

# Fisheries and Aquatics Bulletin

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## From the Assistant Program Coordinator's Desk

The year 2004 ended on a high note with more progress toward the conservation of fisheries and aquatic habitats. A coordinated effort to develop a **National Fish Habitat Initiative**, similar to the North American Waterfowl Management Plan, is supported by a wide range of agencies and conservation groups. The International Association of Fish and Wildlife Agencies (IAFWA) is the lead for facilitating future development of the national initiative and a National Fish Habitat Plan. The IAFWA homepage: <http://www.iafwa.org> newsletter offers updates on this (see the December issue) and other natural resource issues. The **National Fish Habitat Initiative** website: <http://www.fishhabitat.org/> has the complete final report of the **Working Group on Healthy Fish Habitats: Creating Benchmarks for Success** workshop that was held at the American Fisheries Society Annual Meeting in Madison, Wisconsin in August 2004. Support for the initiative has grown with more cooperators and sponsors joining the effort. The USGS is providing financial and technical support to IAFWA for the specific purpose of



Juvenile sucker habitat, Klamath Lake, Oregon

creating a national database of past and present fishery habitat projects and programs of Federal, State, Tribal, and non-governmental organizations. Synthesis of information within the national database would help identify successful strategies to help develop a National Fish Habitat Plan. A database specialist, working at IAFWA, will develop a NFHI central clearinghouse for methods, protocols, project designs, and criteria for prioritizing future efforts for all participants in National Fish Habitat conservation planning and project implementation. The USGS will also provide the information infrastructure to compile this information.

## Science Features: A focus on fish health

### [USGS tests the efficacy of two treatments to control bacterial kidney disease.](#)

Mark P. Gaikowski, USGS Research Physiologist at the Upper Midwest Environmental Sciences Center has received funding through the USGS Science Support Program to compare alternative treatments to control *Renibacterium salmoninarum*, the causative agent of Bacterial Kidney Disease (BKD). Elimination of the disease from eggs and juvenile lake trout, *Salvelinus namaycush*, is a priority for the USFWS. The majority of wild lake trout that can be collected as potential broodstock test positive for *R. salmoninarum*. The small, gram-positive non-motile, rod-shaped bacterium is an intracellular parasite that has both vertical (parent to egg) and horizontal (fish to fish) modes of transmission. Eggs will be treated at the time of fertilization when vertical transmission can occur. When lake trout are large enough, the fish will be given an intramuscular injection or be fed medicated feed. Demonstration of the efficacy of the two treatments, enrofloxacin or florfenicol, would allow the USFWS to produce limited numbers of BKD-free broodstock that could be used to replenish the in-bred broodstock populations found at BKD-free hatcheries. For information contact Mark Gaikowski [mgaikowski@usgs.gov](mailto:mgaikowski@usgs.gov). Mark will work closely with Douglas Aloisi, USFWS Genoa National Fish Hatchery Manager and Becky Lasee of the USFWS LaCrosse Fish Health Center.



Juvenile Chinook salmon with bacterial kidney disease

### [USGS conducts bacterial kidney disease research to aid Great Lakes salmon](#)

Dr. Diane Elliot of the USGS Western Fisheries Research Laboratory (WFRC) is conducting disease challenges with *Renibacterium salmoninarum*, the causative agent of bacterial kidney disease (BKD). The studies are designed to determine differences in BKD susceptibility between Great Lakes and west coast Chinook salmon and to examine possible mechanisms associated with the differences. The challenges will use two mutant strains of *R. salmoninarum*, each lacking one gene coding for the p57 antigen, believed to be a major virulence factor. Fluorescence staining methods will be tested as a means of assessing the viability of *R. salmoninarum* in environmental samples or fish. This research is being conducted for the Great Lakes Fishery Trust to develop methods to detect and manage disease in Great Lakes salmon. The WFRC has been conducting studies on the detection, transmission, and development of bacterial kidney disease in Great Lakes salmon since 1999. For more information about WFRC research on BKD in the Great Lakes contact Dr. Elliot [diane\\_elliott@usgs.gov](mailto:diane_elliott@usgs.gov) or view research summaries at:

<http://wfrc.usgs.gov/research/fish%20health/STPascho1.htm>

## [Ichthyophonus disease in Yukon River Chinook salmon](#)

*Ichthyophonus hoferi*, an organism, similar to a fungus, has been identified as a potential cause of mortality in adult Yukon River Chinook salmon prior to reaching their spawning streams. Increasing temperatures in the Yukon River in the past few decades may be associated with increased severity of the disease in these important fishes, causing adverse flesh quality and possible pre-spawning losses. Scientists at the USGS Western Fisheries Research Center (WFRC), are working in collaboration with Dr. Richard Kocan at the University of Washington with major funding from the US Fish and Wildlife Service Office of Subsistence Management in Anchorage, Alaska. The researchers recently completed a five-year study on the prevalence and intensity of *Ichthyophonus* infections in returning adult Chinook salmon in the Yukon River. Annual changes in disease severity were related to changes in river conditions, especially temperature. More than 25% of Yukon River Chinook salmon entering the river were already infected with *Ichthyophonus*. Signs of disease were at first minimal but increased significantly when fish reached the middle river. Infection prevalence remained relatively constant until fish reached the upper Yukon where it dramatically dropped to 10% or less. A dramatic decrease in infection prevalence in females near the end of their spawning migration in the upper Chena River was similar to that seen at Whitehorse in other years. The difference in infection and disease prevalence in females may be caused by diseased fish dropping out of the population as they progress upstream.

The final report to the US Fish and Wildlife Service can be read at:

[http://www.fish.washington.edu/people/kocan/ichthyophonus\\_final/](http://www.fish.washington.edu/people/kocan/ichthyophonus_final/)

A related journal article was published this year.

Kocan, Richard, Paul Hershberger and James Winton. 2004: **Ichthyophoniasis: An Emerging Disease of Chinook Salmon in the Yukon River.** *Journal of Aquatic Animal Health*: Vol. 16, No. 2, pp. 58–72.

For more information on this and related fish health research at the USGS-WFRC contact: Dr. James Winton, [jim\\_winton@usgs.gov](mailto:jim_winton@usgs.gov)

## [Whirling Disease Research News](#)

The Steering Committee for the National Partnership for the Management of Wild and Native Coldwater Fisheries issued its ninth Whirling Disease Initiative **Request for Proposals** on December 20, 2004. The deadline is fast approaching for 2005-2006 research proposals. Full proposals are due February 14, 2005. For more information on the proposal requirements, visit the following site: [http://water.montana.edu/mwc/programs/fisheries/whirling/pdfs/WDI\\_RFP\\_050214.pdf](http://water.montana.edu/mwc/programs/fisheries/whirling/pdfs/WDI_RFP_050214.pdf)

USGS scientists from three Cooperative Research Units and the USGS Fort Collins Science Center are members of interagency and interdisciplinary teams that were awarded funding for projects during the 2004-2005 call. Research summaries and contact information are available at:

[http://water.montana.edu/mwc/programs/fisheries/whirling/pdfs/summaries\\_2004-2005.pdf](http://water.montana.edu/mwc/programs/fisheries/whirling/pdfs/summaries_2004-2005.pdf)

## Go to Great Links

### New Web Site!

#### Whirling Disease Initiative

The Whirling Disease Initiative located in Bozeman, Montana and housed at the Montana Water Center on the University of Montana campus has released a new central, online informational web site:

<http://whirlingdisease.montana.edu>.

Features include: research reports, publications, a contacts list, maps, graphics, application tools, and outreach tools. You will find background information about the National Partnership for the Management of Wild and Native Coldwater Fisheries that oversees the Initiative, as well as related whirling disease meeting and conference information. Whirling disease is caused by the metazoan organism *Myxobolus cerebralis*, a European parasite that has spread to salmonids in hundreds of streams and hatcheries in the northeastern and western United States.

#### USGS-BRD Fish Health links

**Western Fisheries Research Center**  
Fish Health Branch

<http://wfrc.usgs.gov/research/fishhealthintro.htm>

**Leetown Science Center**  
**National Fish Health Laboratory**  
Fish Health Branch

<http://www.lsc.usgs.gov/FHBindex.asp>

**Upper Midwest Environmental Sciences Center**

Fishery Drug & Development Program

[http://www.umesc.usgs.gov/aquatic/drug\\_research.html](http://www.umesc.usgs.gov/aquatic/drug_research.html)

**Yukon River Panel** - For more information on the US-Canada transboundary Yukon River Panel, comprised of representatives from both State and Federal agencies, and local and regional organizations in the U.S. and Canada that work together to conserve and manage Yukon River salmon, visit: <http://www.yukonriverpanel.com/index.htm>

**FHS NEWSLETTER** - The American Fisheries Society, Fish Health Section newsletter is posted on the website: <http://www.fisheries.org/fhs/>

## Meetings

The USGS Eastern Region is sponsoring a workshop entitled **Linking hydrological change and ecological response in streams and rivers of the eastern United States**. The focus of the workshop is on rivers and streams of the eastern United States, but one purpose of the workshop is to improve communication and promote collaborations among scientists and aquatic resource managers. Presenters will provide information with examples and experiences from across the country that can be applied in eastern rivers. Experts from 16 different Federal, State, and non-governmental groups will present 30 oral presentations. Panel discussions follow each session and there will be an evening poster session. The workshop will encompass issues and information needs of partners and stakeholders including:

- Standards and criteria used by regulators to set flow requirements and evaluate withdrawals and diversions
- Current techniques used to characterize and monitor the hydrological regime
- Current techniques used to characterize and monitor the biological regime
- Case studies that have successfully linked hydrological change and biological response
- State-of-the-art modeling efforts
- Perspectives on priority research needs and challenges
- Opportunities for research collaborations across USGS Disciplines, Regions, and with partners

The workshop will be held in Herndon, Virginia February 8-10, 2005 at the Days Hotel.

Contact: William Lellis for workshop information: [wlellis@usgs.gov](mailto:wlellis@usgs.gov) or the workshop website: [www.lsc.usgs.gov/NARB/workshops/index.html](http://www.lsc.usgs.gov/NARB/workshops/index.html)

The **30th Annual Eastern Fish Health Workshop**, organized by the **USGS Leetown Science Center, National Fish Health Research Laboratory** and sponsored by the **USGS Fisheries: Aquatic and Endangered Resources Program** will be held June 13 - 17, 2005 at the Clarion Hotel and Conference Center in historic Shepherdstown, WV. For more information about the workshop, special sessions, the Continuing Education Program and to register, go to: <http://www.fisheries.org/fhs/eastern.htm>

## Meeting Notes

### Fish Passage Workshop

The USGS and USFWS sponsored a Fish Passage Workshop, held December 7-8, 2004 in Hadley, Massachusetts at the USFWS Regional Office. Despite bad weather the workshop was an impressive success with guest speakers and attendees from the: Forest Service, Federal Energy Regulatory Commission, National Oceanic and Atmospheric Administration, Department of Energy, National Park Service, Environmental Protection Agency, Electrical Power Research Institute, Army Corps of Engineers, Bureau of Land Management, Bureau of Reclamation, many states, and the Nature Conservancy.

The Keynote Address, by Chuck Coutant of Oak Ridge National Laboratories, discussed the dichotomy of past fish passage research which focused on either the fish or on the engineering. Speakers concluded presentations with a list of information needs of their individual agency. The move toward more emphasis interactions between fish and hydrologic effects, rather than structures, was reflected in the research needs wish list.

- Stream simulation models.
- Predictive models for barrier effects on specific species
- Genetic measurement of effects of habitat fragmentation
- Fish passage decision support systems for large watershed and states
- Focused research in watersheds with greatest numbers of upcoming relicensings
- Information on contaminated sediments

This is just a partial list of identified needs. To request copies of the workshop proceedings contact Alex Haro [haro@usgs.gov](mailto:haro@usgs.gov) at the USGS Conte Anadromous Fish Laboratory: <http://www.lsc.usgs.gov/CAFLindex.asp>

## Biological Resources Staff Updates

### Martha Garcia and Priority Ecosystems Science (PES) now in BRD

Effective October 1, 2004, Priority Ecosystems Science (PES), formerly Place Based Studies has become part of the Biological Resources Discipline. Martha Garcia will be coordinating National activities. Martha has been with the USGS for 25 years, beginning her career as a GS-3, Geologic Field Assistant with the Office of Marine Geology in Corpus Christi, TX. Following completion of her B.S in Geology and Mathematics in 1980, she transferred to Denver, CO as a geologist with the Special Projects Branch of GD assessing the geologic and hydrologic impacts of nuclear weapons testing at the Nevada Test Site. In 1993, Martha became the Associate Branch Chief for Central Regional Geology and then served as the Associate Team Chief Scientist for the National Cooperative Geologic Mapping Team. She transferred to Headquarters in 1998 to serve as the Associate Coordinator for the National Cooperative Geologic Mapping Program. In 2002, she was detailed to the Department of the Interior as the USGS Liaison to the Assistant Secretary for Water and Science. Following her detail, she returned to Headquarters to coordinate the Earth

Surface Dynamics Program and served as the Bureau Contact for Global Change Research activities.

Ongoing PES activities related to fish health include:

- Addressing the affect of endocrine-disrupting chemicals on fish egg quality and survival
- Documenting the influence of contaminants and water-quality conditions on fish larval survival
- Understanding the factors affecting the health of adult fish
- Assessing whether current regulation of biological contamination is adequate or necessary

For more information about Priority Ecosystems Science activities contact Martha at [mgarcia@usgs.gov](mailto:mgarcia@usgs.gov) .

### Jack Waide joins the USGS BRD as Program Coordinator for the Terrestrial, Freshwater and Marine Ecosystems Program

Jack B. Waide is the new Program Coordinator for USGS Terrestrial, Freshwater and Marine Ecosystems Program. Jack joined the BRD staff in Reston in October. Jack came from the Forest Service R&D Rocky Mountain Research Station in Ogden, Utah where he served as Assistant Station Director for Research. He has directly supervised six research units, an associated ecosystem management research project, and was the station leadership team lead for programs in conservation education, forest inventory and analysis, global change research, watershed research, and communications.

Jack served five and one-half years as National Program Leader for ecosystem research on the Wildlife, Fish, Water and Air Research staff in the FS R&D

Washington Office. Groups he worked with while in Washington included the Committee on Environment and National Resources, Subcommittee on Ecological Systems; interagency Task Force on Amphibian Declines and Deformities; National Drought Policy Commission, Environmental Impacts Working Group; US Global Change Research Program, Interagency Working Group for a global water cycle initiative; interagency Wilderness Policy Council; and Interagency Salmon Science Team. Jack also served as a member of the National Steering Committee for the USGS Amphibian Research and Monitoring Initiative.

Prior to the two assignments noted above, he held professional positions as Assistant Professor in the Department of Zoology, Clemson University; research ecologist in the Ecosystem Analysis Group, Environmental Laboratory, Oak Ridge National Laboratory, TN; research hydrologist in the Ecosystem Research and Simulation Division, Environmental Laboratory, USAE Waterways Experiment Station, Vicksburg, MS; research ecologist at the FS R&D Coweeta Hydrologic Laboratory, Franklin, NC; project leader and research ecologist at the FS R&D Forest Hydrology Laboratory, Oxford, MS; and senior ecologist and group leader for ecological assessment and resource management with FTN Associated Ltd, a private consulting firm in Little Rock, AR. The majority of Jack's research has focused on the organization and resilience of forest and stream ecosystems and their responses to natural and human disturbances.

We look forward to working with Jack on the many interdisciplinary projects sponsored jointly by the FAER Program and the Terrestrial, Freshwater and

Marine Ecosystems Program, and other USGS Programs. For information about the TFME Program contact Jack at:

[jwaide@usgs.gov](mailto:jwaide@usgs.gov)

or view the TFME Program website at:

<http://biology.usgs.gov/ecosystems/index.htm>

### **Stanley G. Coloff, Global Change Research and Fire Science Lead Retires**

Stan Coloff, lead for the Global Change Research Program and Fire Science, both components of the Terrestrial, Freshwater and Marine Ecosystems Program has retired. Under Stan's leadership, the Global Change program has contributed significantly to the broader global change program of the USGS and supported the US Climate Change Science Program and US Global Change Research Program. Stan raised the USGS' profile and increased its Fire Science and technical support responsibilities to DOI land management bureaus and the broader fire management community. He served as the chief USGS representative to the National Interagency Joint Fire Science Program. Stan was awarded the Superior Service Award of the Department of the Interior (DOI) in recognition of his outstanding contributions to the Terrestrial, Freshwater and Marine Ecosystems Program of the USGS.

Contact Jack Waide [jwaide@usgs.gov](mailto:jwaide@usgs.gov)

or check the TFME Program webpage:

<http://biology.usgs.gov/ecosystems/index.htm> for links to Global Change

<http://nrel.colostate.edu/>

[brd\\_global\\_change/](#)

or Fire Science information.

<http://www.usgs.gov/themes/wildfire.html>

## Dr. William Gregg, Invasive Species Program Coordinator, Retires

Dr. Gregg began his Federal career as an ecologist with the Eastern Service Center of the National Park Service. Bill also played a major role working with the Department of State to support implementation of US Strategic Plan for Biosphere Reserves. His role in developing the USGS Invasive Species Program has resulted in a strategic direction to address underlying research needs and to implement invasive species early detection and rapid response strategies. He was instrumental in establishing the National Institute for Invasive Species Science within the USGS. He helped organize the 2004 “Beijing International Symposium on Biological Invasions” which focused on the increasing exchanges of species between Eastern Asia and North America. Dr. Gregg received the Superior Service Award of the Department of the Interior in recognition of his outstanding contributions to international conservation and to the Invasive Species Program of the USGS. The program for the 2004 Beijing International Symposium on Biological Invasions can be viewed at:

[http://www.esa.org/asian/newsletters/BIS\\_OBI-PROGRAM\\_052804.pdf](http://www.esa.org/asian/newsletters/BIS_OBI-PROGRAM_052804.pdf)

Contact Sharon Gross (Acting Program Coordinator): [sgross@usgs.gov](mailto:sgross@usgs.gov) for Invasive Species Program information or visit the website: <http://biology.usgs.gov/invasive/index.htm> and visit the National Biological Information Infrastructure **Invasive Species Information Node** <http://invasivespecies.nbii.gov/>

## Job Announcements

### Northeast Consortium Seeks Director and Research Professor

The Northeast Consortium is seeking a director and research professor. The Northeast Consortium was created to encourage and fund cooperative research among fishermen, researchers, and other stakeholders to improve fishing gear technologies and marine resources.

**Review of letters of application begins February 1, 2005.** Go to the website for more information about the Consortium and the position description and application procedure:

<http://www.northeastconsortium.org/>

### [NOAA Fishery Management Officer](#) Announcement No.

NMFS-SWR-2005-0018

The position is located Long Beach, CA. The incumbent will provide senior-level support to the Regional Administrator in leadership and program management of the Southwest Region. The announcement closes February 11, 2005. For more details and to apply go to:

<http://jobsearch.usajobs.opm.gov/>

### Share Your Expertise through the Fisheries and Aquatics Bulletin

Communicate your fisheries and aquatic resources items of interest to gain national exposure. Thanks to all those who contributed material to this issue of the FAB. To send articles and photographs:

Contact: [robin\\_schrock@usgs.gov](mailto:robin_schrock@usgs.gov)  
FAER Asst. Program Coordinator  
or Jim Preacher, FAER Program  
Coordinator at [jpreacher@usgs.gov](mailto:jpreacher@usgs.gov).  
<http://biology.usgs.gov/farp/index.htm>