

Assisting American Aquaculture

The Wildlife Services (WS) program, part of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), helps reduce wildlife damage to agricultural, urban, and natural resources. WS also addresses threats to public health and safety and protects endangered and threatened species from predators.

Wildlife Problems at Fish Farms

Fish production in the United States is on the rise, particularly in the East, where millions of dollars' worth of catfish, trout, baitfish, shellfish, and crawfish are grown and harvested annually. American aquaculturists raise an estimated 900 million pounds of fish each year. Every year in Maine alone, fish farms grow an average of 16.5 million pounds of salmon worth \$50 million. In Arkansas, the combined production of catfish and baitfish is valued at more than \$60 million. It is estimated that, within the next 10 years, farms will produce 2.2 billion pounds of fish each year.

This growing industry is not without its problems. Aquaculturists report that fish-eating birds cause a significant economic loss. Cormorants, herons, ducks, egrets, gulls, ospreys, pelicans, ibises, and other fish-eating birds eat away at aquaculture profits, with some operations reporting 1-year losses in excess of \$200,000. In the lower Mississippi Valley, cormorants eat about \$6 million worth of catfish each year. Additionally, birds prey on priceless populations of endangered and rare species of fish.



Great blue heron



Great egret

Minimizing Losses

When fish farmers need a responsible and environmentally sound solution for wildlife-caused damage, they turn to WS. WS wildlife biologists conduct onsite evaluations to assess the damage and to identify the species of bird or mammal causing it. They offer technical and direct operational assistance to aquaculture producers, including information about effective frightening and exclusionary techniques.

WS encourages the use of netting, wire grids, and fencing because these devices offer fish farmers long-term protection. However, the cost often makes physical barriers impractical, and some farmers report that the barriers interfere with normal fish-rearing operations. For additional relief, WS recommends the use of noise-making devices, such as propane cannons and cracker shells, as well as visual tools, like "eye-spot" balloons, remote-control boats and air-

planes, and scarecrows. Unfortunately, many birds quickly adapt to the sight and sound of such devices.

If exclusionary and scaring techniques fail to reduce losses, the U.S. Department of the Interior's Fish and Wildlife Service (FWS) may issue a depredation permit to remove a limited number of birds from a specific farm. The removal of birds enhances the use of alternative control methods. The issuance of these permits is rigidly controlled because most fish-eating birds are protected by the Migratory Bird Treaty Act.

Research Projects

With the growth of the aquaculture industry and its importance to American consumers, WS' National Wildlife Research Center conducts research and field studies to improve current damage-control methods and develop new ideas. The majority of the Center's research work concentrates on the development and refinement of nonlethal control methods. In addition, WS continues to work with FWS to study the ecology, behavior, food habits, and migratory patterns of various fish-eating birds.

Additional Information

You may obtain further information about aquaculture and the wildlife services of WS from any State APHIS, WS office. For the address and telephone number in your area, call the WS Operational Support Staff at (301) 734-7921. You can also find information on WS programs, by visiting our Web site at <http://www.aphis.usda.gov/ws>.

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