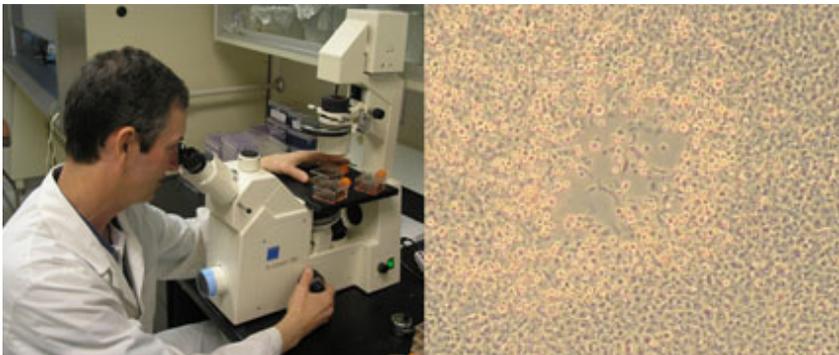




Western Fisheries Research Center (WFRC)

## Western Fisheries Science News



Viewing fish cells infected with IHN virus. The photo on the right is of a culture of fish cells infected with IHN virus and shows a focus of rounded and refractile cells characteristic of the cellular damage and eventual death called cytopathic effect. Normal cells are still present in the lower right portion of the photo. Images provided by USGS.

### WFRC – People’s Republic of China IHN Reference Laboratory Twinning Project

Infectious hematopoietic necrosis (IHN) is a rhabdoviral disease causing major losses among several species of salmonid fishes and is currently one of nine diseases of finfish listed by the OIE<sup>1</sup> World Organization for Animal Health. The USGS Western Fisheries Research Center attained OIE Reference Laboratory status for Infectious Hematopoietic Necrosis (IHN) in 1995 and today remains the only such laboratory in the world.

IHN was originally endemic among anadromous Pacific salmon on the west coast of North America, but the virus has now spread to Europe and Asia by the shipment of infected eggs or fish. Thus, additional OIE Reference Laboratories for IHN in Asia and Europe have become a critical need. To this end, the OIE is sponsoring a Twinning Project to link the existing Reference Laboratory for IHN (WFRC) with a candidate laboratory in the People’s Republic of China -- the State Key Laboratory of Aquatic Animal Health in Shenzhen, Guangdong. The project began on 1 January 2014 and will last for 2.5 years.

The main activities of the project are designed to provide training and experience that will enable the Chinese laboratory to gain OIE Reference Laboratory status for IHN. However the exchange of knowledge and skills will also provide other (Continued on page 2)

<sup>1</sup> Created by international agreement in 1924, the Office International des Epizooties became the World Organization for Animal Health in 2003 but kept its historical acronym OIE.

### Research

**USGS Ecologist Participates on Review Panel for National Sciences and Engineering Research Council of Canada:** On July 28-29, WFRC ecologist Jeff Duda participated as a subject matter expert on a review panel for the Natural Sciences and Engineering Research Council of Canada. The panel met at the University of New Brunswick to review a research proposal and learn more about the project. The proposal outlines research on the Saint John River ecosystem to be conducted in partnership with New Brunswick Power in support of an upcoming environmental impact assessment (EIA) for the aging Mactaquac Dam, which has reached the end of its service life. The scientific knowledge generated will support a pending decision to either rebuild or remove the dam, which would be among the largest dam removals to date. This integrated research program will initiate a long-term Mactaquac Aquatic Ecosystem Study designed to explore the potential consequences for the river and its reservoir. For more information, contact Jeff Duda at [jduda@usgs.gov](mailto:jduda@usgs.gov) or 206-526-6282 x233.

### Events

**USGS Leads Symposium at International Congress on the Biology of Fish:** On August 3-7, WFRC scientist Matt Mesa will participate in the American Fisheries Society Physiology Section’s 11th International Congress on the Biology of Fish at the Heriot-Watt University (Edinburgh, UK). Mesa will be moderating a symposium titled “Lampreys -Performance, physiology, and coping with environmental disturbances” which will bring together lamprey experts from around the world to share new insights into lamprey physiology and performance (Continued on page 2)

lasting benefits such as joint research opportunities. The project has a very high probability of success because the candidate laboratory is already an OIE Reference Laboratory for another fish disease, Spring Viremia of Carp, also caused by a rhabdovirus.

Activities will initially include exchange visits by experts from the WFRC parent laboratory and the candidate laboratory to assess the available equipment and level of staff training as well as to develop a training plan and cooperative research projects for the staff members that will come to the WFRC for a three-month period. Following the training phase of the project, reference samples will be sent from the parent laboratory to confirm the diagnostic skills of the candidate laboratory. After successful completion of these objectives, the candidate laboratory will host a regional workshop for Asia-Pacific countries to announce its IHN diagnostic capacity.

At the end of the project (June 2016), the OIE Central Bureau will be formally requested to grant approval of the State Key Laboratory of Aquatic Animal Health in Shenzhen, Guangdong, People's Republic of China as an OIE Reference Laboratory for IHN. For more information contact James Winton at [jwinton@usgs.gov](mailto:jwinton@usgs.gov) or 206-526-6282.

## Events

(Continued from page 1) including endocrinology, reproduction, genetics, swimming performance, metabolism, and ecology. There will be particular emphasis on the responses of lampreys to environmental stressors such as contaminants, habitat degradation, and climate change. Scientist Emeritus Alec Maule will also attend the conference as a member of the Physiology Section Executive Committee. For more information, visit <http://icbf2014.sls.hw.ac.uk/> or contact Matt Mesa at [mimesa@usgs.gov](mailto:mimesa@usgs.gov) or 509-538-2299.

**USGS Ecologist Provides Tour of Elwha River Restoration:** On July 14th, WFRC ecologist Jeff Duda traveled to the Elwha River, WA, to lead a field tour of the dam removal and river restoration. Students from around the country participated in a field trip for the Doris Duke Conservation Scholars Program at the University of Washington. Duda discussed the role that USGS has been playing in the research and restoration following dam removal on the Elwha River. For more information, contact Jeff Duda at [jduda@usgs.gov](mailto:jduda@usgs.gov) or 206-526-6282 x233.

**USGS Scientist Provides Stakeholder Perspective at White Salmon River Fest:** On July 9, WFRC scientist Brady Allen participated in a symposium panel at [White Salmon River Fest](#) in Husum, WA. The theme of the symposium centered on collaboration across user groups of the White Salmon River in the face of change. Allen described the many research projects USGS has conducted in the watershed over the last 15 years and provided the perspective of a fisheries biologist at a government agency. Discussion during the symposium focused on changes around the river and the opportunities and concerns expressed by stakeholders since removal of Condit Dam in 2011. For more information contact Brady Allen at [ballen@usgs.gov](mailto:ballen@usgs.gov) or 509-538-2299.

## In The News

On July 17, WFRC was contacted by Pat Zimmer (Bonneville Power Administration, Regional Relations) about a recent USGS article featured in the [Columbia Basin Bulletin](#). The article was based off a recent publication in Transactions of the American Fisheries Society titled "[Juvenile Anadromous Salmonid Production in Upper Columbia River Side Channels with Different Levels of Hydrological Connection](#)". Zimmer is interested in featuring this research on the [Columbia River Basin Federal Caucus website](#). For more information, contact Patrick Connolly at [pconnolly@usgs.gov](mailto:pconnolly@usgs.gov) or Kyle Martens at [kmartens@usgs.gov](mailto:kmartens@usgs.gov) or 509-538-2299.

On June 27, research by WFRC scientists was featured in an article by the [Columbia Basin Bulletin](#) (Bend, OR). The article titled "Study of steelhead passage at Lower Granite details effectiveness of surface bypass for juveniles" discusses findings from a study recently published in [North American Journal of Fisheries Management](#) of how surface bypass structures can provide safe downstream passage through dams on the Columbia and Snake rivers. For more information, contact Noah Adams at [nadams@usgs.gov](mailto:nadams@usgs.gov) or 509-538-2299.

## Publications

Donatuto, J., E.E. Grossman, J. Kovsky, S. Grossman, and L.W. Campbell. 2014. Indigenous community health and climate change: Integrating biophysical and social science indicators. [Coastal Management 42\(4\): 355-373](#).

Counihan, T.D., I.R. Waite, E.B. Nilsen, J.M. Hardiman, E.E. Elias, G. Gelfenbaum, S.D. Zaugg. 2014. A survey of benthic sediment contaminants in reaches of the Columbia River Estuary based on channel sedimentation characteristics. [Science of the Total Environment, 484: 331-343](#).

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