Thank you for your comment, Bob McClure.

The comment tracking number that has been assigned to your comment is GLMRIS50138.

Comment Date: January 19, 2011 11:46:35AM
GLMRIS
Comment ID: GLMRIS50138

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Attachment: BioSonics Profile - Fixed Position Monitoring Systems 111610.pdf

Comment Submitted:

RE: USACE Great Lakes and Mississippi River Interbasin Study (GLMRIS) to prevent aquatic nuisance species (ANS).
For any physical barrier system, serious consideration should be given to a method of continuous monitoring of waterways to document, understand, and account for movement of fish in the vicinity of these barriers. Several acoustic technologies exist that, in combination, can provide this monitoring AND can provide operational input to enable barrier systems to actively respond to the detection of suspect activity (e.g. fish or human movement). Examples of fixed-location, automated, long-term monitoring applications attached.

BioSonics Company Profile
Development of Automated Fixed-Position Monitoring Systems

BioSonics is a consulting, engineering and manufacturing firm specializing in application of hydroacoustic technology for monitoring and assessment of aquatic biological resources. Staff expertise varies widely; oceanographers to physicists to biologists, electrical engineers to programmers to applied mathematicians. For over thirty years, BioSonics scientific echosounders have been used in oceans, lakes, rivers, estuaries, or anywhere accurate assessment of aquatic organism abundance, distribution or behavior is required. Versatile, rugged, and modular designs allow for installation in every environment imaginable. BioSonics systems are used to measure plankton and silt plumes, and to provide sea bed classification and mapping of rooted vegetation. BioSonics offers a complete range of Technical Training and Support Services to meet the unique criteria of each client's project goals and site requirements. Survey design, implementation, environmental monitoring, processing, analysis and reporting are our specialties. In combination, our products and technical services provide unique monitoring solutions for researchers, regulatory agencies, power producers and private industry users worldwide.

Our client base includes hundreds of federal, state, and provincial agencies, companies, and universities worldwide. BioSonics has associations with major research laboratories including Woods Hole, Scripps, Battelle, and Monterey Bay Aquarium Research Institute, and has completed research and monitoring projects for dozens of public and private utilities.

In response to the growing need for reliable, automated, remote access fixed-location monitoring, BioSonics has developed specialized systems for fixed-location projects, equipped with automated remote alert and data backup features. BioSonics first introduced hydroacoustic fixed-position monitoring of fish entrainment and passage on the Columbia and Snake Rivers in 1980. Since then we have successfully completed similar projects in Washington, Oregon, New York, Alaska, and Manitoba, Canada.

Related Project Details

Eagle Turbine Project, Eagle, Alaska. Designed and deployed a split beam transducer hydroacoustic system for fish monitoring of a proposed kinetic hydropower site in the Yukon River. The system was successfully installed and operated over the 5-month sampling period to monitor and assess movement of juvenile and adult salmon at the site. The system was remotely accessed by BioSonics on a daily basis to observe system status, and to review and sample data. Data were analyzed and results reported. 2008 - 2010.

Missi Falls Control Structure, Manitoba, Canada. In this ongoing project we provided and deployed an automated, two transducer, split beam hydroacoustic system for assessment and monitoring of fish movements through this remote, water control facility. Data were analyzed and results presented in the report "An Assessment of Fish Movements Through Missi Falls Control Structure, Southern Indian Lake, Manitoba. 2007 – 2010.

Roosevelt Island Tidal Energy (RITE) Project, New York City, New York. This project involved pre-installation mobile hydroacoustic assessment and extensive collaboration with the client and regulatory agencies to respond to project monitoring requirements – detection of virtually every fish passing through the sample area, 24/7, for 18 months. The monitoring system at the RITE site is based on a network of 24 split-beam transducers that have been in continuous operation for more than two years. This automated, remotely accessed project has been generating hourly reports of fish detections, locations, and movement through the sampling area since October, 2006; daily summaries are automatically generated and electronically distributed to project personnel. This technology is highly scalable, making it suitable for small or large projects. 2006 – 2009.

New York State Dam, New York. Developed, installed, operated, trained client staff, automated hydroacoustic system to monitor, detect, and assess abundance in real-time of blueback herring in the forebay. The system then signals for automated fish passage and monitors passage rate through abundance reduction, returning the system to normal operation on successful passage of fish. 1990 – Ongoing.

Clackamas River Project, North Fork Dam (PGE). At this remote, unmanned site, Biosonics deployed and operated an automated, remotely-accessed two split beam transducer hydroacoustic system to continuously monitor abundance and entrainment risk of juvenile Chinook salmon. Analyzed and reported results for both spring and fall migration periods. 2003.

Other relevant fish entrainment and passage hydroacoustic monitoring and assessment projects have been completed at Bonneville, John Day, McNary, Priest Rapids, Wanapum, Rock Island, Rocky Reach, Wells, and Grand Coulee Dams on the Columbia River; at Ice Harbor, Lower Monumental, Little Goose, and Lower Granite Dams, on the Snake River; and at Dworshak Dam on the Clearwater River.