Aquaculture Waste Management 1996

The Situation
In 1990, the Middle Snake River was declared water-quality limited by the Division of Environmental Quality (DEQ). This designation required the Environmental Protection Agency (EPA) under the Federal Clean Water Act to institute a Total Maximum Daily Load (TMDL) pollution allocation for each industry impacting water quality. Aquaculture, being a point-source, was already required to limit the discharge of solids under the National Pollutant Discharge Elimination System permits that are issued to all facilities producing more than 20,000 pounds annually. The TMDL will place an additional limitation on the amount of phosphorous discharged.

Our Response
Beginning in 1992 and continuing today, Extension, in cooperation with the aquaculture industry, DEQ and the Idaho Department of Agriculture, began development of “Idaho Waste Management Guidelines for Aquaculture.” The purpose of the guidelines is to: describe basic waste management systems and practices; educate owners and operators about effective waste management systems; educate regulatory agencies and the public about aquaculture waste management systems; and identify Best Management Practices. Extension searched the scientific literature and built a library of work which became the foundation of the guidelines. Extension also wrote two chapters of the guidelines and provided editorial review.

Several workshops on waste system design and waste management were provided for the aquaculture industry and regulatory agencies. Extension is represented on the Mid-Snake Watershed Advisory Committee. This group, in cooperation with DEQ and EPA, are seeking solutions to improve water quality in the river. Extension is also part of the Western Regional Aquaculture Center's Pollutant Reduction project. This research effort addresses reducing solids and nutrients in the effluent through improvements in salmonid diets.
**Achievements**

Although not yet officially approved by DEQ, the guidelines are being used to upgrade existing facilities and construct new waste systems. Extension has assisted producers in developing their plans and specifications for these systems. Approximately 80% of the industry has switched to extruded feeds during the last three or four years. It is estimated that through improved feeds, improved husbandry, waste system design and improved waste management practices, the aquaculture industry has reduced phosphorous effluent discharges by 20%.

**For More Information**

Gary Forshell  
Extension Educator  
University of Idaho  
Twin Falls County Cooperative Extension System  
246 3rd Ave., East  
Twin Falls, ID 83301  
Voice Phone: 208-734-9590  
Fax: 208-733-9645  
E-Mail: twinfalls@uidaho.edu