, Blicca, Catla, Cirrhina, Ctenopharyngodon,

Elopichthys, Hypophthalmichthys, Leuciscus,

Megalobrama, Mylopharyngodon, Parabramis,

Pseudaspius, Rutilus, Scardinius, Thynnichthys, Tor and the species Barbus tor (synonymous with Barbus

hexoagoniolepis)

All species

All species

South American Parasitic Candiru

Catfishes

Subfamilies: Stegophilinae Vandelliinae

Pike Killifish

Family: Poeciliidae

Marine Stonefishes

Family: Synanceiidae

South American Pike Cichlids

Family: Cichlidae

Tilapia

Family: Cichlidae

Asian Pikeheads

Family: Luciocephalidae

Snakeheads

Family: Channidae

Walleyes

Family: Percidae

Nile perch

Family: Centropomidae

Family: Sciaenidae

All species

Belonesox belizanus

All species

All species of genera Crenicichla and

Batrachops

All species of genus Tilapia (including

Sarotherodon and Oreochromis)

All species

All species

All species of the genus Stizostedion except

Stizostedion vitreum and S. canadense

All species of genera Lates and Luciolates

Cynoscion parvipinnis, C. regalis, and

C. xanthulus

## Harmful or Potentially Harmful Exotic Shellfish

Crayfishes
Family: Astacidae

Mittencrabs

Family: Grapsidae

Asian clam

Family: Corbiculidae

Giant ram's horn snail

Family: Pilidae

Zebra mussel

Family: Dreissenidae

All species of the genus Astacopsis

All species of genus Eriocheir

Corbicula fluminea

Marisa cornuarietus

Dreissena polymorpha

## Harmful or Potentially Harmful Exotic Plants

Giant Duckweed

Family: Lemnaceae

Salvinia

Family: Salviniaceae

Water Fern

Family: Salviniaceae

Waterhyacinth

Family: Pontederiaceae

Waterlettuce

Family: Araceae

Hydrilla

Family: Hydrocharitaceae

Egeria

Family: Hydrocharitaceae

Lagarosiphon

Family: Hydrocharitaceae

Eurasian Watermilfoil

Family: Haloragaceae

Alligatorweed

Family: Amaranthaceae

Rooted Waterhyacinth

Family: Pontederiaceae

Paperbark

Family: Myrtaceae

Torpedograss

Family: Gramineae

Spirodela oligorhiza

Salvinia rotundifolia

Azolla caroliniana

Eichhornia crassipes

Pistia stratiotes

Hydrilla verticillata

Egeria densa

Lagarosiphon major

Myriophyllum spicatum

Alternanthera philoxeroides

Eichhornia azurea

Melaleuca quinquenervia

Panicum repens

## **Additional Resource Contacts**

Dr. James T. Davis
Extension Fisheries Specialist
Department of Wildlife and Fisheries Sciences
Texas A&M University
College Station, Texas 77843-2258
(409) 845-7473

Mike Hightower
Deputy Director, Sea Grant College Program
Program Coordinator,
Marine Advisory Service
Texas A&M University
College Station, Texas 77843-4115
(409) 845-7524

Dr. S.K. (Ken) Johnson Department of Wildlife and Fisheries Sciences Texas A&M University College Station, Texas 77843-2258 (409) 845-5777

Dr. Thomas L. Linton
Department of Wildlife and Fisheries Sciences
Texas A&M University
College Station, Texas 77843-2258
(409) 845-5777

Dr. Joe Lock Department of Wildlife and Fisheries Sciences Texas A&M University College Station, Texas 77843-2258 (409) 845-5777

Dr. Russell J. Miget Marine Fisheries Specialist P. O. Box 158 Port Aransas, Texas 78373 (512) 749-5207

Charles Moss Texas Marine Advisory Service Route 2, 1800 County Road 171 Angleton, Texas 77515 (409) 849-5711, ext. 1564 (409) 265-4261, ext. 1564 Robert Nailon
Texas Marine Advisory Service
Courthouse Annex, 1222 Main Street
P. O. Box 699
Anahuac, Texas 77514
(409) 267-3185
No. 2 Abercrombie Drive
Houston, Texas 77084
(713) 855-5600

Dr. William Neill Professor Department of Wildlife and Fisheries Sciences Texas A&M University College Station, Texas 77843-2258 (409) 845-3648

Tony Reisinger Texas Marine Advisory Service 650 E. Highway 77 San Benito, Texas 78586 (512) 399-0125

Mel C. Russell Texas Marine Advisory Service 5115 Highway 3 Dickinson, Texas 77539 (713) 534-3413 Houston: (713) 337-2575, ext. 196 Galveston: (409) 948-2581, ext. 196

Malon Scogin Texas Marine Advisory Service 1295 Pearl Street Beaumont, Texas 77701 (409) 835-8461

Soil Conservation Service, USDA Box 648 Temple, Texas 76501 (817) 774-1214

State Soil and Water Conservation Board Box 658 Temple, Texas 76501 (817) 773-2250 Dr. Donnie W. Steinbach Extension Program Leader, Wildlife and Fisheries Department of Wildlife and Fisheries Sciences Texas A&M University College Station, Texas 77843-2258 (409) 845-7471

Joe T. Surovik
Texas Marine Advisory Service
P. O. Box 86
Port Lavaca, Texas 77979
(512) 552-9747

Richard Tillman Texas Marine Advisory Service 1202 Navigation Circle Rockport, Texas 78382 (512) 729-7252 Granvil Treece Aquaculture Specialist Sea Grant College Program Texas A&M University College Station, Texas 77843-4115 (409) 845-7524

Willie Younger Texas Marine Advisory Service Room 326 Courthouse Bay City, Texas 77414 (409) 244-7650