



January 24, 2003

Ms. Marta Jordan  
Office of Water  
Engineering and Analysis Division  
(4303T)  
USEPA  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

REF: The proposed rule for effluent limitations guidelines for concentrated animal production facilities, docket number W-02-01

Dear Ms. Jordan:

The United States Aquaculture Society, a chapter of the World Aquaculture Society, appreciates the opportunity to comment on the proposed rule for effluent limitations guidelines for concentrated animal production facilities, docket number W-02-01. The United States Aquaculture Society represents over 700 aquaculture scientists and is committed to enhancing the scientific basis for aquaculture.

The aquaculture industry in the United States is currently experiencing a difficult period. After a number of years of continued growth, 2001-2002 were years of declining prices and production for a number of sectors of aquaculture. The sluggish economy, combined with increased competition from lower-priced imports, has generated increased concern over the global competitiveness of U.S. aquaculture. EPA correctly stated in the proposed rule that aquaculture producers cannot pass cost increases through to consumers. Thus, additional regulations on this industry at this point in time will increase costs, reduce production, and have an adverse impact on aquaculture in the U.S.

The majority of aquaculture businesses in the United States are small businesses. According to the USDA Census of Aquaculture, 93% of baitfish businesses, 84% of catfish farmers, 95% of trout farmers, and 88% of foodfish growers other than catfish and trout are small businesses. For trout flow-through systems, a number of facilities that are still in scope in the proposed rule are classified as small businesses. Aquaculture industries have significant impacts in a number of economically depressed rural areas in the United States. Comprehensive analyses of the impact of any regulation must be done to understand the overall costs to society of implementing any rules other than those that already exist.

EPA should be commended for its efforts to understand the aquaculture industry. Aquaculture is an extremely diverse industry in terms of the biological organisms being

cultured, the scope and scale of businesses involved, the production technologies involved, and the regional and local nature of most aquaculture businesses and markets. Furthermore, aquaculture technologies are evolving rapidly. Responsible regulations must carefully consider the future impacts on an industry that is changing so rapidly.

Moreover, EPA is to be commended for its decision not to revise the current NPDES regulations. The exclusion of ponds from NPDES permitting is scientifically sound because it recognizes that ponds discharge water infrequently.

EPA accurately characterizes pond effluents in that ponds discharge relatively little water and natural processes in the ponds break down and “treat” fish waste products just as in aerobic sewage treatment lagoons. There is no economically feasible technology to treat the small amounts of pollutants that are discharged from ponds.

EPA has identified approximately 136 direct discharging CAAPs that would be regulated by this proposed rule. This represents approximately 3% of U.S. aquaculture facilities. In addition, all of the 136 CAAPs are currently permitted under the NPDES system. The NPDES system is designed to limit discharge of appropriate pollutants. State 401 certification (for those states without primacy) of these federal permits states that the aquaculture facility will meet state water quality standards if the facility complies with the permit. State regulatory agencies have indicated, in a recent survey, that state regulations are adequate for handling the occasional problem that occurs at an aquaculture facility.

It is critical that comprehensive economic analyses be conducted of both the farm-level and economy-wide impacts and that compliance costs be tailored to different farm situations. Given the diversity of geographic locations, sizes of fish produced, market outlets, costs, and prices paid, economic analyses must be done on very specific farm situations. It is recognized that the generalized models that EPA has done to date were a first step, but it is critical that much more specific and in-depth analyses be conducted. The analyses to be conducted, using the revenue test and the profit test, using the facility-specific data from the detailed questionnaires will be a step in this direction. However, particularly with BMPs, implementation of treatment options on farms may result in management changes that decrease overall net farm income that can be a significant cost and these will not be captured with either the revenue or profit tests. Moreover, the effect of borrowing capacity and the impact on levels of financial risk must be considered in the economic analysis.

Prices estimated in the EPA documents are higher than typical average prices and many of the treatment cost estimates in the proposed rule for flow-through systems are underestimated. The price levels and estimated costs of compliance must be examined much more carefully for flow-through systems. EPA is urged to work closely with the flow-through and economics subgroups of the National Aquaculture Effluent Task Force to develop more realistic estimates of the values of these critical parameters.

Estimates of total settleable solids (TSS) and subsequent determinations of biological oxygen demand (BOD) are overestimated; thus the pollution loading estimates as well as the benefits to be derived from this rule are overestimated. EPA's model assumption of a 1.4 feed conversion ratio (FCR) for trout flow-through facilities is based on outdated information that does not apply to modern feed formulations and feeding strategies of the systems 'in scope'. Trout and salmon feeds have improved greatly over the last 10 years, resulting in lower FCR and improved nutrient retention (see Gatlin, D.M., and R.W. Hardy. 2002. "Manipulations of Diets and Feeding to Reduce Losses of Nutrients in Intensive Aquaculture"; In: Aquaculture and the Environment in the United States. Tomasso, J.R., editor. U.S. Aquaculture Society). While some facilities grow large trout (larger fish are less efficient in converting food to flesh) for recreational markets and may have FCRs greater than 1.4, the vast majority of trout and salmon produced in intensive flow-through systems have average FCRs of 1.2 or less. The model also assumes 0.3 units of total suspended solids released by the fish per unit of feed. Cho *et al.* 1994 ("Development of high nutrient-dense, low pollution diets and prediction of aquaculture wastes using biological approaches"; Aquaculture 124:293-305) and Cripps and Bergheim 2000 ("Solids management and removal for intensive land-based aquaculture systems"; Aquacultural Engineering 22: 33-56) provide a more accurate number of 0.15 to 0.2 units of TSS generated per unit of feed.

EPA's encouragement of state and local extension services to develop best management practices is well taken. However, the inclusion of best management practices for a specific state should not be included in the EPA documents. State-wide and regional variations are too great to include a proscriptive suggestion that might be misinterpreted by permit writers and that is not appropriate for all states, regions, and management systems.

Drugs and chemicals for aquaculture are already regulated by other agencies, including the FDA. Additional regulations would be duplicative.

Non-native species are regulated by other state and federal agencies and sterilization techniques are effective for several non-native species raised in ponds. EPA permitting authorities should not be involved in regulation or reporting of non-native species use or escapement. Existing state and federal agencies are charged with this responsibility and EPA would be duplicating their efforts.

In the aquaculture effluent guidelines, EPA is not proposing any specific requirements for control of aquatic animal pathogens. The proposal does, however, require larger flow-through and all recirculating and net pen facilities to establish practices, as part of a BMP plan, that address removing mortalities from the system and properly disposing of them. In the Small Business Review that was conducted, the cost of implementing and executing a BMP as proposed by EPA was not included in the original analysis. Depending on the BMP that is developed, the cost of implementation and execution could have a significant economic impact. We suggest that a cost-benefit analysis be done by the EPA before any BMPs are developed and/or recommended, even as guidance.

In conclusion, the U.S. Aquaculture Society recommends that the EPA:

- 1) Recognize that implementation of additional regulations at this time will adversely impact U.S. aquaculture without significant quantifiable environmental benefit;
- 2) Conduct comprehensive analyses of the impact of any regulation to understand the overall costs to society that implementing these rules will have;
- 3) Continue to exclude ponds from NPDES permitting because discharge from them is infrequent and no economically-viable technology exists to treat the small amounts of pollutants in these discharges;
- 4) Continue to allow the 136 CAAPs, which would be regulated by the proposed rule and which are currently permitted under the NPDES system, to be regulated under their respective states;
- 5) Conduct comprehensive economic analyses of both the farm-level and economy-wide impacts and that compliance costs be tailored to different farm situations. These analyses should include the effect of borrowing capacity and the impact on levels of financial risk;
- 6) Work closely with the flow-through and economics subgroups of the National Aquaculture Effluent Task Force to develop more realistic estimates of price levels and costs of compliance in flow-through systems. In addition, estimates of total settleable solids and biological oxygen demand appear to be overestimated;
- 7) Not include BMPs for specific states;
- 8) Not include drugs, chemicals and non-native species in these regulations since that would be duplicative of other regulations;
- 9) Conduct a cost-benefit analysis on any proposed BMP regarding removal of mortalities and their disposal prior to developing or proposing them, **even as guidance**. This should include sufficient research to document the purported benefits to animal, environmental, or human health of such recommendations.

The U.S. Aquaculture Society greatly applauds the steps taken by EPA to work closely with the aquaculture industry and scientists to fully understand this relatively new industry and to develop science-based regulations that maintain the integrity of the industry and the environment.

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