

CHAPTER 2

SUMMARY OF SCOPE AND PROPOSED REGULATION

This chapter presents a summary of the proposed rule for the concentrated aquatic animal production (CAAP) industry. The proposed rule includes effluent limitations guidelines (ELGs) based on treatment technologies or best management practices (BMPs) for the control of pollutants. Section 2.2 summarizes and discusses the applicability of the National Pollutant Discharge Elimination System (NPDES) regulations, and Section 2.3 summarizes and discusses the applicability of the proposed effluent limitations guidelines and standards for the CAAP industry.

2.1 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

The NPDES regulations specify the applicability of the NPDES permit requirement to a concentrated aquatic animal production facility in 40 CFR 122.24 and Appendix C to Part 122. To be a concentrated aquatic animal production facility, the facility must either meet the criteria in 40 CFR Part 122 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 concentrated aquatic animal production facility if it contains, grows, or holds, aquatic animals in either of two categories (40 CFR Appendix C to Part 122):

The **coldwater** species category includes ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include: facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) per year; and facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) during the calendar month of maximum feeding. *Coldwater aquatic animals* include, but are not limited to, the Salmonidae family of fish; e.g., trout and salmon.

The **warmwater** category includes ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include: closed ponds which discharge only during periods of excess runoff; or facilities which produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) per year. *Warmwater aquatic animals* include, but are not limited to, the Ameiuride, Centrarchidae, and Cyprinidae families of fish; e.g., respectively catfish, sunfish, and minnows.

EPA does not propose to revise the NPDES regulation.

2.2 EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS

The proposed effluent limitations guidelines and standards regulations would establish the Best Practicable Control Technology Currently Available (BPT), Best Control Technology for Conventional Pollutants (BCT), and Best Available Technology Economically Achievable (BAT) limitations, as well as New Source Performance Standards (NSPS). EPA does not propose any pretreatment standards for this industry. The indirect dischargers would discharge mainly total suspended solids (TSS) and biochemical oxygen demand (BOD), which the publicly owned treatment works (POTWs) are designed to treat. In addition, the nutrients discharged from CAAP facilities that might pass through the POTW are at concentrations similar to nutrient concentrations in human wastes discharged to POTWs. The options EPA considered do not directly treat for nutrients, but nutrients are incidentally removed through the control of TSS. EPA believes that the POTW removals of TSS would achieve nutrient removals equivalent to those obtained by the options considered for this proposed rulemaking and therefore concludes there would be no pass through of pollutant amounts necessitating regulation.

2.2.1 Regulatory Implementation of Part 451 Through the NPDES Permit Program and the National Pretreatment Program

Under Sections 301, 304, 306, and 307, of the Clean Water Act (CWA), EPA promulgates national effluent limitations guidelines and standards of performance for major industrial categories for three classes of pollutants: (1) conventional pollutants (i.e., total suspended solids, oil and grease, biochemical oxygen demand, fecal coliforms, and pH); (2) toxic pollutants (e.g., toxic metals such as chromium, lead, nickel, and zinc; toxic organic pollutants such as benzene, benzo-*a*-pyrene, phenol, and naphthalene); and (3) non-conventional pollutants (e.g., ammonia, formaldehyde, and phosphorus).

EPA considers development of six types of effluent limitations guidelines and standards for each major industrial category, as appropriate:

<u>Abbreviation</u>	<u>Effluent Limitation Guideline or Standard</u>
BPT	Best Practicable Control Technology Currently Available
BAT	Best Available Technology Economically Achievable
BCT	Best Control Technology for Conventional Pollutants
NSPS	New Source Performance Standards
PSES	Pretreatment Standards for Existing Sources
PSNS	Pretreatment Standards for New Sources

The effluent limitations guidelines and new source performance standards apply to industrial facilities with direct discharges to navigable waters. Pretreatment standards apply to industrial facilities with wastewater discharges to POTWs. As noted above, EPA has not proposed categorized pretreatment standards for the CAAP industrial category.

2.2.1.1 NPDES Permit Program

Section 402 of the CWA establishes the NPDES permit program. The NPDES permit program is designed to limit the discharge of pollutants into navigable waters of the United States through a combination of various requirements, including technology-based and water quality-based effluent limitations. This proposed regulation contains the technology-based effluent limitations guidelines and standards applicable to the concentrated aquatic animal production industry to be used by permit writers to derive NPDES permit technology-based effluent limitations. Water quality-based effluent limitations are based on receiving water characteristics and ambient water quality standards, including designated water uses. They are derived independently from the technology-based effluent limitations set out in this proposed regulation. The CWA requires that NPDES permits must contain, for a given discharge, the more stringent of the applicable technology-based or water quality-based effluent limitations for any given pollutant of concern.

Section 402(a)(1) of the CWA provides that in the absence of promulgated effluent limitations guidelines or standards, the Administrator, or her designee, may establish technology-based effluent limitations for specific dischargers on a case-by-case basis. Federal NPDES permit regulations provide that these limits may be established using “best professional judgment” (BPJ) taking into account any proposed effluent limitations guidelines and standards and other relevant scientific, technical, and economic information, as well as the statutory technology-based standards of control.

Section 301 of the CWA requires that BAT effluent limitations for toxic pollutants are to have been achieved as expeditiously as possible, but not later than 3 years from the date of promulgation of such limitations and in no case later than March 31, 1989. (See § 301(b)(2).) Because the proposed 40 CFR Part 451 regulations would be promulgated after March 31, 1989, NPDES permit effluent limitations based on the effluent limitations guidelines would need to be included in the next NPDES permit issued after promulgation of the regulation, and the permit would need to require compliance effective upon issuance.

2.2.1.2 New Source Performance Standards

New sources would need to comply with the new source performance standards and limitations of the CAAP rule (once it is finalized) at the time such sources commence discharging CAAP process wastewater. Because the final rule is not expected to be promulgated within 120 days of the proposed rule, the Agency would consider a discharger to be a new source if construction of the source begins after promulgation of the final rule. EPA expects to take final action on this proposal in June 2004.

2.2.1.3 Pollutants in Intake Water (Net Limitations)

The TSS limitations being proposed are based on the implementation of production management controls and wastewater treatment. Depending on the quality of the intake water and the specific needs and tolerance of the species being raised, some facilities might or might not currently employ pretreatment of intake waters prior to their use in the production systems. EPA does not intend that the proposed limits would force facilities that otherwise would not pretreat their intake waters to do so. EPA is proposing to apply the TSS limitations on a net basis, such that the TSS content of the intake waters would

be subtracted from the TSS content of the effluent in determining compliance with any such final TSS limitation. This credit for intake water pollutant content is consistent with the provisions of 40 CFR 122.45(g) and more closely reflects the ability of controls and treatment to minimize the addition of TSS by the production systems. EPA solicits comment on whether facilities that pretreat intake waters in order to sustain the growth of aquatic organisms should base the net calculations on the content of the intake waters subsequent to that pretreatment, but prior to use in the production system.

2.2.1.4 National Pretreatment Standards

The national pretreatment standards at 40 CFR Part 403 have three principal objectives: (1) to prevent the introduction of pollutants into publicly owned treatment works (POTWs) that will interfere with POTW operations including use or disposal of municipal sludge; (2) to prevent the introduction of pollutants into POTWs which will pass through the treatment works or will otherwise be incompatible with the treatment works; and (3) to improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

The national pretreatment and categorical standards comprise a series of prohibited discharges to prevent the discharge of “any pollutant(s) which cause Pass Through or Interference.” (See 40 CFR 403.5(a)(1).) Local control authorities are required to implement the national pretreatment program including application of the federal categorical pretreatment standards to their industrial users that are subject to such categorical pretreatment standards, as well as any pretreatment standards derived locally (i.e., local limits) that are more restrictive than the federal standards. This proposed regulation would not establish federal categorical pretreatment standards (PSES and PSNS) applicable to concentrated aquatic animal production facilities that would be regulated by 40 CFR Part 451.

2.2.2 Applicability of the Proposed Rule

EPA has proposed subcategorization of the CAAP point source category based on production system type. See Chapter 5 for a discussion on subcategorization. The proposed subcategories are listed in Table 2.2-1. The proposal would apply to facilities that annually produce more than 100,000 lb of aquatic animals in three types of production systems: recirculating, flow-through, and net pens. EPA did not propose regulations for pond systems because of the minimal pollutant discharges and because the pond itself acts as an effective treatment system.

EPA established general reporting requirements (§ 451.3) for the use of drugs and chemicals that are investigational new animal drugs and any drugs and chemicals not used according to the label. Flow-through system facilities that produce less than 475,000 lb per year would be exempt from the general reporting requirements for drugs and chemicals.

Table 2.2-1. Applicability of Proposed Rule to CAAP Subcategories

<i>System Type or Subcategory</i>	<i>Annual Production (lb)</i>		
	<i><100,000 (Small)</i>	<i>100,000 to 475,000 (Medium)</i>	<i>>475,000 (Large)</i>
Pond	Exempt	Exempt	Exempt
Flow-through	Exempt	451.3(a), (b) 451.4 451.11(b), (c) 451.12–14 451.15(b)–(d)	451.3(a), (b) 451.4 451.11(a) 451.12-15
Recirculating	Exempt	451.3(a), (b) 451.4 451.2–	451.3(a), (b) 451.4 451.2–
Net pen	Exempt	451.3– 451.3(a), (b)	451.3– 451.3(a), (b)

The permittee would need to notify the permitting authority of the addition directly to an aquatic animal production facility (subject to this Part) of any investigational new animal drug (i.e., a drug for which there is a valid exemption in effect under 512(j) of the Federal Food, Drug, and Cosmetic Act, 21.U.S.C. 360b(j)) and any drug that is not used according to label requirements, as well as any chemical that is not used according to label requirements. For drugs and chemicals that are not used according to label requirements:

- The permittee would need to provide an oral report to the permitting authority within 7 days after initiating application of the drug or chemical. The oral report would need to identify the drug and/or chemical added and the reason for adding the drug and/or chemical.
- The permittee would need to provide a written report to the permitting authority within 30 days after conclusion of the addition of the drug or chemical. The written report would need to identify the drug and/or chemical added and include: the reason for treatment, date(s) and time(s) of the addition (including duration); the total amount of active ingredient added; the total amount of medicated feed added (only for drugs applied through medicated feed), and the estimated number of aquatic animals medicated by the addition.

For investigational new animal drugs, the permittee would need to provide a written report to the permitting authority within 30 days after conclusion of the addition of any investigational new drug. The written report would need to identify the drug added including: the reason for treatment, date(s) and time(s) of the addition (including duration); the total amount of active ingredient added; the total amount of medicated feed added (only for drugs applied through medicated feed), and the estimated number of aquatic animals medicated by the addition.

EPA also proposed to establish the general requirement of BMP plan certification for all facilities. The certification requires the facility owner or operator to certify that a BMP

plan was developed and would meet the objectives of the regulation. The plan would need to be available to the permitting authority if requested.

2.2.3 Summary of the Proposed Effluent Limitations Guidelines and Standards

The proposed guidelines establish BPT, BCT, BAT, and NSPS based on treatment technologies or BMPs evaluated for each of the subcategories. EPA evaluated the following options in the development of the ELGs for the proposed subcategories:

Option 1. Development of a BMP plan for all subcategories and numeric limitations for TSS based on primary settling for flow-through and recirculating systems.

Option 2. Option 1 + development of a BMP plan to address the use of drugs and chemicals, escapes of nonnative species, and mortality removal for all subcategories except the medium facilities within the flow-through subcategory.

Option 3. Option 2 + numeric limits for flow-through and recirculating systems based on additional solids treatment and active feed monitoring for net pens.

The options are additive in nature, and represent increasing stringency; thus, Option 2 limitations would be based on, and incorporate, primary settling (Option 1) in addition to the limitations based on BMP considerations under Option 2. These options are further discussed in Chapters 9 and 10.

2.2.3.1 BPT

Flow-through Systems

EPA is proposing (1) no nationally applicable effluent limitations guidelines for facilities producing less than 100,000 lb/yr, (2) effluent limitations based on Option 1 for facilities producing 100,000 lb/yr up to 475,000 lb/yr, and (3) effluent limitations based on Option 3 for facilities producing 475,000 lb/yr or more.

For small flow-through facilities (facilities that produce between 20,000 and 100,000 lb/yr of cold water species), the proposed rule would not establish any national requirements for existing flow-through facilities. EPA's analysis estimated that the economic impacts below the 100,000 lb/yr threshold were significant. EPA determined that by considering different levels of control for the two production thresholds established, the unreasonable cost impacts would be minimized.

Any flow-through facilities below the production threshold of 100,000 lb/yr would still be subject to existing NPDES regulations and would be subject to permit limits based on the permit writer's "best professional judgment" if the facility is a "concentrated aquatic animal production facility" under the existing NPDES regulations.

For facilities producing 100,000 lb/yr up to 475,000 lb/yr, the proposed rule would establish BPT limits based on primary settling, including quiescent zones and settling basins and/or BMP development (Option 1) for existing flow-through facilities.

For facilities producing 475,000 lb/yr or more, the proposed rule would establish limits based on solids polishing and/or a requirement to develop and implement a BMP plan

(Option 3). EPA considered the impacts of such proposal requirements on these larger facilities and, based on the results, determined that 475,000 lb/yr would be an appropriate threshold for which the costs of compliance would remain cost reasonable.

EPA is also proposing to establish limits for TSS discharged from separate off-line treatment systems (i.e., physically separate and discharging from an outfall distinct from the main flow of the system) based on Option 3 technology performance. For these systems, EPA also proposes a BMP plan for solids control in the bulk, or main, discharge of the system. A summary of the BPT requirement alternatives for flow-through systems is provided in Table 2.2-2 at the end of this chapter.

Recirculating Systems

EPA is proposing to establish BPT limits on the basis of solids polishing (i.e., additional solids removal) including a settling basin and the development of a BMP plan, and general reporting requirements for drug and chemical use (Option 3) for existing recirculating facilities that produce more than 100,000 lb/yr. This option is technically available for recirculating systems at this size threshold. A summary of the BPT requirement alternatives for recirculating systems is provided in Table 2.2-2 at the end of this chapter.

Net Pen Systems

EPA is proposing to establish BPT limits on the basis of active feed monitoring (i.e., additional solids removal) and the development of a BMP plan, and general reporting requirements for use of certain drugs and chemicals (Option 3) for facilities that produce more than 100,000 lb/yr as the technology basis for the effluent limitations guidelines for existing sources in the proposed rule. A summary of the BPT requirement alternatives for net pen systems is provided in Table 2.2-2 at the end of this chapter.

2.2.3.2 BCT and BAT

Flow-through Systems

EPA proposes to establish BCT and BAT at a level equal to BPT for flow-through systems.

EPA is establishing BPT limitations for flow-through facilities with an annual production of 100,000 lb and greater. A BCT test can be performed for the category with 100,000 up to 475,000 lb in annual production. (EPA is proposing the most stringent option for facilities with 475,000 lb and greater in annual production. Hence, there is no more stringent option to be considered for BCT for this group.) For purposes of this analysis, EPA is assuming that the proposed BPT limits are baseline. Thus, EPA is considering only Options 2 and 3 as BCT candidate options. EPA's analyses found that Option 3 fails the second part of the cost reasonableness test. Based on these results, EPA is proposing that BCT be set equal to BPT.

Because EPA projects limited economic impacts associated with BPT requirements, EPA does not expect significant economic impacts for BAT. EPA did not select the more stringent Option 2 for facilities with 100,000 up to 475,000 lb/yr production because EPA was concerned about the number of commercial facilities estimated to experience compliance costs greater than 5% of revenues from aquaculture sales. EPA also

determined that Option 3 would not be economically achievable for these facilities based on the high number of facilities estimated to experience compliance costs greater than the 10% revenue threshold. EPA selected Option 3 for facilities with greater than 475,000 lb/yr production because no facilities are estimated to experience compliance costs that exceed the 5% revenue threshold.

For more details about the BCT cost reasonableness test and the BAT analysis, see the economic and environmental assessment (USEPA, 2002).

Recirculating Systems

EPA proposes to establish BAT equal to BPT for recirculating systems. EPA proposed the most stringent option for facilities with recirculating systems. Because EPA projects limited economic impacts associated with the BPT requirements, EPA expects only limited economic impacts associated with BAT. For more details about the BCT and BAT economic analyses, see the economic and environmental assessment (USEPA, 2002).

Net Pen Systems

EPA proposes to establish BAT equal to BPT for net pen systems. EPA has determined that no more stringent options representing BAT are available. For more details about the BCT and BAT economic analyses, see the economic and environmental assessment (USEPA, 2002).

2.2.3.3 NSPS

EPA is proposing new source performance standards that are identical to those proposed for existing dischargers that meet the 100,000 lb/yr production threshold. Engineering analysis indicates that the cost of installing pollution control systems during new construction is no more than the cost of retrofitting existing facilities and is frequently less than the retrofit cost. Because EPA projects the costs for new sources to be equal to or less than those for existing sources and because limited impacts are projected for these existing sources, EPA does not expect significant economic impacts (or barrier to entry) for new sources that meet the 100,000 lb/yr production threshold.

EPA is considering establishing new source performance standards for smaller coldwater CAAP facilities that produce between 20,000 and 100,000 lb/yr. EPA intends to conduct further analysis pertaining to this issue using detailed survey data.

Table 2.2-2. Summary of Proposed BPT Requirements for CAAP Facilities

<i>System</i>	<i>Description</i>	<i>TSS Numeric Limit</i>	<i>BMP Requirement</i>	<i>Reference</i>
Flow-through systems Full flow; 100,000 to 475,000 lb; includes treatment from OLSB that recombines with bulk flow	Combined or single discharge	Maximum monthly average: 6 mg/L Maximum daily average: 11 mg/L (Both are net concentrations)		451.11(b)(1) 451.11(c)
	OR		Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Ensure staff are familiar with BMP plan • Certify BMP plan 	451.15(b) 451.15(d) 451.3(b)
	Combined or single discharge		Develop BMP plan - management and removal of solids and excess feed Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Ensure staff are familiar with BMP plan • Certify BMP plan 	451.15(a) 451.15(b) 451.15(d) 451.3(b)

<i>System</i>	<i>Description</i>	<i>TSS Numeric Limit</i>	<i>BMP Requirement</i>	<i>Reference</i>	
Flow-through systems Separate OLSB discharge; 100,000 to 475,000 lb; facilities that discharge from OLSB separate to bulk discharge		Maximum monthly average: 67 mg/L Maximum daily average: 87 mg/L (Both are net concentrations)		451.11(b)(2) 451.11(c)	
	OLSB discharge		Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage • Disposal of biological waste • Ensure staff are familiar with BMP plan • Certify BMP plan 	451.15(b)	
	Bulk discharge		Develop BMP plan - management and removal of solids and excess feed Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage • Disposal of biological waste Ensure staff are familiar with BMP plan	451.15(a) 451.15(b)	
	OR				
	OLSB discharge			Develop BMP plan - management and removal of solids and excess feed Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage • Disposal of biological waste • Ensure staff are familiar with BMP plan • Certify BMP plan 	451.15(a) 451.15(b)
	Bulk discharge			Develop BMP plan - management and removal of solids and excess feed Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage • Disposal of biological waste Ensure staff are familiar with BMP plan	451.15(a) 451.15(b)

<i>System</i>	<i>Description</i>	<i>TSS Numeric Limit</i>	<i>BMP Requirement</i>	<i>Reference</i>
Flow-through systems Full flow; more than 475,000 lb; includes treatment from OLSB that recombines with bulk flow	Combined or single discharge	Maximum monthly average: 6 mg/L Maximum daily average: 10 mg/L (Both are net concentrations)	Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Develop and implement practices to minimize potential escape of nonnative species • Ensure staff are familiar with BMP plan • Certify BMP plan Drugs and chemical reporting	451.11(a)(1) 451.11(c)
				451.15(b)
	OR		Develop BMP plan - management and removal of solids and excess feed	451.15(a)
	Combined or single discharge			Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Develop and implement practices to minimize potential escape of nonnative species • Ensure staff are familiar with BMP plan • Certify BMP plan Drugs and chemical reporting
451.3(a)				
451.3(a)				

<i>System</i>	<i>Description</i>	<i>TSS Numeric Limit</i>	<i>BMP Requirement</i>	<i>Reference</i>
Flow-through systems Separate OLSB discharge; more than 475,000 lb; facilities that discharge from OLSB separate to bulk discharge		Maximum monthly average: 55 mg/L Maximum daily average: 69 mg/L (Both are net concentrations)		451.11(a)(2) 451.11(c)
	OLSB discharge		Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Develop and implement practices to minimize potential escape of nonnative species • Ensure staff are familiar with BMP plan • Certify BMP plan 	451.15(b)
	Bulk discharge		Develop BMP plan - management and removal of solids and excess feed <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste Ensure staff are familiar with BMP plan Drugs and chemical reporting	451.15(a) 451.15(b) 451.15(d) 451.3(b)
	OR			451.15(a)
	OLSB discharge		Develop BMP plan - management and removal of solids and excess feed <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Develop and implement practices to minimize potential escape of nonnative species • Ensure staff are familiar with BMP plan • Certify BMP plan 	451.15(b) 451.15(c) 451.15(d) 451.3(b)
	Bulk Discharge		Develop BMP plan - management and removal of solids and excess feed <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste Ensure staff are familiar with BMP plan Drugs and chemical reporting	451.15(a) 451.15(b) 451.15(d) 451.3(a)

System	Description	TSS Numeric Limit	BMP Requirement	Reference
Recirculating Systems More than 100,000 pounds annual production	All discharges OR	Maximum monthly average: 30 mg/L Maximum daily average: 50 mg/L	Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Develop and implement practices to minimize potential escape of nonnative species • Ensure staff are familiar with BMP plan • Certify BMP plan Drugs and chemical reporting	451.21 451.25(b) 451.25(c) 451.25(d) 451.3(b) 451.3(a)
			Develop BMP plan - management and removal of solids and excess feed Develop BMP plan <ul style="list-style-type: none"> • Proper O&M of facility <ul style="list-style-type: none"> – Structural maintenance – Materials storage – Disposal of biological waste • Develop and implement practices to minimize potential escape of nonnative species • Ensure staff are familiar with BMP plan • Certify BMP plan Drugs and chemical reporting	451.25(a) 451.25(b) 451.25(c) 451.25(d) 451.3(b) 451.3(a)
Net Pen Systems All net pen systems with annual production more than 100,000 pounds, except those producing native species of salmon in AK	All discharges		Maintain real time monitoring system to monitor the rate of feed consumption through the detection of uneaten feed passing through the bottom of the net pen.	451.31
			Develop BMP plan <ul style="list-style-type: none"> • Minimize the discharge of net fouling organisms • Avoid the discharge of <ul style="list-style-type: none"> – Blood, viscera, fish carcasses, or transport water – Substances associated with in-place cleaning of nets • Develop and implement practices to minimize potential escape of nonnative species • Prohibited discharges: <ul style="list-style-type: none"> – Feed bags and other solid waste – Chemicals used to clean nets, boats or gear – Materials containing or treated with tributyltin compounds • Certify BMP plan Drugs and chemical reporting	451.35 451.3(b) 451.3(a)

2.3 REFERENCES

USEPA (U.S. Environmental Protection Agency). 2002. *Economic and Environmental Impact Analysis of Proposed Effluent Limitations Guidelines and Standards for the Concentrated Aquatic Animal Production Industry Point Source Category*. EPA 821-R-02-015. U.S. Environmental Protection Agency, Washington, DC.