

# ALDEN

## Pilot-Scale Studies



Alden has been developing and testing fish protection technologies since 1973. We have developed an extensive database on the biological effectiveness of most available technologies for many species in all types of waterbodies. A number of emerging technologies have recently been developed for application at water intakes, but do not have sufficient data to prove compliance with the impingement and entrainment performance standards.



A pilot-scale study designed by Alden provides five main benefits:

- Quantifies the biological effectiveness of a selected technology under the design, operational, hydraulic, and environmental conditions at your CWIS

- Optimizes the technology design and operation for your CWIS configuration

- Familiarizes your operators with the technology design and O&M requirements

- Satisfies agency personnel that your selected technology will comply with §316(b) requirements

- Avoids large retrofit costs by determining that your technology will be effective prior to full-scale installation



Alden has compiled many comprehensive reviews on fish passage and protection technologies for the Electric Power Research Institute (EPRI), including the 2004 report entitled "Procedural Guideline for Evaluating Alternative Fish Protection Technologies to Meet Section 316(b) Requirements of the Clean Water Act." In addition, Alden played an active role in providing technical comments to UWAG and EPRI during the §316(b) Phase I and Phase II rulemaking. Alden has a long-standing working relationship with the EPA, FERC, USFWS, NOAA, DOE, USACE, and many regional, state and local agencies that is based on a history of successful interaction and mutual respect.