



# La Crosse Fish Health Center

## March 2010 Monthly 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.

### Aquatic Species Conservation and Management

#### Spring Hatchery Inspection Completed at the Pendills Creek & Sullivan Creek Fish Hatchery Complex (Becky Lasee)

Fishery Biologist John Whitney of the La Crosse Fish Health Center conducted the spring fish health inspection at the Pendills Creek/Sullivan Creek National Fish Hatchery Complex the week of March 1<sup>st</sup>. Fish health samples were collected from 140 fish (representing 9 lots) from Sullivan Creek lake trout brood stock facility and 300 fish (6 lots) at Pendills Creek lake trout production hatchery. Samples tested negative for the bacterial, viral and parasitic certifiable fish pathogens. The hatchery complex maintains its Class A status (free of all certifiable pathogens).

#### Inspection Completed at Genoa National Fish Hatchery

(Sarah Bauer)

Eric Leis, fishery biologist at the La Crosse Fish Health Center conducted the annual spring fish health inspection at Genoa National Fish Hatchery. Eric was accompanied by SCEP and STEP students from the La Crosse Fish Health Center Ryan Katona, Chris Olds, Beka McCann, and Sarah Bauer. Genoa NFH is an unique hatchery because it raises both cold and warm water fish species. Fish health samples were taken from 620 fish representing 12 different species of fish. Laboratory results from the inspection are still pending.

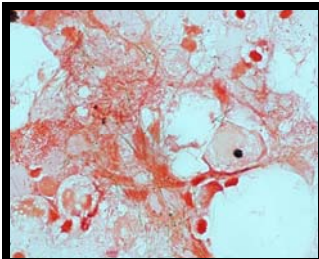
Eric Leis taking health samples from largemouth bass (Photo : S. Bauer)



# Fish Disease Diagnostics at the La Crosse Fish Health Center

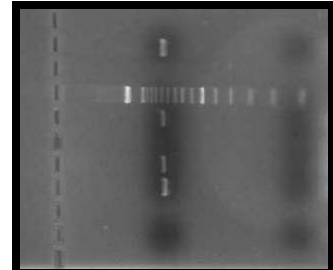
(Becky A. Lasee)

Throughout the year, staff at the La Crosse Fish Health Center diagnose and identify disease problems in hatchery fish and wild fish populations. On average, Center biologists conduct thirty diagnostic examinations per year. LFHC staff use both traditional post-mortem and molecular techniques to identify disease problems. Initial steps include performing skin scrapings to reveal any bacteria or parasites. The next steps might be culturing the pathogen in



Gram stain smear from skin lesion showing bacteria (Photo: B. Lasee)

specific media or cell cultures, or performing a molecular technique like polymerase chain reaction (PCR). It may take hours or several weeks to make a diagnosis. Sometimes the specific cause of fish morbidity or mortality cannot be identified.



Traditional PCR results confirming Coldwater disease (Photo: B. Lasee)

In hatcheries, diseases can occur from environmental problems and pathogens. Common bacterial problems include bacterial gill disease (BGD), columnaris disease, coldwater disease (CWD) or furunculosis. Recently, cases of CWD have increased throughout the U.S. as well as reports of antibiotic resistant strains.



Yellow grub infection on Fathead minnows (Photo: K. Peters)

Common parasite problems are caused by monogenetic flukes like *Gyrodactylus* spp., tapeworms like *Corallobothrium* sp. in catfish, digenetic trematodes (e.g., “ich”, black-spot, yellow grub, white grub) and copepod parasites like *Salmincola* spp.



*Gyrodactylus* sp. (Photo: B. Lasee)

Large kills caused by viruses are infrequent in hatcheries but occur in wild populations due to Viral Hemorrhagic Septicemia (VHS), Largemouth Bass Virus (LMBV), Spring Viremia of Carp Virus (SVCv) and others.



A largemouth bass infected with Largemouth Bass Virus (LMBV) (Photo: B. Lasee)



*Salmincola* sp. Attached to the gill of a brook trout (Photo: S. Bauer)

# Leadership in Science and Technology

## Fish Health Presentations at the World Aquaculture Society Conference (Eric Leis)

Fish Health Biologists, Corey Puzach and Eric Leis, from the La Crosse Fish Health Center traveled to San Diego, CA for the World Aquaculture Society Conference. There they listened to a variety of presentations given on different aquaculture-related topics delivered by speakers from around the world. In addition to fish health, there were also sessions dealing with shellfish and crustacean health. These were especially interesting to fish health staff because professionals in those fields face the same types of issues with diagnostic methods that fish health biologist experience. Corey and Eric gave oral presentations on fish parasites during the "Fish Health and Parasites" session. Overall, the conference was very interesting because the diversity of the topics presented gave the biologists insight to the advancements of aquaculture around the world.

## Annual FWS Fish Health Biologist Meeting in Albuquerque, NM (Becky A. Lasee)

Terry Ott, Becky Lasee and Ken Phillips of the La Crosse Fish Health Center attended the annual Fish Health Biologist meeting that was held in Albuquerque, NM on March 16-18. The first day of the meeting consisted of discussions on SHC and LCC's, national program priorities, the National Wild Fish Health Database and the National Aquatic Animal Health Plan. Later the same day, the Bozeman and La Crosse Fish Health Centers gave scientific presentations on cutthroat trout virus (CTV), the Asian carp rapid response rotenone project on the Cal-Sag, pathogen survey of baitfish, and an update of EEDv, VHSV and other viruses in Region 3. On Wednesday, biologists attended the Climate Change and Conservation of Native Amphibians and Reptiles workshop that was also held in Albuquerque. One highlight of this meeting was presentations by Dr. Allan Pessier, Veterinary Pathologist with the San Diego Zoo. He discussed the role of emerging infectious diseases in captive amphibians and gave a thorough demonstration of amphibian anatomy, histology and histopathology.



Attendees of the National Fish Health Biologist meeting held in Albuquerque (Photo: N. Heil).

## Public Outreach

### Recognizing Our Volunteers (Sarah Bauer)

Volunteers assist many programs and daily activities at fisheries offices and other Fish and Wildlife Service offices. In March, the La Crosse National Fish and Wildlife Office held their annual volunteer banquet to honor and show appreciation to their volunteers. The Genoa National Fish Hatchery and La Crosse Fish Health Center participated in the banquet.

It was an easy decision to select who would be the La Crosse Fish Health Center's volunteer of the year, Beka McCann. She had donated over 250 hours of her time to assist staff in the bacteriology and histology labs. She made such an impression on Center staff, the opportunity arose to hire her as a STEP student. It was a surprise for Beka McCann because she had no idea she was going to be honored at the banquet as volunteer of the year. This made the moment even more special when Eric Leis, La Crosse Fish Health Center biologist, presented Beka with the award.



Eric Leis presenting Beka McCann with the volunteer of the year award (Photo: S. Bauer)

### La Crosse Fish Health Center Assists with Western Technical College (Eric Leis & Sarah Bauer)



Eric Leis (background) assisting a student with PCR (Photo: D. Waller)

In March, La Crosse Fish Health Center was contacted by Diane Waller, biology professor, from Western Technical College (WTC) to help set up a laboratory exercise for the spring semester introductory biology class. LFHC staff assisted WTC in setting up the exercise which allowed students to learn about polymerase chain reaction (PCR). PCR is an assay which involves the amplification of a specific sequence of targeted DNA. The assay has many applications in a wide variety of fields. For example, it is used in the medical field to identify the presence of diseases and in law enforcement PCR can be used to link criminals to the crime scene.

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## Western Technical College (continued)

The LFHC uses the assay to confirm the presence of a variety of bacterial, viral and parasitic pathogens. Students gained practical knowledge of PCR and how to interpret the results of the assay.

Staff from the La Crosse Fish Health Center have worked with Diane Waller previously. Diane is trying to develop a zoology course at WTC involving the local fish and parasites. She visited the lab over winter break to get practical experience staining, mounting, and identifying parasites from bluegill and largemouth bass.



Diane Waller (left) learning to identify parasites from largemouth bass (Photo: C. Puzach)