U.S. FISH AND WILDLIFE SERVICE

LA CROSSE FISH HEALTH CENTER

August Station Highlights

The La Crosse Fish Health Center (LFHC) is located in Onalaska, Wisconsin and is responsible for fish health management within the Big Rivers/Great Lakes region of the upper Midwest. Primary responsibilities include inspection, certification and diagnostic services for federal hatcheries, providing inspection and laboratory services for state, federal and tribal agencies, surveillance of target pathogens as part of the National Wild Fish Health Survey, providing training in fish health management, monitoring use of drugs and chemicals for national fish hatchery use, researching fish health management and assisting in design and implementation of surveillance, and control of invasive aquatic pathogens in cooperation with state, tribal, federal and non-governmental agencies.

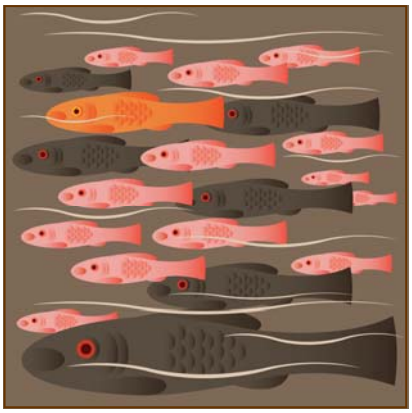
LABORATORY TESTING SERVICES

The La Crosse Fish Health Center provided laboratory testing services in August to: Kakagon Slough (Lake Superior) (Great Lakes Indian Fish and Wildlife Commission), Brule River (Wisconsin Department of Natural Resources (WDNR)), Governor Tommy Thompson State Fish Hatchery (WDNR), Wind Pudding Lake (WDNR), Lower Kaubishine Lake (WDNR), Black River (WDNR), Pearl Lake (WDNR), Alpine Lake (WDNR), the Upper Mississippi River Pool 8 (Minnesota Department of Natural Resources (MDNR)), Waterville Area Fisheries Office (MDNR), Rathbun State Fish Hatchery (Iowa Department of Natural Resources), Castalia State Fish Hatchery (Ohio Department of Natural Resources (ODNR)), London State Fish Hatchery (ODNR), Lake Erie (ODNR), Sullivan's Creek National Fish Hatchery (USFWS), Pendills Creek National Fish Hatchery (USFWS), Iron River National Fish Hatchery (USFWS), Genoa National Fish Hatchery (USFWS),

Jordan River National Fish Hatchery (USFWS), Rydell National Wildlife Refuge (USFWS), and the United States Geological Survey in Washington State. (by Julie Teskie)

AQUATIC SPECIES CONSERVATION AND MANAGEMENT

La Crosse Fish Health Center Staff Conduct Annual Fall Inspections at Pendills Creek and Sullivans Creek National Fish Hatcheries



On August 5th and 6th Julie Teskie and Corey Puzach of the La Crosse Fish Health Center completed the annual fall inspection at Sullivans Creek National Fish Hatchery and Pendills Creek National Fish Hatchery. The purpose of the inspection is to screen for any harmful pathogens. Ten lots were sampled at Sullivans Creek NFH, and 4 lots were sampled from Pendills Creek NFH. Each lot is screened separately for certifiable pathogens. A total of 215 fish were sampled from each hatchery.

Julie Teskie taking samples during the inspection at Pendills Creek National Fish Hatchery (Photo by Corey Puzach).

A kidney swab was taken to screen for the bacterial pathogens *Aeromonas salmonicida*, *Yersinia ruckeri*, *Citrobacter freundii*, and *Edwardsiella ictaluri*. A second kidney sample was taken to be screened for *Renibacterium salmoninarum*, the causative agent of Bacterial Kidney Disease. Kidney and spleen samples were collected and screened for viruses such as Infectious Pancreatic Necrosis virus (IPNv), Oncorhynchus Masou Virus (OMv), Viral Hemorrhagic Septicemia virus(VHSv), and Infectious Hematopoietic Necrosis virus (IHNv). The fish were also screened for the parasite *Myxobolus Cerebralis*, commonly referred to as Whirling disease. These inspections are important to stay current on the fish health component of the hatchery.

The water supplies for each hatchery were also inspected for the pathogens mentioned above. Hatchery staff collected wild fish with electrofishing equipment from Sullivans Creek and Videans Creek. It is important to examine these wild fish to ensure the health of the hatchery raised fish. (by Corey Puzach)

PUBLIC USE

The La Crosse Fish Health Center's New Website

The La Crosse Fish Health Center's website has received a much needed facelift recently. Previously, the website consisted of only one page and was short on the details of what it is that we do here. There are now over 55 pages which highlight the many aspects of fish health operations in Region 3.

Julie Teskie has been working on the site using Dreamweaver software in order to increase public awareness on the issues of fish health, and improve the intra-agency flow of information.

A major addition to the website is the section on bacterial, viral, fungal and parasitic diseases. It includes descriptions of the symptoms and pathology of significant fish diseases, as well as species affected and commonly applied treatments.

Bacteriology

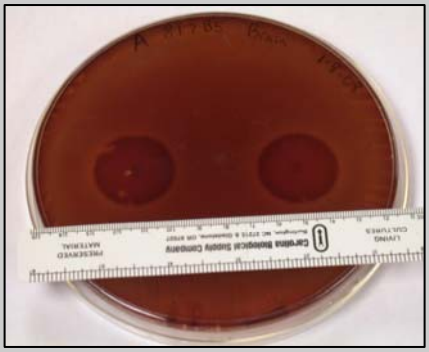
Many different tests are run in the bacteriology lab to order to determine the presence of disease-causing bacteria. (Ryan Katona LFHC)

Bacteria are one-celled microscopic organisms which live and grow naturally in nearly all environments. In a balanced ecosystem, bacteria and fish can live in harmonious equilibrium. Aquaculture practices, however, often disrupt the normal balance between fish and environmental bacteria. Crowding, improper flow rates, poor water quality, handling and poor diet can all offset the natural balance between fish and the environmental bacteria, thus increasing the fish's susceptibility to pathogenic organisms.

Bacterial diseases that we screen fish for include:

Bacterial Kidney Disease
Enteric Redmouth
Enteric Septicemia

Furunculosis



Streptococcus bacteria showing circular areas of antibiotic sensitivity. (Eric Leis LFHC)

Part of the "Diseases" page that features links to descriptions of common fish illnesses.

Bacterial Kidney Disease

Bacterial Kidney Disease (BKD) is also known as corynebacterial disease, salmonid kidney disease, white boil disease and Dee disease. It produces a chronic systemic infection in salmonid (salmon and trout) fish. The disease is characterized by lesions in the kidney and other organs of infected fish.

Signs of the disease include swollen kidneys with white, pus-forming lesions (lesions may also appear in the liver, heart and spleen), exopthalmia ("popeye"), hemorrhaging in the musculature, hemorrhaging and deep abscesses on the body, and swelling of the abdomen. In severe cases, the kidneys can be immensely swollen, decaying and grayish-white in appearance.

The bacterium that causes BKD is Renibacterium salmoninarum.

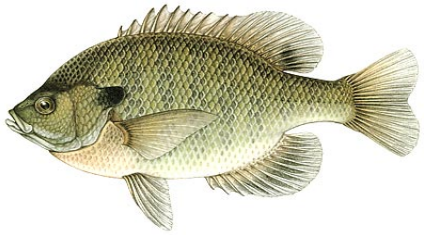
BKD has been detected in both free-ranging and hatchery-raised salmonids. All species of salmonids are susceptible to BKD in varying degrees. Pacific salmon are the least resistant, whereas, rainbow trout are the most resistant.

The disease can be transmitted both through the ingestion of feces from infected fish and from parental fish to their young.

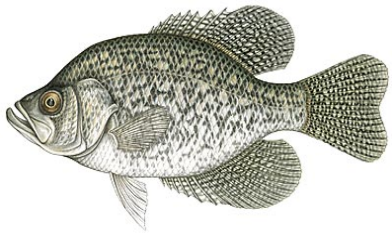
La Crosse Fish Health Center Website description of Bacterial Kidney Disease.

Another new feature is the National Wild Fish Health Survey section that highlights history and statistics of the survey and includes links that detail the species surveyed and the agencies involved.

Sunfish



Bluegill



Black Crappie

Sunfish species monitored by the La Crosse Fish Health Center in Region 3 as part of the National Wild Fish Health Survey: Black crappie (*Pomoxis nigromaculatus*), Bluegill (*Lepomis macrochirus*), Green sunfish (*Lepomis cyanellus*), Longear sunfish (*Lepomis megalotis*), Pumpkinseed (*Lepomis gibbosus*), Redear sunfish (*Lepomis microlophus*), and White crappie (*Pomoxis annularis*).

Trout Suckers Bass Minnows Catfish Carp Perch Salmon Sturgeon Paddlefish

One of the "Species" pages that illustrates the variety of species surveyed in the National Wild Fish Health Survey.

Other sections include pages with information on our staff, current news, and the short course. There is also a photo album and a "contact us" page. Most pages are illustrated with photos of us involved in fish health activities.

I encourage everyone to check the new website out at: **http://www.fws.gov/midwest/LaCrosseFishHealthCenter/Index.htm**.
(by Julie Teskie)