CHAPTER 1
LEGAL AUTHORITY AND REGULATORY BACKGROUND

This section presents background information supporting the development of effluent limitations guidelines and pretreatment standards for the concentrated aquatic animal production (CAAP) point source category. Section 1.1 describes the legal authority to regulate the CAAP industry. Section 1.2 discusses the Clean Water Act specifically; Section 1.3 discusses the Clean Water Act Section 304(m) consent decree; and Section 1.4 discusses the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act of 1996). Section 1.5 discusses regional, state, and municipal regulation of the industry. Section 1.6 discusses the regulatory history of the CAAP industry.

1.1 LEGAL AUTHORITY

EPA promulgates these regulations under the authority of Sections 301, 304, 306, 307, 308, 402, and 501 of the Clean Water Act (CWA) (33 U.S.C. §1311, 1314, 1316, 1317, 1318, 1342, and 1361).

1.2 CLEAN WATER ACT

Congress adopted the CWA to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," (Section 101(a), 33 U.S.C. 1251(a)). To achieve this goal, the CWA prohibits the discharge of pollutants into navigable waters except in compliance with the statute. The CWA establishes restrictions on the types and amounts of pollutants discharged from various industrial, commercial, and municipal sources of wastewater.

Direct dischargers must comply with effluent limitations in National Pollutant Discharge Elimination System (NPDES) permits; indirect dischargers must comply with pretreatment standards. Effluent limitations in NPDES permits are derived on a case-by-case basis using the technology-based standards of the CWA, or are defined from effluent limitations guidelines and new source performance standards promulgated by EPA, as well as from water quality standards. The effluent limitations guidelines and standards are established by regulation for categories of industrial dischargers and are based on the degree of control that can be achieved using various levels of pollution control technology.

Congress recognized that regulating only sources that discharge effluent directly into the Nation's waters would not be sufficient to achieve the goals of the CWA. Consequently, the CWA requires EPA to promulgate nationally applicable pretreatment standards that restrict pollutant discharges from facilities that discharge wastewater indirectly through

sewers flowing to publicly owned treatment works (POTWs), (Section 307(b) and (c), 33 U.S.C. 1317(b) and (c)). National pretreatment standards are established for those pollutants in wastewater from indirect dischargers that might pass through, interfere with, or are otherwise incompatible with POTW operations. Generally, pretreatment standards are designed to ensure that wastewaters from direct and indirect industrial dischargers are subject to similar levels of treatment. In addition, POTWs are required to implement local treatment limits applicable to their industrial indirect dischargers to satisfy any local requirements (Code of Federal Regulations, Title 40 Section 403.5, abbreviated as 40 CFR 403.5).

1.2.1 Best Practicable Control Technology Currently Available (BPT)—Section 304(b)(1) of the CWA

EPA may promulgate BPT effluent limits for conventional, toxic, and non-conventional pollutants. Section 304(a)(4) designates the following pollutants as conventional pollutants: 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), fecal coliform bacteria, pH, and any additional pollutants so defined by the Administrator. The Administrator designated oil and grease as a conventional pollutant on July 30, 1979 (44 FR 44501). The term "toxic pollutant" means those pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction), or physical deformations, in such organisms or their offspring (Clean Water Act, Section 502). EPA currently lists a total of 128 toxic pollutants or "priority pollutants" in 40 CFR Part 122, Appendix D. A non-conventional pollutant is anything not included in the other two categories.

In specifying limits based on BPT, EPA looks at a number of factors. EPA first considers the cost of achieving effluent reductions in relation to the effluent reduction benefits. The Agency also considers the age of the equipment and facilities, the processes employed, engineering aspects of the control technologies, any required process changes, non-water quality environmental impacts (including energy requirements), and such other factors as the Administrator deems appropriate (CWA 304(b)(1)(B)). Traditionally, EPA has established BPT effluent limitations based on the average of the best performances of facilities in the industry, grouped to reflect various ages, sizes, processes, or other common characteristics. Where existing performance is uniformly inadequate, however, EPA may establish limitations based on higher levels of control than those currently in place in an industrial category if the Agency determines that the technology is available in another category or subcategory and can be practically applied.

1.2.2 Best Control Technology for Conventional Pollutants (BCT)—Sec. 304(b)(4) of the CWA

The CWA requires EPA to identify additional levels of effluent reduction for conventional pollutants associated with BCT technology for discharges from existing industrial point sources. In addition to other factors specified in Section 304(b)(4)(B), the

CWA requires that EPA establish BCT limitations after considering a two-part "cost-reasonableness" test. EPA explained its methodology for the development of BCT limitations in July 1986 (51 FR 24974). The first step in determining limits representing applications of BCT is to establish that a BCT option is technologically feasible (defined as providing conventional pollutant control beyond the level of control provided by the application of BPT). If a BCT option is found to be technologically feasible, the Agency applies a two-part BCT cost test to evaluate the "cost-reasonableness" of the BCT option. The BCT cost test consists of a POTW test and an industry cost-effectiveness test. EPA conducts the POTW test by first calculating the cost per pound of conventional pollutant removed by industrial dischargers in upgrading from BPT to a BCT candidate technology. EPA then compares this cost to the POTW benchmark, which is the cost per pound for a POTW to upgrade from secondary to advanced secondary treatment ($0.68/pound in 2003 dollars). EPA calculates the industry cost-effectiveness test by calculating the cost per pound to go from BPT to BCT divided by the cost per pound to go from raw wastewater to BPT for the industry and comparing it to 1.29, which is a 29% increase. If the BCT numbers are higher than either of these benchmarks, then the technology has failed the BCT cost test. The results of these tests, along with other industry-specific factors, are evaluated to determine BCT.

1.2.3 Best Available Technology Economically Achievable (BAT)—Section 304(b)(2)(B) of the CWA

In general, BAT effluent limitations guidelines represent the best economically achievable performance of facilities in the industrial category or subcategory. The CWA establishes BAT as a principal national means of controlling the direct discharge of toxic and non-conventional pollutants. The factors considered in assessing BAT include the cost of achieving BAT effluent reductions, the age of equipment and facilities involved, the process employed, potential process changes, and non-water quality environmental impacts (including energy requirements) and such other factors as the Administrator deems appropriate. The Agency retains considerable discretion in assigning the weight to be accorded these factors. An additional statutory factor considered in setting BAT is economic achievability. Generally, EPA determines economic achievability on the basis of total costs to the industry and the effect of compliance with BAT limitations on overall industry and subcategory financial conditions. As with BPT, where existing performance is uniformly inadequate, BAT may reflect a higher level of performance than is currently being achieved and may be based on technology transferred from a different subcategory or category. BAT may be based on process changes or internal controls, even when these technologies are not common industry practice.

1.2.4 New Source Performance Standards (NSPS)—Section 306 of the CWA

New Source Performance Standards reflect effluent reductions that are achievable based on the best available demonstrated control technology. New facilities have the opportunity to install the best and most efficient production processes and wastewater treatment technologies. As a result, NSPS should represent the most stringent controls attainable through the application of the best available demonstrated control technology for all pollutants (that is, conventional, non-conventional, and priority pollutants). In establishing NSPS, EPA is directed to take into consideration the cost of achieving the

effluent reduction and any non-water quality environmental impacts and energy requirements and to consider a "no discharge" option.

1.2.5 Pretreatment Standards for Existing Sources (PSES)—Section 307(b) of the CWA

Pretreatment Standards for Existing Sources are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of a POTW. Categorical pretreatment standards are technology-based and are analogous to BAT effluent limitations guidelines.

The General Pretreatment Regulations, which set forth the framework for the implementation of categorical pretreatment standards, are in 40 CFR Part 403. These regulations establish pretreatment standards that apply to all nondomestic dischargers (52 FR 1586 (Jan. 14, 1987)).

1.2.6 Pretreatment Standards for New Sources (PSNS)—Section 307(c) of the CWA

Section 307(c) of the Act requires EPA to promulgate pretreatment standards for new sources at the same time it promulgates NSPS. Such pretreatment standards must prevent the discharge into a POTW of any pollutant that might interfere with, pass through, or otherwise be incompatible with the POTW. EPA promulgates categorical pretreatment standards for existing sources based principally on BAT for existing sources. EPA promulgates pretreatment standards for new sources based on best available demonstrated technology for new sources. New indirect dischargers have the opportunity to incorporate into their facilities the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS that it considers in promulgating NSPS.

1.3 SECTION 304 AND CONSENT DECREE

Section 304(m) requires EPA to publish a plan every 2 years that consists of three elements. First, under Section 304(m)(1)(A), EPA is required to establish a schedule for the annual review and revision of existing effluent guidelines in accordance with Section 304(b). Section 304(b) applies to effluent limitations guidelines for direct dischargers and requires EPA to revise such regulations as appropriate. Second, under Section 304(m)(1)(B), EPA must identify categories of sources discharging toxic or non-conventional pollutants for which EPA has not published BAT effluent limitations guidelines under 304(b)(2) or NSPS under Section 306. Finally, under 304(m)(1)(C), EPA must establish a schedule for the promulgation of BAT and NSPS for the categories identified under subparagraph (B) not later than 3 years after being identified in the 304(m) plan. Section 304(m) does not apply to pretreatment standards for indirect dischargers, which EPA promulgates pursuant to Sections 307(b) and 307(c) of the CWA.

On October 30, 1989, Natural Resources Defense Council, Inc. and Public Citizen, Inc. filed an action against EPA in which they alleged, among other things, that EPA had failed to comply with CWA Section 304(m). Plaintiffs (*NRDC, et al v. Leavitt*, D.D.C. Civ. No 89-2980) and EPA agreed to a settlement of that action in a Consent Decree

entered on January 31, 1992. The Consent Decree, which has been modified several times, established a schedule by which EPA is to propose and take final action for four point source categories identified by name in the Consent Decree and for eight other point source categories identified only as new or revised rules, numbered 5 through 12. EPA selected the aquatic animal production (AAP) industry as the subject for New or Revised Rule 12. Under the Decree as modified, the Administrator was required to sign a proposed rule for the aquatic animal production industry by no later than August 14, 2002, and to take final action on that proposal by no later than June 30, 2004.

1.4 REGULATORY FLEXIBILITY ACT (RFA) AS AMENDED BY THE SMALL BUSINESS REGULATORY ENFORCEMENT FAIRNESS ACT OF 1996 (SBREFA)

The RFA generally requires an agency to prepare a regulatory flexibility analysis for any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute, unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For the purpose of assessing the impact of the CAAP effluent limitations guidelines rule on small entities, a *small entity* is defined as (1) a small business based on full-time equivalents (FTEs) or annual revenues established by the Small Business Administration (SBA); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000 people; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. The definitions of *small business* for the AAP industry are provided in SBA's regulations in 13 CFR 121.201. These size standards were updated effective February 22, 2002. SBA size standards for the AAP industry, for North American Industry Classification System (NAICS) codes 112511, 112512, and 112519, define a small business as one with a total amount of revenue of less than $750,000. For the aquarium sector of the AAP industry with NAICS code 712130, a "small business" is defined as one with a total amount of revenue of less than $6 million.

Based on the special tabulation from the 1998 Census of Aquaculture (USDA, 2000) revenue categories (less than $24,999; $25,000 to $49,000; $50,000 to $99,999; $100,000 to $499,999; $500,000 to $999,999; and more than $1 million), EPA identified approximately 4,200 small commercial aquatic animal producers, which represents more than 90% of the total AAP producers. Based on AAP Screener Survey data (Westat, 2002), EPA identified a total of 999 small entities (including 26 small Alaska flow-through facilities that are nonprofits); a total of 344 small entities that met the definition of a CAAP facility; and 48 small entities that were within the scope of the proposed rule (31 flow-through, 12 Alaska, and 5 recirculating). That is, about 95% of the total small entities or 86% of the small CAAP facilities identified in the screener data were not be within the proposed scope. Of the 36 regulated small CAAP facilities that are commercially owned, approximately 17 (which represents 5% of the total small CAAP facilities or 47% of the regulated CAAP facilities) incur compliance costs greater than 1% of aquaculture revenue and 10 small commercial entities (which represent less than

3% of the total small CAAP facilities or 28% of the regulated CAAP facilities) incur compliance costs greater than 3%.

For commercial facilities, EPA assumed that the facility is equivalent to the business. However, because sufficient data were available to determine the parent nonprofit association (and its revenues) for the small Alaska nonprofit facilities, EPA analyzed small entity impacts at the level of the parent association. EPA determined that 12 small Alaska nonprofit facilities within the scope of the proposed rule are owned by 8 small nonprofit associations. Of the six small Alaska nonprofit associations for which EPA had data, three associations incur compliance costs greater than 1% of revenues, and one association incurs compliance costs greater than 3%.

EPA is certifying that the final rule will not have a significant impact on a substantial number of small entitities.

1.5 STATE, REGIONAL, AND MUNICIPAL AQUATIC ANIMAL PRODUCTION REGULATIONS

The Aquaculture Act of 1980 required that a list of regulations and permits affecting the aquaculture industry be compiled. In 1993 the United States Department of Agriculture, Cooperative States Research Service (through the Northeastern Regional Aquaculture Center) contracted with the Maryland Department of Agriculture (MDA) to accomplish this task. The organized network of state aquaculture contacts, the National Association of State Aquaculture Coordinators, was contacted for information regarding aquaculture regulations in their states. The resulting information was compiled into a report, *State/Territory Permits and Regulations Impacting the Aquaculture Industry* (Tetra Tech, 2001), which provides an overview of permits and regulations that affect the aquaculture industry, by individual state or territory, during the time at which the report was prepared. This report is available at http://www.aquanic.org/publicat/state/md/perm1.htm (MDA, 1995).

EPA evaluated *State/Territory Permits and Regulations Impacting the Aquaculture Industry* to analyze existing federal, state, and local effluent regulations related to the CAAP industry. As a part of this evaluation for CAAP facilities, EPA updated the report with readily available information, obtained primarily through Internet research. EPA further delineated the state regulations as those directly related to effluents and discharges (e.g., state NPDES permits); those related to water quality, but indirectly related to discharges (e.g., control of non-native species or pathogens); and those not related to effluents or discharges (e.g., leasing or licensing).

1.5.1 State Regulations

EPA updated *State/Territory Permits and Regulations Impacting the Aquaculture Industry* with information available on-line and through communications with industry representatives (Tetra Tech, 2001). The updated information was compiled in several tables and submitted as a separate memorandum (Tetra Tech, 2001).

1.5.1.1 Regulations Dealing Directly with Effluents and Discharges

EPA found permits and regulations that deal directly with effluents and discharges from CAAP facilities, including NPDES permits; permits and regulations for discharges other than NPDES (injection well, indirect discharge, POTW, sewer, etc.); pesticide regulations; waste handling regulations (sludge application, waste hauling, etc.); and a variety of miscellaneous types of regulations.

National Pollutant Discharge Elimination System Permits

EPA, through its NPDES Program, has set the stage for action by state environmental agencies to regulate effluent discharges from CAAP facilities. A *concentrated aquatic animal production facility* is a hatchery, fish farm, or other facility that contains, grows, or holds aquatic animals in either of the following categories, or that the Director designates as such on a case-by-case basis, and must apply for an NPDES permit:

A. Coldwater fish species or other coldwater aquatic animals including, but not limited to, the Salmonidae family of fish (e.g., trout and salmon) in ponds, raceways, or other similar structures that discharge at least 30 days/year but does *not* include:

    1. Facilities that produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and

    2. Facilities that feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.

B. Warmwater fish species or other warmwater aquatic animals including, but not limited to, the Ameiuridae, Cetrachidae, and the Cyprinidae families of fish (e.g., respectively, catfish, sunfish, and minnows) in ponds, raceways, or similar structures that discharge at least 30 days/year, but does *not* include:

    1. Closed ponds that discharge only during periods of excess runoff; or

    2. Facilities that produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year.

EPA has authorized certain states to issue NPDES permits subject to minimum federal requirements. States that have not received authorization to administer the NPDES program are Alaska, Arizona, Idaho, Massachusetts, New Hampshire, and New Mexico; the remaining 44 states, as well as the U.S. Virgin Islands, have authorization to implement the NPDES program.

Discharges

Eleven states and territories were found to have regulations pertaining to discharges other than NPDES. These are Arkansas, Arizona, California, Guam, Hawaii, Iowa, Massachusetts, New Jersey, Oklahoma, Texas, and Washington. Regulations addressing discharges include city water and sewer municipal permits, industrial wastewater facility permits, waste discharge requirements, and permits for discharging water into injection wells, groundwater, rivers, lakes, or creeks.

Both Arizona and Massachusetts require facilities to obtain a permit before discharging waters into the ground. Several states and territories, including Guam, Hawaii, Iowa, and Texas, require permits to discharge water into an injection well. In Washington any discharger of pollutants causing below-standard water quality must apply for a modification of the state's water quality standards.

Pesticides

A number of states and territories were found to have regulations and permits regarding pesticide use in aquaculture, including Alabama, Arkansas, Connecticut, Delaware, Florida, Guam, Iowa, Kansas, Maryland, Michigan, Minnesota, Pennsylvania, South Carolina, Texas, and West Virginia. These regulations address pesticides and include the following issues: use and application; restrictions; record-keeping; waste collection; storage; labeling requirements; and certification, licensing, and registration.

Waste Handling

Four states have regulations that address waste handling of solids generated from aquaculture facilities: Illinois, Iowa, Maryland, and Minnesota. Waste handling regulations in these states address land application of sludge, disposal of sewage and solid waste, and waste hauling permits.

Illinois, Iowa, and Minnesota all have regulations that specifically address land application of sludge. These regulations require individuals to obtain a permit before applying sludge to land. Standards for application vary by state. Maryland's water supply, sewage disposal, and solid waste permit also addresses sewage sludge, including the collection, handling, burning, storage, treatment, land application, and disposal or transportation of solid waste. Sewage sludge is defined as raw sewage sludge, treated sewage sludge, septage, or any product containing these materials that is either generated or utilized in the state.

Illinois has design and maintenance criteria for runoff field application systems. These criteria, which are not classified as a permit, must be met for any party planning to discharge wastewater into a runoff field application, commonly called a vegetative filter system in Illinois. A special waste hauling permit is also required in Illinois for those individuals hauling processing wastes from aquaculture facilities or processing plants for disposal in landfills.

Miscellaneous Permits and Regulations

The following four states have miscellaneous permits or regulations that are related to effluents and discharges of the CAAP industry:

- Arizona has a regulation that addresses best management practices (BMPs) for animal feeding operations, which include CAAP facilities. The regulation specifically covers aquaculture facilities classified as feeding operations for the purposes of regulating discharge water quality. Arizona defines BMPs as practices that can be used to protect the quality of water discharged from aquaculture facilities.

- Georgia has a regulation specifying agricultural BMPs for protecting water quality. Although agriculture is exempted from the Georgia Erosion and Sedimentation Act, this regulation requires agricultural enterprises, such as fish farms, to conduct activities consistent with BMPs established by the Department of Agriculture. In Georgia, BMPs are management strategies for the control and abatement of nonpoint source pollution resulting from agriculture. If waters of the state are impaired by agricultural activities and there appears to be no immediate solution or mitigation, the Environmental Protection Division resolves the problem as a water quality violation.
- Massachusetts requires a Massachusetts Environmental Policy Act (MEPA) Environmental Notification Form (ENF) for any activity in any saltwater area, or any other area deemed significant (designated anti-degradation areas exist). Submission of the ENF is the first step in the environmental review of a project under the MEPA. The ENF requires the project proponent to answer specific questions regarding the likely environmental impacts of the proposed project. The ENF is submitted to the MEPA Office of the Massachusetts Executive Office of Environmental Affairs (EOEA), which determines if the likely impacts require the submission of an Environmental Impact Report (EIR). The public is encouraged to provide written comments as part of this review process. The findings of the Secretary of EOEA are written in the form of a certificate.
- Montana provides a short-term exemption from the state's surface water quality standards (3A Authorization). This authorization, which must be obtained prior to initiating a project, concerns any activity in any state water that will cause unavoidable violations of water quality standards. Authorization may be obtained from the Water Quality Bureau, or may be waived by the Department of Fish, Wildlife, and Parks during its review process. This authorization extends to aquaculture facilities.

1.5.1.2 Regulations Dealing Indirectly with Effluents and Discharges

EPA found aquaculture regulations indirectly related to effluents and discharge. These types of regulations include construction storm water permits, disease control and protection of fish and wildlife health, non-native species, water supply, and other types of regulations.

Construction and Storm Water

Eleven states and territories have regulations or permits that address construction and storm water runoff controls: Alabama, Delaware, Guam, Illinois, Maryland, Michigan, New Jersey, Puerto Rico, South Carolina, Vermont, and Washington. Types of permits and regulations addressed by these states and territories include construction storm water permits, erosion and sedimentation control permits, clearing and grading permits, excavation permits, storm water management and sediment reduction permits, permits for dam or pond construction or enlargement, approval for hydraulic projects, and regulations regarding extraction of materials from the earth's crust. These types of permits and regulations seek to limit environmental impacts caused by construction and earthmoving activities, such as erosion, increased water turbidity, water temperature effects, and negative impacts on aquatic life. The storm water permits and regulations are

intended to help reduce the water quantity and quality impacts associated with sites during and after construction.

Disease Control and Protection of Fish and Wildlife Health

Sixteen states or territories have regulations or permits related to disease control or protection of fish and wildlife health: Alabama, Alaska, Arizona, Arkansas, Connecticut, Delaware, Michigan, Minnesota, Missouri, Montana, North Dakota, Nevada, South Dakota, Washington, West Virginia, and Wisconsin. Regulations or permits in this category include those that address disease control, fish importation precautions, inspection and certification of facilities and fish, and methods for proper handling, processing, and transporting of fish. Connecticut has a regulation that sets standards for shellfish depositing in tidal waters when the shellfish were imported from outside the state.

Non-native Species

EPA found 22 states and territories that have reported having regulations or permits dealing with importation or possession of non-native species: Alabama, Arizona, California, Colorado, Connecticut, Florida, Guam, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, Ohio, South Carolina, Tennessee, Texas, Virginia, and Wisconsin. Types of permits and regulations dealing with non-native species include stocking licenses, general importation permits for aquatic species and plants, and restrictions on possession, sale, importation, transportation, and release of non-native species. Some states have special importation permits regarding specific species of aquatic animals such as grass carp (or white amur), crawfish, piranha, and rudd.

Water Supply

Regulations and permits related to water supply address water diversion, water allocation and appropriation, water well construction and drilling, water withdrawal and storage, dam construction or alteration, and use of ground, stream, or surface waters. States and territories with these types of regulations and permits include Alabama, Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Guam, Hawaii, Idaho, Illinois, Iowa, Kansas, Maryland, Massachusetts, Michigan, Minnesota, Montana, Oklahoma, Puerto Rico, South Carolina, Texas, Virginia, Washington, and Wyoming. These regulations are important to the aquaculture industry because water supply is an essential component for aquaculture facilities to be able to operate. Water supply is a major concern in many parts of the United States, especially in arid regions.

Two notable water supply regulations are being used in Florida and Georgia. Florida's environmental resource permit is a comprehensive regulatory program that covers any activity that might alter surface water flows. The permit also involves an evaluation of the effects the activity will have on flooding, storm water, and environmental factors such as water quality, wildlife, and habitats of wetlands and water-dependent species. Georgia's regulation regarding approval to impound or discharge in trout waters does not allow any person to construct an impoundment on primary or secondary trout waters without approval from the Environmental Protection Division. This regulation also

restricts temperature elevations that might be caused by impoundments in both primary and secondary trout waters.

Miscellaneous Permits and Regulations

Twelve states and territories have miscellaneous regulations and permits indirectly related to effluents and discharge: California, Delaware, Florida, Hawaii, Illinois, Maryland, Minnesota, Montana, New York, Puerto Rico, Rhode Island, and Wisconsin. The regulations and permits in this category address several areas that are indirectly related to effluents and discharge, and they include the following:

- California has a streambed alteration agreement that is used to avoid or mitigate any adverse impacts on fish and wildlife resources caused by a project.
- Delaware requires an application for drainage of lands by tax ditches. This application is needed for water management and flood prevention on lands subject to overflow. Owners of land desiring drainage or protection from flooding may petition for the formation of a tax ditch to the Superior Court of the county in which all or a major portion of area to be drained or protected is located.
- Florida requires a general permit for the installation and maintenance of intake and/or discharge pipes associated with marine bivalve facilities.
- In Hawaii, a conservation district use application is required prior to undertaking any proposed use (aquafarming) of lands within the conservation district. The conservation district encompasses large areas of mountain and shoreline lands, areas necessary to protect watersheds, all submerged ocean lands, and most ancient fish ponds. Hawaii also requires zone of mixing approval for aquaculture effluent discharge into certain coastal waters. This application is made concurrently with NPDES.
- Illinois requires a construction permit for anyone constructing a new, or modifying an existing, emission source or installing any new air pollution control equipment. Anyone operating an existing emission source or air pollution control equipment must first obtain an operating permit.
- In Maryland, approval is required for all state and local agency-sponsored activities or programs affecting the critical area (1,000 feet from the mean high water line of tidal waters or the landward side of tidal wetlands).
- Minnesota requires a permit for all aeration systems installed and operated in protected waters. A private fish farm or hatchery license may contain authorization for the operation of aeration systems on protected waters without public access if the licensee owns all riparian land or all of the possessory rights to the riparian lands. A private hatchery or fish farm license application requesting authorization for an aeration system operation is subject to the same review as the aeration permit application.
- In Montana, the Flood Plain and Floodway Management Act addresses new construction in floodplains. Montana also has a stream protection permit that addresses any project, including the construction of new facilities or the modification, operation, and maintenance of an existing facility that might affect

the natural existing shape and form of any stream or its banks and tributaries. Montana's streambed and land preservation permit addresses any activity that physically alters or modifies the bed and banks of a stream.

- New York's State Environmental Quality Review (SEQR) Act does not require permits, but rather establishes a process to help the government and the public protect and improve the environment by ensuring that environmental factors are considered along with social and economic considerations in government decision-making. SEQR applies to any state, regional, or local government agency approving, undertaking, or funding a privately or publicly sponsored action. Applicants seeking project approval or funding may be required to prepare an environmental impact statement.
- Puerto Rico requires environmental impact statements for projects that might adversely affect the environment.
- In Rhode Island, a coastal resources assent or application is required for any alteration or aquaculture use activities in coastal waterways. The application is reviewed for approval, and application fees are required.
- In Wisconsin, barriers are required for the body of water used as a fish farm or part of a fish farm to prevent the passage of fish between the farm and other waters of the state.

1.5.1.3 Regulations Addressing All Other Types of Aquaculture-Related Activities

EPA found other types of aquaculture-related permits and regulations, including animal possession, licensing and permitting of CAAP activities, processing, inspection, depuration, leasing, taxes, and a number of miscellaneous regulations and permits.

Possession

Regulations and permits included in the possession category include stocking, propagating, cultivating, transporting, transferring, harvesting, taking, trapping, collecting, selling, trading, wet storage, and purchasing. Thirty states have regulations and permits involving the possession of animals for aquaculture-related activities: Alabama, Alaska, Arizona, California, Connecticut, Delaware, Florida, Georgia, Idaho, Iowa, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, New Jersey, Nevada, New York, Ohio, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, and Wisconsin.

Licensing and Permitting

Forty states and territories have several licensing and permitting regulations or permits associated with aquaculture: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Guam, Idaho, Illinois, Indiana, Iowa, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, Nevada, New Hampshire, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming. Regulations and permits included in this category address the actual licensing and permitting of facilities for conducting aquaculture activities. This category also contains fish and bait dealer licenses, general

permits, marketing permits, permits that cover all aquaculture-related activities, and permits, certificates, or licenses for fee-fishing, boat use, registration of aquaculture operations, and education and research institutional needs.

Processing

Fifteen states have aquaculture-related processing regulations: Arizona, Arkansas, California, Connecticut, Florida, Georgia, Michigan, Minnesota, New Jersey, New York, Oklahoma, Pennsylvania, South Carolina, Texas, and West Virginia. Regulations or permits included in the processing category specifically address requirements for processing of aquatic animals and products, including licenses for purchasing, packing, repacking, shipping, reshipping, shucking, culling, and selling.

Inspection

Arizona requires inspection and certification of aquaculture facilities. Facilities are periodically inspected to ensure compliance with all laws related to aquaculture and to ensure that facilities are disease-free.

Depuration

Two states have regulations or permits that specifically address depuration, which is the purging of contaminants from shellfish. In Connecticut a shellfish depuration license is required for the operation of a depuration plant and the sale of processed shellfish. Florida requires a special activity license for depuration of oysters and clams in controlled purification facilities.

Leasing

Thirteen states have regulations or permits regarding leasing of submerged public land: Alaska, California, Connecticut, Delaware, Florida, Louisiana, Maine, New Jersey, North Carolina, Rhode Island, Texas, Virginia, and Washington. Most of the leasing regulations or permits address leasing of state or publicly owned tidal or subtidal ocean water bottoms for shellfish or oyster operations. In North Carolina, a lease is required for the use of an entire water column for the private production of shellfish.

Taxes

Three states have regulations or permits addressing aquaculture-related taxes. Alabama and Arkansas both require a city privilege tax for businesses inside city limits. Some cities even have specific permits for fish markets, which would otherwise be covered by a general permit. Arkansas also requires a sales and use tax permit. Any business that provides a service or merchandise must pay a deposit of $250 to receive a sales and use tax permit. A refund is granted within 6 months if that business or its sales outlets do not charge sales tax to its customers. Also included in the taxes category are Pennsylvania's sales tax and capital stock franchise tax regulations.

Miscellaneous Permits and Regulations

Twenty-four states and territories have miscellaneous regulations and permits that are related to other CAAP activities: Alabama, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Illinois, Indiana, Michigan, Mississippi, New York, Oregon, Puerto

Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Virginia, Washington, West Virginia, Wisconsin, and Wyoming. Regulations and permits in this category address a variety of subjects and include the following:

- In Alabama, regulations cover procedures and guidelines for dealing with nuisance alligators.
- Arkansas requires a feed license for anyone who manufactures or distributes commercial feed or has their name appear on the label as a commercial feed guarantor.
- California's shellfish safety regulations cover requirements for the safe handling of shellfish. California also requires a weighmaster license for weighing, measuring, or counting any commodity and for issuing a statement used as the basis for either the purchase or the sale of that commodity or charge for service.
- Colorado requires a private easement for erecting intake/discharge structures and for dredging and filling on state-owned submerged lands.
- In Connecticut, shellfish safety regulations provide requirements for the safe handling of shellfish. Connecticut also requires shellfish transplant licenses for both the short and long term. These transplant licenses are required to relay oysters from prohibited areas into private shellfish beds in approved areas.
- Delaware requires a subaqueous lands permit, without which a person may not deposit material upon, extract material from, construct, modify, repair, reconstruct, or occupy any structure or facility on submerged lands or tidelands.
- Florida requires a special activity license for any person to use gear or equipment not authorized by the Fish and Wildlife Conservation Commission for harvesting saltwater species. Florida also requires a private easement for erecting any intake or discharge structures and for dredging and filling on state-owned submerged lands.
- Illinois requires a license for disposing of dead animals and a permit for removing undesirable fish from state waters.
- In Indiana, all manufacturers and wholesale distributors of food (excluding meat, poultry, and dairy products) must apply for a registration of business.
- In Michigan, regulations cover proper procedures for dealing with the bodies of dead animals, including composting of dead fish from aquaculture activities.
- Mississippi requires that all tilapia products offered for direct sale for human consumption have the product name specifically labeled in the manner described by the state's regulations.
- In New York, regulations control any new or expanded land use and development that is defined as a Class A or B regional project. New York also requires fish tags for identifying hatchery-raised fish and permits to install a fish screen and to remove or transfer fish.
- Oregon has numerous overlapping permits and state government regulatory permits for the kinds of aquaculture permitted in the state. To begin the permitting

process, an applicant should first contact the Oregon Department of Fish and Wildlife.

- Puerto Rico was vague in describing its specific aquaculture regulations, indicating that it has zoning and building regulations pertaining to aquaculture.
- Rhode Island may require the execution of a bond by the permittee to ensure the permittee's performance of all conditions of the permit and, in the event of failure to perform, to ensure the removal of aquaculture apparatus from the waters of the state.
- In South Carolina, harvesting equipment permits are required to use dredges, hydraulic escalators, patent tongs, or any other mechanically operated device for taking shellfish from any bottom. South Carolina also requires a license for using powerboats or other vessels equipped with commercial fishing equipment for taking shellfish.
- South Dakota's regulation on contract commercial fishing for rough and bullheads covers the bond required and activities such as supervision, equipment tagging, sale and transportation of fish, and deposition of game fish taken.
- In Tennessee, an animal damage permit is required for any person, company, or other entity desiring to destroy, or otherwise control, nuisance wildlife and charge a fee for such services.
- Texas requires shell dredging permits for all shell dredging in state-owned submerged tidelands. Aquaculture producers may be subject to other permits, licenses, or approvals.
- Virginia's food quality sanitation regulations govern the inspection of food manufacturers, warehouses and retail food stores, food product sampling, and food product label review.
- In Washington, regulations cover the identification requirements for products cultivated by aquatic farmers. Washington also has shellfish certification regulations, which cover shellfish sanitation and practices, including certificate of compliance, certificates of approval for shellfish growing areas, and certificates for culling, shucking, and packing facilities.
- All places in West Virginia that tender to the public any item for human consumption need a permit for water well installations and on-site sewage system installations.
- Wisconsin's permit for private management allows a person who owns all of the land bordering a navigable lake that is completely landlocked to remove, destroy, or introduce fish. Wisconsin also has a permit that allows a person to use a natural body of water for a fish farm.
- In Wyoming, food safety regulations cover good manufacturing practice labeling. Wyoming also requires a mining permit for removal of solid minerals from the earth for commercial purposes including some forms of aquatic animal production.

1.5.2 Federal Regulations

EPA evaluated other federal statutes and regulations that might affect the CAAP industry (Tetra Tech, 2001). The following federal statutes and regulations address a variety of areas that might apply to CAAP facilities:

- *Section 404 of the Federal Water Pollution Control Act of 1972 as amended by the Clean Water Act of 1977 and the Water Quality Act of 1987*: Section 404 deals with permits for dredged and filled sites. More specifically, Section 404 establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry.
- *Federal Coastal Zone Management Act of 1972, as amended*: The Coastal Zone Management Act (CZMA) deals with proposed federal activities affecting a state's coastal zone. Activities include direct federal agency actions, federal licenses and permits, and financial assistance to state and local governments. The requirements of CZMA apply to all states in the "coastal zone," including parts of the Great Lakes.
- *Section 10 of the Rivers and Harbors Act (RHA) of 1899*: Section 10 states that the creation of any obstruction not affirmatively authorized by Congress to the navigable capacity of any of the waters of the United States is prohibited.
- *Federal Standard Sanitation Standards for Fish Plants*: This regulation describes an optional Quality Assurance Inspection in which U.S. Department of Commerce inspectors will, upon request, inspect processing plants and facilities, and grade aquaculture products for quality assurance (50 CFR Part 260).
- *Endangered Species Act of 1973*: This statute deals with any activity that might affect endangered or threatened species or their habitat.
- *Lacey Act Amendments of 1981*: Under this law, it is unlawful to import, export, sell, acquire, or purchase fish, wildlife, or plants taken, possessed, transported, or sold (1) in violation of U.S. or Indian law or (2) in interstate or foreign commerce involving any fish, wildlife, or plants taken, possessed, or sold in violation of state or foreign law.
- *Migratory Bird Treaty Act*: The Migratory Bird Treaty Act regulates the use of lethal control methods on migratory birds, which are causing aquaculture crop losses. USFWS issues permits for the control of these migratory birds.
- *Wild and Scenic Rivers Act*: Permits issued under the wild, scenic, and recreational rivers systems program are intended to control land use and development along river corridors specifically designated under the system and to protect and preserve the river qualities that qualified the particular rivers

designated under the system. This program is jointly managed by the USFWS and any other agency that might hold title to involved lands.

- *Section 106 of the National Historic Preservation Act of 1966, as amended through 1992*: The head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any state and the head of any federal department or independent agency having authority to license any undertaking must, prior to the approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.

1.6 REGULATORY HISTORY OF THE CONCENTRATED AQUATIC ANIMAL PRODUCTION INDUSTRY

Until the current regulation, EPA had not proposed effluent limitations guidelines and standards for the concentrated aquatic animal production industry. In the early 1970s, however, EPA staff did evaluate fish hatcheries and fish farms to develop recommendations on whether the Agency should propose effluent guidelines in conjunction with the evaluation. Ultimately, EPA did not propose any such regulations because the 1977 Clean Water Act amendments had refocused the Agency's attention on establishing effluent limitations guidelines for industry sectors with effluents containing toxic metals and organics. EPA's evaluation of fish hatcheries and farms did not reveal significant contributions of toxic metals or organic chemical compounds in the wastes discharged from those facilities. That draft development document, however, did assist NPDES permit writers in the exercise of their "best professional judgment" to develop permits for those fish hatcheries and farms that were considered "concentrated aquatic animal production facilities" and thus were required to apply for NPDES permits under EPA regulations.

EPA actions to regulate concentrated aquatic animal production facilities under the NPDES permitting program date back to 1973, when the Agency proposed and promulgated NPDES permit application rules for CAAP facilities (38 FR 10960 (May 3, 1973) (proposed); 38 FR 18000 (July 5, 1973)). After some litigation over the NPDES regulations, EPA proposed and took final action to reestablish the CAAP facility requirements (*NRDC* v. *Costle*, 568 F.2d 1369 (D.C. Cir. 1977); 43 FR 37078 (Aug. 21, 1978); 44 FR 32854 (June 7, 1979)). To date, the 1979 version of the regulations has not substantively changed since then.

The NPDES regulations specify the applicability of the NPDES permit requirement to a concentrated aquatic animal production facility, the definition of which can be found in 40 CFR 122.24 and Appendix C to Part 122. To be a CAAP facility, the facility must either meet the criteria in 40 CFR Appendix C or be designated on a case-by-case basis (40 CFR 122.24(b)). A hatchery, fish farm, or other facility is a CAAP facility if it contains, grows, or holds aquatic animals in either of two categories: coldwater species or warmwater species. The coldwater species CAAP facilities must discharge at least 30 days per year; however, facilities that produce less than 9,090 harvest weight kilograms

(approximately 20,000 pounds) per year and facilities that feed less than 2,272 kilograms (approximately 5,000 pounds) during the calendar month of maximum feeding are not defined as CAAP facilities. The warmwater CAAP facilities must discharge at least 30 days/year, but closed ponds that discharge only during periods of excess runoff or facilities that produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) per year are not defined as CAAP facilities (40 CFR 122 Appendix C).

1.7 REFERENCES

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