

Regulatory Permits and Requirements for Commercial Aquaculture in Virginia

by L.A. Helfrich, G. Libey, D.L. Weigmann, S.A. Smith, and T.R. Buck'

The Purpose

This publication summarizes the permitting process for commercial aquaculture by identifying the types of permits needed, the responsible agencies, and sources for assistance with regulations and with general aquaculture information.

A number of permits from a variety of state and federal regulatory agencies are required for fish farming in Virginia (Table 1). The permits necessary depend on the species of fish reared and the size and location of the prospective enterprise.

Local Governments

Local city and county governments may require business licenses and construction and zoning permits for the development of enterprises such as fish farms. Prospective aquaculturists should contact local officials for permit information concerning land-use restrictions, construction, and erosion control.

Virginia Agencies

Department of Agriculture and Consumer Services

The Virginia Department of Agriculture and Consumer Services (VDACS) is the lead agency for aquaculture development in the state. Although no permit is required by VDACS, this agency is responsible for ensuring that the facilities used to process and package food fish are sanitary and comply with the Food and Drug Administration (FDA) standards. It has the authority to inspect fish processing facilities and products at any time. VDACS also assists in marketing aquaculture products and in animal damage control at fish farms.

Department of Environmental Quality

The Virginia Department of Environmental Quality (VDEQ) has responsibility for controlling water pollution and regulating the development of surface water and groundwater resources. A Virginia Pollutant Discharge Elimination System (VPDES) permit, equivalent to

'At Virginia Tech, L.A. Helfrich and G. Libey are in the Department of Fisheries and Wildlife Sciences; D.L. Weigmann, the Virginia Water Resources Research Center; S.A. Smith, Virginia-Maryland Regional College of Veterinary Medicine; and in Richmond, T.R. Buck, Virginia Department of Agriculture and Consumer Services.

Table 1. Reference guide to regulatory agencies and to permits and inspections required for commercial aquaculture in Virginia.

AGENCIES and CONTACTS	PERMITS
<p>VA Department of Game & Inland Fisheries (VDGIF) P.O. Box 11104 Richmond, VA 23230-1104 Gary Martel (804) 367-1292</p>	<ul style="list-style-type: none"> ❖ Fish Breeding Permit ❖ Exotic/Imported Species ❖ Fish Stocking Permit ❖ Trout Fishing Preserve ❖ Collecting Permit
<p>VA Marine Resources Commission (VMRC) P.O. Box 756 Newport News, VA 23607-0756 Louis Gillingham (804) 247-2243 Bob Grabb (804) 247-2250</p>	<ul style="list-style-type: none"> ❖ Hybrid Striped Bass ❖ Oyster/Clam Lease ❖ Submerged Lands/Permit for Use or Alteration of River Bottoms
<p>VA Department of Environmental Quality (VDEQ) 4900 Cox Rd.; P.O. Box 11143 Richmond, VA 23230 Richard Ayers (804) 527-5059 Terry Wagner (804) 527-5203 Joe Hassel (804) 527-5072 Chet Bigelow (804) 527-5061</p>	<ul style="list-style-type: none"> ❖ Wastewater Discharges ❖ Groundwater Withdrawal ❖ Surface Water Withdrawal ❖ Impoundments, Filling, Dredging, Wetlands
<p>VA Department of Agri. & Consumer Services (VDACS) P.O. Box 1163 Richmond, VA 23209 Art Dell'Aria (804) 786-3520 Martin Lowney (804) 739-7739</p>	<ul style="list-style-type: none"> ❖ Inspection Foodfish Quality ❖ Processing Facilities ❖ Predation at Hatcheries
<p>VA Department of Health (VDH) 1500 E. Main St. Richmond, VA 23219 R.E. Croonenberghs (804) 786-7937</p>	<ul style="list-style-type: none"> ❖ Shellfish & Crustacean Processing Certificate ❖ Bacteriological Testing of Shellfish Growing Areas
<p>U.S. Army Corps of Engineers (Corps) 803 Front St. Norfolk, VA 23510-1096 Alicia Riley (804) 441-7389</p>	<ul style="list-style-type: none"> ❖ Section 10, Alterations & Obstructions in Waterways ❖ 404 Dredging & Filling in Surface Waters and Wetlands
<p>U.S. Food & Drug Administration (FDA) Metro Park North, 7500 Standish Place Rockville, MD 20855 Gary Stefan (301) 295-8769</p>	<ul style="list-style-type: none"> ❖ Approved Drugs, Chemicals & Seafood Additives
<p>U.S. Fish & Wildlife Service (FWS) 8301 Willis Church Rd. Richmond, VA 23231 Don Patterson (804) 771-2481</p>	<ul style="list-style-type: none"> ❖ Predation at Hatcheries by Federally Protected Species

Table 2. A VPDES permit from VDEQ is required for the discharge of pollutants to surface waters in Virginia. It establishes site-specific requirements based on flow rates, water quality characteristics of the receiving waters, and the amounts and types of effluent. Specific operating and permit reporting requirements are determined at the regional level and vary between regions. In general, however, water quality standards for coldwater aquaculture facilities (production > 20,000 pounds of salmonids per year) are as follows:

Parameter	Standards	
	Minimum	Maximum
pH (units)	6.5	9.5
Oxygen (mg/L)	6.6	---
Total Suspended Solids (mg/L)	10.0	15.0
Settleable Solids (mg/L)	0.1	3.0
Total ammonia nitrogen (NH ₃ kg/d)	8.0	30.0
BOD (mg/L)	10.0	---

Permits generally require that these parameters be monitored monthly. Ammonia nitrogen levels (NH₃ kg/d) = flow x 3.787 x mg/L NH₃ average for 5 grabs during a normal operating day. Standards for warm water aquaculture generally are less stringent than those for coldwater aquaculture.

the **National Pollutant Discharge Elimination System (NPDES) permit**, is required for the point-source discharge of wastewater into surface waters (over 30 days/year) from coldwater fish (trout) farms producing more than 20,000 pounds/year (Table 2), and from warm water fish farms producing over 100,000 pounds/year. A **Virginia Pollution Abatement (VPA) permit** may be required for facilities that treat and handle wastewater and discharge it onto land (fields, crops, or forests). The VDEQ also issues a Groundwater Withdrawal Permit which is required for groundwater extraction rates exceeding 300,000 gallons/month in designated Groundwater Management Areas. There are two of these management areas: the Eastern Shore Groundwater Management Area is composed of the counties of Accomac and Northampton and the Southeastern Virginia Groundwater Management Area includes every county south of the York River and its tributaries and east of interstate 95. A Surface Water Withdrawal permit is required for extraction in excess of 300,000 gallons/month in designated Surface Water Management Areas. The VDEQ Virginia Water Protection Permit (VWPP) is required for construction, dredging, impoundments, channeling, and filling in navigable waters and wetlands statewide.

Marine Resources Commission

The Virginia Marine Resources Commission (VMRC) has jurisdiction in navigable waters and wetlands statewide, and for shellfish, crustaceans, and marine fishes, including striped bass. A VMRC Submerged Lands Permit (28.2 1204 -1205) is required for the use of bottoms or overlying waters of navigable streams (nearly all streams and rivers statewide), including alterations, construction, dams, dredging, filling, or other activities.

A VMRC **Hybrid Striped Bass Growers Permit** (Regulation 450-01-0034) is required to grow hybrid striped bass in Virginia. This regulation is intended to prevent the escape and interbreeding of hybrid striped bass with wild striped bass. The VMRC also issues an Oyster/Clam Lease to permit the use of state bottoms for shellfish culture and mariculture. Bacteriological sampling conducted by the VDH must demonstrate no sources of actual or potential sewage contamination (< 14 fecal coliform organisms per 100 milliliters) to prospective shellfish growing grounds on 30 randomly selected occasions over one year. The VMRC has responsibility for requiring and issuing a Commercial Fisherman Registration to harvest shellfish and finfish, a Crab Shedding License to hold crustaceans, a Harvesting Gear License for taking shellfish and finfish, a Buyers License to transport shellfish and finfish, and a Place of Business License (dealers) to sell seafood.

Department of Game and Inland Fisheries

The Virginia Department of Game and Inland Fisheries (VDGIF) has jurisdiction over inland (freshwater) fisheries. A VDGIF permit is required by fish farmers to grow, transport, and sell certain fish species especially trout (Fish Breeders Permit). Please note that it is illegal to catch and sell wild freshwater game fish and mussels. Other VDGIF permits are needed to allow anglers to fish for trout in private fee fishing waters without a sport fishing license (Trout Water Fishing Preserve Permit); to import exotic (non-native) species such as tilapia, grass carp, and the zebra mussel (Exotic Fish Importation & Culture Permit 325-02-27 S12, 325-03-1.5); to stock any species of fish into public waters of the state (Fish Stocking Permit 325-03-1, S6); and to possess any endangered, threatened, or rare species (Endangered Species Collecting Permit 29.1-568, 325-01-1; 325-03-5.5).

Federal Agencies

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Corps) permits are intended to prevent harmful alterations or obstructions in navigable waters. A Section 10 Permit (Rivers and Harbors Act of 1899) is required

to place any structure in navigable waters (nearly all streams and rivers statewide). A Section 404 Permit (Clean Water Act) is required for dredging or placement of fill materials in surface waters. A similar state permit (section 401 certificate; Virginia Water Protection Permit) is required (as a prerequisite) by the Virginia Department of Environmental Quality. Applications made to the VDEQ must include a location map, operational plan, and structural drawings of the planned facilities.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (FWS) is responsible for the protection of federally endangered and threatened species and migratory wildlife, particularly waterfowl and other birds that migrate internationally (Migratory Bird Treaty). At times these protected species (herons, egrets, cormorants, osprey, eagles) prey on fish reared in outside ponds and raceways. A Depredation Permit can be issued by the FWS or by an animal damage control biologist with the U.S. Department of Agriculture (USDA) to control these species at hatcheries where clear and significant economic damage is occurring.

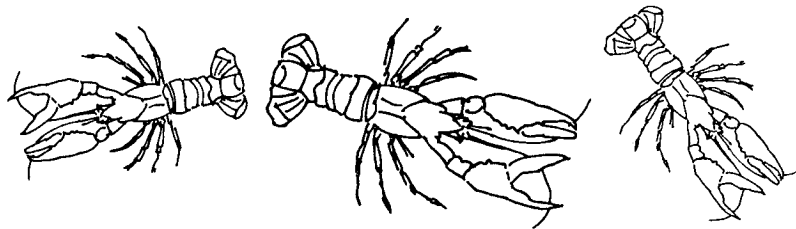
U.S. Food and Drug Administration

The U.S. Food and Drug Administration (FDA) is responsible for public health and safety of seafood and fish products. The FDA restricts the use of certain therapeutic chemicals and drugs on food fish. It has the authority to inspect fish farms and products at any time to ensure that only approved chemicals and drugs are being used.

Summary

The flow chart on page 6 provides a summary of information covered in this publication. Starting on the left of the flow chart, a prospective aquaculturist should view the boxed information as steps to follow when considering a financial investment in fish farming.

Additional information on aquaculture development is available from individuals listed below



AQUACULTURE DEVELOPMENT **INFORMATION**

T. Robins Buck
State Aquaculture Coordinator
Virginia Department of Agriculture
and Consumer Services
P.O. Box 1163
Richmond, VA 23209
(804) 371-6084

Louis A. Helfrich
Fisheries Extension Specialist
152 Cheatham Hall
Virginia Tech
Blacksburg, VA 24061
(540) 231-5059

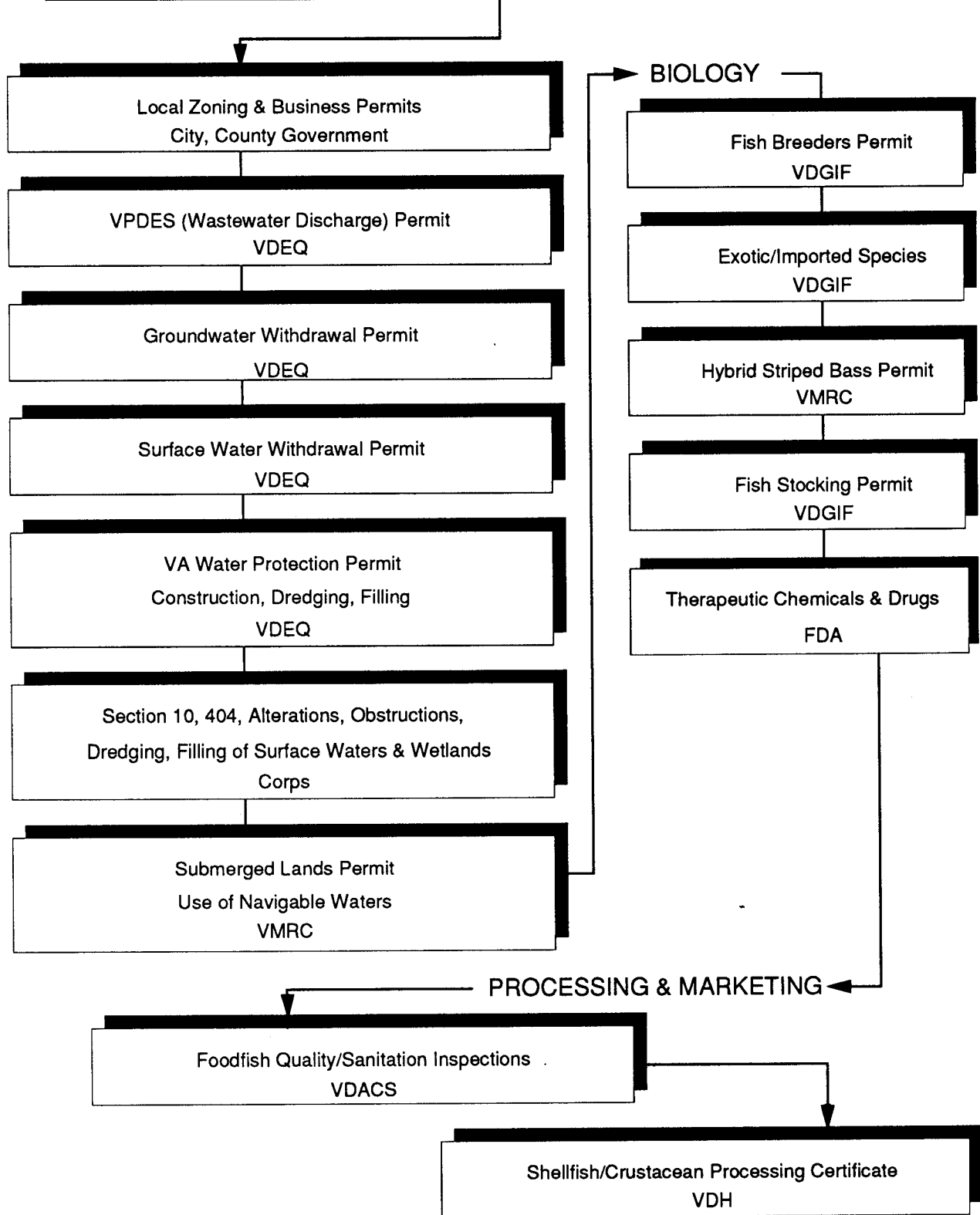
Mike Oesterling
College of William and Mary
Virginia Institute of Marine
Science
Gloucester Point, VA 23062
(804) 642-7165

Brian L. Nerrie
Aquaculture Extension Specialist
Virginia State University
Box 9081
Petersburg, VA 23803
(804) 524-5903

George Flick
Seafood Specialist
Food Science Department
Virginia Tech
Blacksburg, VA 24061
(540) 231-6965

William Scruggs
Permit Assistance
Virginia Department of Agriculture
Consumer Services
P.O. Box 1163
Richmond, VA 23209
(804) 786-3539

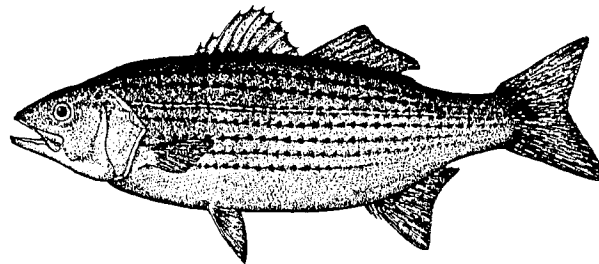
REGULATORY CONSIDERATIONS FOR FISH FARMING



This publication was supported by funds provided in part by the Virginia Department of Agriculture and Consumer Services, the United States Department of the Interior as authorized under the Water Resources Research Act of 1984, P.L. 98-242, and by the Virginia Water Resources Research Center. The Center is a member of the National Institutes for Water Resources.

The authors recognize Lisa J. Mullins for publication design.

A publication of the Virginia Water Resources Research Center,
Virginia Polytechnic Institute and State University.
Diana L. Weigmann, Interim Director



Virginia Tech does not discriminate against employees, students, or applicants on the basis of race, color, sex, sexual orientation, disability, age, veteran status, national origin, religion, or political affiliation. The University is subject to Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, the Age Discrimination in Employment Act, the Vietnam Era Veteran Readjustment Assistance Act of 1974, Federal Executive Order 11246, State Executive Order Number One, and all other rules and regulations that are applicable. Anyone having questions concerning any of these regulations should contact the Equal Opportunity/Affirmative Action Office.