Responsibility

EPA rule-making for aquaculture effluents in the United States

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Rule-making process progressing rapidly

The United States Environmental Protection Agency (EPA) currently is developing a federal rule for aquaculture effluents. The rule will be used by states in regulating aquaculture under the National Pollution Discharge Elimination System (NPDES) of the Clean Water Act. The history of how aquaculture became the subject of this rulemaking process is an interesting topic.

U.S. aquaculturists are concerned about the practicality of effluent rules now being developed by the U.S. Environmental Protection Agency.

Early guidelines

The modern Clean Water Act goes back to the Federal Water Pollution Control Act passed in the U.S. in 1972. This act required the EPA to set national “effluent guidelines” on an industry-by-industry basis. These standards were based on the best available technology for pollution control and the costs of applying this technology for each industry.

In 1977, the EPA developed a draft report on proposed effluent limitation guidelines for fish hatcheries and farms. In the draft document, guidelines and treatment recommendations were developed for facilities based on whether native or non-native fish were being grown and whether the culture system consisted of raceways or ponds. Despite the considerable effort involved in developing the 1977 draft guidelines, a national rule was not set, as EPA did not make aquaculture a priority industry.

Aquatic animal production facility

The EPA later defined concentrated aquatic animal production facilities and indicated that such facilities were point sources of pollution subject to the NPDES permit program. EPAprovided the following definition of a concentrated aquatic animal production facility.

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 the following categories:

1. Cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include:

a. Facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year, and
b. Facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.

2. Warm water fish species or other warm water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year, but does not include:

a. Closed ponds which discharge only during periods of excess runoff; or
b. Facilities which produce less than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year.

Although the EPA did not prepare national effluent guidelines for aquaculture, many individual states developed effluent guidelines for aquaculture and required NPDES permits for aquaculture operations. Most states used the EPA definition of aquatic animal production facilities in determining which operations should have an NPDES permit.

EPA and aquaculture effluents

There have been discussions about the EPA's intent to regulate aquaculture for years, but EPA officials always indicated that aquaculture was not high on their list of priorities. However, in 1998, EPA decided to make a study of aquaculture effluents. Soon after the study was announced, the EPA changed the study to a formal rule-making process to develop national effluent guidelines for aquaculture.

National effluent guidelines

Environmental groups unhappy with EPA's progress in implementing the Clean Water Act sued the EPA and won a court decree in 1992. The decree required the EPA to develop national effluent guidelines for several new industries over a period of years.

In 1997, the Environmental Defense Fund (EDF) published "Murky Waters: Environmental Effects of Aquaculture in the U.S.," a document that recommended the EPA should implement the Clean Water Act with respect to aquaculture. The EDF apparently had discussions with EPA officials, and in 1998 convinced the EPA to list aquaculture as one of the new candidate industries for rule making under the consent decree.

Formal rule making

Initially, EPA only invited public comment on its plans for development of effluent guidelines for aquaculture. Although none of the comments it received contained scientific evidence implicating aquaculture as a significant polluter of U.S. waters, EPA announced later in 1998 that aquaculture would be one of nine industries affected by the 1992 consent decree.

That announcement was quickly followed in early 1999 by EPA's decision to conduct a preliminary study of the aquaculture industry to determine the need for federal regulations. Then, in January 2000, EPA suddenly abandoned the preliminary study, and announced it would undertake formal rule making for aquaculture.

Industry input

The rule-making process is progressing rapidly, with input from the aquaculture industry through the federal interagency Joint Subcommittee on Aquaculture. The committee formed the Aquaculture Effluents Task Force to assist EPA in the development of national guidelines. This task force consists of over 15 technical subgroups that represent the major types of aquaculture practiced in the U.S.

The Aquaculture Effluents Task Force has no formal role in writing the EPA rule. Its function is limited to providing comments and information to EPA and to communicating with the aquaculture industry regarding the process.

State and federal rules

The EPA is preparing industry profiles on each kind of aquaculture, and it will soon begin gathering economic data to be used in writing the rule. When the federal rule is finalized in June 2004, the states must enforce it.

Regulations of individual states do not have to be exactly like the federal rule. However, if they are not, they must be approved by the EPA based on the requirement that a state rule must be at least as strict as the federal rule. Of course, states are free to make rules stricter than the federal rule.

Development of BMPs

Some states are trying to be proactive and develop best management practices in advance of the final rule. Florida has already made a BMP program for aquaculture that will be administered by the Florida Department of Agriculture. Compliance with the program will be required of aquaculture facilities in Florida, but no water quality monitoring will be necessary. The Florida program requires sedimentation basins for all facilities discharging effluents.

Alabama catfish producers also plan to develop a BMP program, although there is an attempt to avoid a mandatory requirement for settling basins for Alabama aquaculture operations. Other states probably will develop BMPs also, but the installation of such a program will not exempt states from the final rule.

There is little indication of the nature of the final rule. It may have some numerical effluent standards, and there has been considerable discussion of best management practices – either in lieu of, or in addition to, numerical effluent standards. It appears that each kind of aquaculture will be considered separately, so the rule will probably be flexible.

Conclusion

We encourage U.S. producers, researchers, and extension personnel to become involved in the process. If the final rule is not carefully thought out, it could cause much grief in the future. The outcome of the process should also be of interest to aquaculturists in other countries, because if a good rule can be developed, it could be used as a model in other nations.

The easiest way to stay abreast of development is to periodically check the Internet website developed by the JSA Aquaculture Effluents Task Force at http://ag.ansc.purdue.edu/aquanic/jsa/effluents/index.html. The site contains a wealth of background information on the rule-making process and other regularly updated information.

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