

# **Fish and Aquatic Conservation Program Fact Sheets**

## **Table of Contents**

[Aquatic Animal Drug Approval Partnership](#)

[Aquatic Invasive Species](#)

[Cooperation with Native Americans](#)

[Fish and Wildlife Conservation Offices](#)

[National Fish Habitat Action Plan](#)

[National Fish Hatchery System](#)

[National Fish Hatchery System: Fish Health Centers](#)

[National Fish Hatchery System: Fish Technology Centers](#)

[National Fish Passage Program](#)



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# Aquatic Animal Drug Approval Partnership

## The One and Only

The Aquatic Animal Drug Approval Partnership (AADAP) Program is one of a kind. It is the only program in the U.S. dedicated to obtaining U.S. Food and Drug Administration (FDA) approval of new drugs needed for use in fish culture and fisheries management.



# AADAP

Aquatic Animal Drug Approval  
Partnership Program

This partner-based national program not only generates scientific data and analyzes results, but also compiles study reports, distributes data, and manages all other aspects of required data to the FDA. Of course this can't be accomplished alone; the AADAP Program leads a coordinated effort of federal, state, tribal and private organizations.

The Aquatic Animal Drug Approval Partnership Program was established in 1994 to ensure Fish and Wildlife Service compliance with the Federal Food, Drug and Cosmetic Act. Over the years, the program has contributed to virtually every new fish drug approved by the FDA.



AADAP scientists follow rigorous standards in collecting scientific data.

## Benefits for Many

Who benefits from the AADAP Program's work? Fish of course, but also all fisheries professionals. Approved drugs can be used to help keep fish healthy and to facilitate safe handling, spawning, marking, and other fisheries management activities. The program's work also helps with accomplishing management objectives and delivering public and tribal trust responsibilities.

## Fast Facts

- AADAP is the only program like it in the U.S.
- Provides fisheries professional with new tools to meet current and future management needs.
- Provides the entire fisheries communities with up-to-date information and guidance on drug use and approval status.
- Uses sound science and the latest technology.
- AADAP is integral to the U.S. Fish and Wildlife Service's successful stewardship of our natural resources for the employment of all Americans.



The AADAP program works with many partners from public agencies and private enterprise. Safe and effective drugs for use in fisheries management are good for fish and people.

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# Aquatic Invasive Species

## Keeping Unwanted Organisms at Bay

Aquatic invasive species are organisms that invade waters beyond their native range and cause harm. Their unwelcome presence harms ecosystems and disrupts commerce, agriculture, fishing, boating, and hunting. They may even harm our health. For example: Asian carp reduce food for native fishes and present a threat to boaters, zebra mussels encrust boats and public waterworks, and giant salvinia forms dense mats across the water that shade out other plants and obstructs boating.

## Mission

The U.S. Fish and Wildlife Service manages invasive species by:

- Preventing introduction;
- Detecting and responding to new threats;
- Stopping the spread of existing populations;
- Suppressing populations; and
- Educating the public about threats so they help stop the spread of harmful invaders.



Silver carp leap at the sound of boat motors and injure people on the water. Their size causes this behavior to be quite hazardous to recreational boaters.

## How Can You Help?

Recreational activities such as boating, angling, hunting and water gardening may spread aquatic invasive species.

Some species can attach to boats, while others can become tangled on propellers, anchor lines, or boat trailers. Fortunately, completing simple steps can prevent the transport of aquatic invasive species:



Zebra mussels smother a native mussel. The invasive mussels encrust pipes, piers, marinas and boats, with great economic and ecologic costs.

- Clean, Drain, and Dry all recreational equipment before moving to a new body of water. (See [StopAquaticHitchhikers.org](http://StopAquaticHitchhikers.org))
- Dispose of unwanted bait, worms, and fish parts in the trash.
- Don't release fish, pets, or plants into the wild. (See [www.habitattitude.net](http://www.habitattitude.net))
- Choose regionally-native or non-invasive plants and animals for water gardens and aquaria. (See water garden guidelines at [www.anstaskforce.gov](http://www.anstaskforce.gov))
- Report new sightings to the appropriate authorities or use the USGS Sighting Report Form. (See the NAS Reporting Form at <https://nas.er.usgs.gov/>)

# ANS Task Force



## STOP AQUATIC HITCHHIKERS!

Be A Good Steward. Clean. Drain. Dry.  
[StopAquaticHitchhikers.org](http://StopAquaticHitchhikers.org)

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# Cooperation with Native Americans

## Background

Native Americans manage or influence some of the most important fish and wildlife resources – both on and off reservations. Tribal governments and the U.S. Fish and Wildlife Service Fish and Aquatic Conservation (FAC) program own common commitments to fisheries conservation and co-management of these resources. The National Fish Hatchery System provides, fish and technical support to tribes as they exercise their sovereignty in the management of their fish and wildlife on more than 105 million acres of federal Indian trust land and in treaty-reserved areas. Our work with the tribes is integrated into all aspects of FAC’s aquatic conservation work from restoring fish habitat, to dealing with aquatic invasive species and emerging fish health issues and providing disease-free eggs and juvenile fish for tribal recreational fisheries. FAC also works to develop future tribal resources stewards by engaging tribal youth in hands-on aquatic resources field work through programs such as the Youth Conservation Corps.

## Chum Salmon

Adult chum salmon returning to the Quinault River and its tributaries on the Olympic Peninsula in western Oregon provide important commercial and subsistence fisheries to members of the



*Chum Salmon Adult at Quinault National Fish Hatchery, WA.*

Quinault Tribal Reservation. Yearly releases of young Chum salmon from the Quinault National Fish Hatchery (NFH), within the Quinault Reservation help to support this unique and important fishery that also sustains international and domestic ocean commercial and sport fisheries.

## White Sturgeon

In partnership with the Kootenai Tribe of Idaho, FAC’s Idaho Fish Health Center (FHC) is working to reestablish wild spawning of the endangered Kootenai River White Sturgeon. The Idaho FHC provides fish health services required for the Kootenai Tribe to successfully rear and move endangered Kootenai River White Sturgeon to the wild. The Idaho FHC also tests fish for bacterial, viral, and parasitic diseases.



*Endangered Kootenai White Sturgeon raised in tank by the Kootenai Tribe in Northern Idaho.*

## Apache Trout

The Alchey-Williams Creek National Fish Hatchery complex, located on the Fort Apache Indian Reservation, supports captive production of Apache trout. Williams Creek NFH was established in 1939 and the Alchey NFH in 1962, both at the behest of the White Mountain Apache Tribe. An Apache trout, and indigenous threatened trout, produced at the complex are stocked in waters managed by the White Mountain Apache Tribe, the U.S. Forest Service, or the Arizona Game and Fish Department in support of the recovery program for the species.



*FAC biologist at Williams Creek NFH and member of the White Mountain Apache Tribe, holds an endangered Apache trout.*

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# Fish and Wildlife Conservation Offices

## Partners in Fish Conservation

Fish and Wildlife Conservation Offices (FWCOs) work closely with partners to conserve America's fish and aquatic resources. The fisheries biologists and other conservation professionals who staff these field stations work closely with State and federal agencies, private landowners, tribes and conservation organizations.

The Fish and Wildlife Service's 65 FWCOs provide expertise to high-priority fish conservation efforts from the interior of Alaska to the Florida Keys. FWCOs are engaged in the restoration and enhancement of some of the nation's most valuable recreational and commercial fisheries. Some offices engage in wildlife conservation as well.



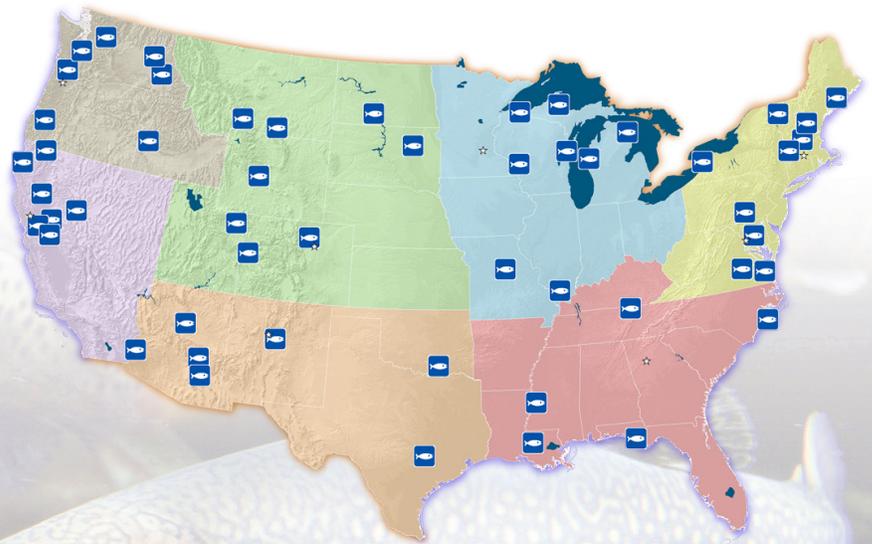
Cartersville FWCO protects the Great Lakes from invasive Asian carp.

## Conservation Solutions

The role of FWCOs is to tackle America's most complex challenges to restoring native fish. By working with partners and focusing on high-priority species and habitats, FWCOs strategically address the most pervasive threats to fish populations in the U.S. Activities to conserve and restore include:

- Fisheries restoration
- Aquatic invasive species control
- Habitat restoration
- Technical assistance
- Military lands conservation

## Locations of FWCOs



Locations of nationwide network of Fish and Wildlife Conservation Offices.

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# National Fish Habitat Action Plan

## An Investment Strategy for Habitat

America's fisheries are facing a conservation crisis. Nearly 40 percent of North American fishes, 700 species in total, are imperiled. More than two-thirds of these are listed as threatened or endangered under the Endangered Species Act. Habitat alteration is the principle factor in this conservation crisis and was the motivation for the development of the National Fish Habitat Action Plan (NFHAP).

NFHAP is a national investment strategy to maximize the impact of conservation dollars on the ground. Under NFHAP, federal, state, tribal, and privately-raised funds are leveraged through regional partnerships to address the nation's biggest fish habitat challenges. For anglers, conservation groups, and industry leaders, NFHAP has become an unprecedented rallying point for those committed to conserving America's fisheries. This is the most comprehensive effort ever attempted to treat the causes of fish habitat decline, not just the symptoms. Since 2006, the NFHAP partners have:

- assessed the condition of fish habitats in the U.S. and prepared a *Status of Fish Habitats in the U.S.* report;
- established 20 Fish Habitat Partnerships (FHP) organized around aquatic geographic regions, species or aquatic system types; and
- funded hundreds of projects across the U.S. to protect, restore, and enhance priority aquatic habitats.



The Marine Resources Council, with the aid of local volunteers, have been planting red mangroves and spartina grass in the Indian River Lagoon (Pelican Island NWR), FL.



NATIONAL  
FISH HABITAT  
ACTION PLAN

## The U.S. Fish and Wildlife Service Role

Habitat conservation is central to the U.S. Fish and Wildlife Service (USFWS) mission making it a natural collaborator with NFHAP partners. Along with states, tribes, other federal agencies, non-governmental organizations, and industry, the USFWS administers habitat conservation actions that support the mission and goals of NFHAP. The USFWS provides technical expertise for local restoration projects, supports FHP organizational development, and national partnership administration in an effort to conserve America's fisheries.



New Mexico Fish & Wildlife Conservation Office staff anchor geo-web into the stream bottom of the Sante Fe River.

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# National Fish Hatchery System

## A National System of Conservation Hatcheries

The National Fish Hatchery System is comprised of a network of field stations throughout the nation that work with tribal, local, and state governments, other federal agencies, and foreign nations to conserve fisheries. The work of experts in many disciplines set a global standard for healthy freshwater fisheries and aquatic ecosystems for both recreation and conservation. The system includes 72 National Fish Hatcheries, one historic hatchery, nine Fish Health Centers, seven Fish Technology Centers, and the Aquatic Animal Drug Approval Partnership.

## Restoration, Recovery, and Refugia

The NFHS is a key contributor to the restoration and recovery of federally-listed and non-listed aquatic species with declining populations. With a network of facilities located across the country, hatcheries are well positioned to provide refugia to populations impacted by wildfire, drought, and other conditions expected to become more common with a changing climate.



Robert H. Pos/USFWS

## Recreation

Conservation of fishes and their habitats enhances angling opportunities – “We make fishing better!” The National Fish Hatchery Staff across the country work closely with partners to enhance fishing access and opportunities by restoring depleted fish populations nationwide. Recreational angling generates \$554 million in retail sales and \$903 million in industrial outputs. The hatchery system Broodstock program provides a foundation of healthy fish and fish eggs that support a robust sportfish population across the nation.



Robert H. Pos/USFWS

The Service’s responsibilities and authorities for native fish and recreational fishing are established in a variety of laws and executive orders that support activities of more than 58 million recreational anglers. The Service implements provisions under the authority of these laws through a variety of significant partnerships.

## Outdoor Classrooms and Friends

Through the NFHS Volunteer Act of 2006, Fish and Aquatic Conservation offers outdoor classroom opportunities for over one million youth each year. Classrooms combine learning with personal experiences with fish, aquatic species and their habitats, and the cultural and historical resources found at hatcheries.



USFWS

Families, volunteers, partners, and Fishery Friends Groups deliver a wide array of formal and informal conservation education programs at hatcheries and surrounding communities.

In all, these education opportunities will help us better understand the world around us, as well as impart joy and a sense of stewardship for natural resources for conservationists yet to come.

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# National Fish Hatchery System: Fish Health Centers

## The National Fish Hatchery System

The National Fish Hatchery System (NFHS) is a key contributor to the restoration and recovery of federally-listed and non-listed aquatic species with declining populations. A unique network of highly-skilled scientists work with hundreds of State, tribal, and non-governmental organizations and private citizen partners to deliver conservation of federally-listed and non-listed aquatic species. These conservation efforts include propagation of healthy aquatic species with the correct genetic strain to help re-establish wild populations; applied research, aquatic animal health diagnostics, and assessment; development of models to better focus management activities in the face of changing environments; and development of new aquatic animal drugs. The NFHS consists of 72 National Fish Hatcheries (NFHs), one historic hatchery, seven Fish Technology Centers (FTCs), nine Fish Health Centers (FHCs), and the Aquatic Animal Drug Approval Partnership Program (AADAP). The Service's FHCs provide a scientific foundation for many recovery and restoration programs. Ready access to science and technology support enables aquatic resource managers to work smarter, focus limited resources on effective management strategies, and achieve the Service's aquatic conservation mission.

## Protecting and Monitoring Aquatic Animal Health

Fish Health Centers were established in 1965 to monitor aquatic animal health within NFHS and provide assistance and advice on aquatic animal health to states, tribes, other Nations, and the aquaculture industry.



*Columnaris disease chinook gill.*

Today, Fish Health Centers continue to provide diagnostic support to the National Fish Hatchery System and the wider fish culture community. Centers partner with other Federal agencies in implementing the National Aquatic Animal Health plan. Centers disseminate information of the health status of wild aquatic animal populations in the United States through the National Wild Fish Health Survey and its publically accessible database.

Like all animals, fish are susceptible to a variety of environmental, nutrition, and infectious disease. If left untreated, these diseases can often lead to death. Infectious diseases, those caused by pathogens—organisms such as parasites, bacteria, or viruses—are of special concern because they can be easily spread to other fish within a hatchery, to another hatchery during fish transfers, or to wild populations if infected fish are released.

## What Fish Health Centers Do

Fish health centers personnel have diverse talents. There are experts in fields like fish biologists, microbiology, epidemiology, toxicology, pathology, physiology, histology, and even genetics and they all work hard to keep our fisheries healthy for anglers, outdoor enthusiasts, and resource users across the board. It's not an easy task, and requires a lot of knowledge in order to do it well.

Normal activities a U.S. Fish and Wildlife Service Fish Health Center include:

- Frequently checking on the general health of fish within hatcheries;
- Screening for disease (viral, bacterial, parasites) dangerous to fish;
- Monitoring selected wild stocks of fish;
- Reducing the Spread of Fish Pathogens in hatcheries and the wild; and
- Treating Infected Fish.

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## Serving the Fish Culture Community

Fish Technology Centers were established in 1965 to develop and improve fish culture technique and provide assistance and advice on fish culture to National Fish Hatcheries, other Nations, and the aquaculture industry.

Today, Fish Technology Centers continue to provide technical support to the National Fish Hatchery System and the fish culture community, with emphasis on:

- Improving the quality, genetic diversity, and post-release survival of captive-reared fish;
- Identifying and reducing any detrimental effects of hatchery releases on wild fish populations;
- Developing technologies to reduce water consumption and pollution in hatcheries;
- Developing and improving diets to meet nutritional requirements of captive-reared fish;
- Developing culture techniques and diets for endangered and threatened species, maintaining captive populations and broodstocks, and assisting in monitoring the success of reintroductions; and
- Supporting the National Grass Carp Certification and Inspection Program.

## Summary

Fish Technology Centers provide leadership and guidance to the fish culture community and help ensure that aquatic enthusiasts will have healthy waterways for generations to come. Fish culture studies focus on reducing costs, enhancing fish quality, and improving overall fish culture operations. To maintain and improve nation's our fisheries, it's critical to produce fish that are healthy, genetically diverse, and well-adapted to fishery management objectives. This could not be done without the hard work of Fish Technology Center staff.



*Endangered Atlantic salmon conservation needs the assistance of National Fish Hatcheries; those hatcheries are guided by diet and genetics research underway at the Lamar Fish Technology Center in Pennsylvania.*

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# National Fish Passage Program

## Connecting Fish to Habitats

Rivers and waterways provide a vast array of resources to communities. They are a source of recreational enjoyment, commerce and are the prime gathering point for many of the nation's largest urban areas. With all the uses and demands on rivers and water from development and human expansion, they have become heavily fragmented by over 6 million structures like dams, culverts, and levees making rivers unsafe and causing declines in fish populations.

The National Fish Passage Program (NFPP) works with local communities on a voluntary basis to conserve our nation's aquatic resources and restore our free flowing rivers by removing or bypassing barriers. The program has benefited fish, wildlife, and humans in numerous ways. They restore fish populations for an increased and a self-sustaining recreational fishery, community infrastructure resilience, and to restore the beauty of free flowing waters.



*The National Fish Passage Program helped remove Troy Dam, an obsolete concrete structure built in 1940s. Fish now freely pass upstream.*

## Sustaining Outdoor Recreation

Removing barriers allows kayakers to run the rivers, as well as helping restore and maintain healthy fish populations for recreational fishing. Wildlife viewing increases with restored rivers and wetlands. Together all these activities create an economic engine for local towns.



*Recreational paddlers utilizing the new rock ramp at the Hartland Diversion Dam on Gunnison River - 2012.*

## Economics and Infrastructure

The program works with landowners to utilize water diversion systems that are efficient at retrieving and keeping water thereby saving time and money as well as saving the fish. Same can be said with road stream crossings that are built for fish passage. The infrastructure is resilient to higher flood standard and benefits the communities by saving money in long term repair and replacement costs.

Since launching in 1999, the NFPP has removed 1,670 fish passage barriers; reopened 25,532 river miles, 169,254 wetland acres, and benefited over 90 species of fish. With a 3:1 ratio of non-federal match to federal NFPP dollars, it has supported 219,195 jobs and over \$2 billion in economic value to local communities based on a U.S. Fish and Wildlife Service economic study conducted in 2010.



*Fish screens protect fish from being caught and killed diversions such as the one at Ray Canal.*

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