



Biological Monitoring in Support of Section 316(b) Determinations



The new Clean Water Act §316(b) Rule contains several requirements that drive the need for various monitoring programs and studies to support monitoring of fish, shellfish and other aquatic communities, including T&E species. Some examples include:

1. Preparation of a Biological Community Characterization Study (§122.21(r)(4)) if existing information is not sufficient;
2. Impingement monitoring, pilot and/or optimization studies in support of impingement BTA selection (§122.21(r)(7));
3. Impingement BTA compliance under §125.94(c) Option 7;
4. Requirement for two years of monitoring as part of the Entrainment Characterization Study (§122.21(r)(9));
5. Potential pilot studies in support of Comprehensive Technical Feasibility and Cost Evaluation Study (§122.21(r)(10)).
6. Calculation of the biological and economic benefits of Entrainment BTA alternatives as part of the Benefits Valuation Study (§122.21(r)(11)).

Any site-specific biological data used in the Feasibility, Benefits Valuation and Other Environmental Impact studies (§122.21(r)(10) through (12)) will be subject to rigorous independent review as part of the required Peer Review Process (§122.21(r)(13)). Given the importance of these site-specific data and considerable review of any entrainment data collected, it is imperative that any biological monitoring studies be carefully designed, executed in a technical sound manner and subject to the appropriate Quality Assurance and Control measures to ensure the data are sufficient for the §316(b) BTA Determination process.

What ASA can do for you?

ASA has industry experts and senior level scientists who can leverage their national experience successfully addressing all aspects of biological monitoring that might be required for §316(b) to **cost-effectively**:

- Design technically-sound sampling of entrainment, impingement and associated aquatic ecosystem features.
- Conduct all studies efficiently and with rigorous attention to defensible scientific methods.
- Manage and analyze the resulting data.
- Prepare technical reports that are thorough, yet readable to effectively convey the relevant information.

ASA's excellent reputation with many Federal and State agency representatives, coupled with our significant experience and success with §316(b), allows us to provide **effective solutions** that balance our client's objectives with regulatory requirements.



Service Areas and Experience

FEATURES

- Over 40 years of experience providing §316(b) compliance services.
- Senior staff are leading experts for the power and utility industry.
- Strategic compliance and research support to the Electric Power Research Institute (EPRI), power, utility and industrial clients on the §316(b) Rule.

BENEFITS

- Extensive knowledge of facilities affected by the Rule and insight to frame tailored and successful compliance strategies.
- Access to the best-qualified staff serving the industry and organizations such as EPRI.
- In-house specialty capabilities to perform required monitoring, develop BTA controls, and reporting.
- Proactive, science-based solutions built in cooperation with our clients regardless of project or staff location.

Study Design

- Developed statistically-sound sampling plans for biological monitoring studies at more than 50 facilities nationwide.
- Prepared technical support documents on biological monitoring at cooling water intakes for the Electric Power Research Institute (EPRI).

Agency Consultation

- Successfully negotiated biological monitoring requirements with state and federal agencies.

Biological Monitoring

- Successfully completed impingement and entrainment monitoring at more than 30 facilities.
- Successfully completed impingement survival studies at more than a dozen facilities.
- Recently completed the only successful entrainment survival studies in more than 25 years at a number of facilities.
- Successfully completed BTA alternative performance studies at more than two dozen facilities.

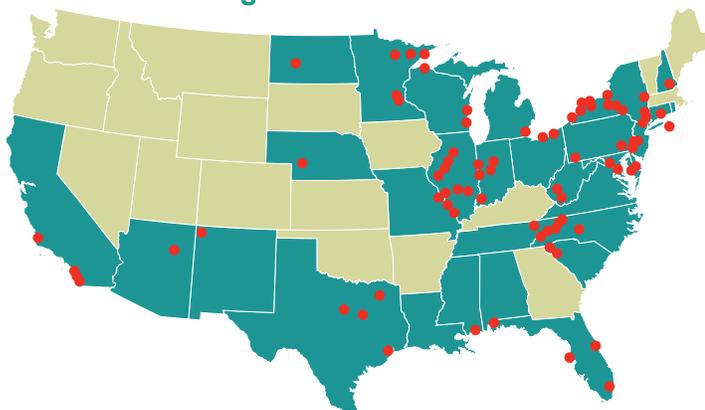
Quality Assurance/Quality Control

- Developed project specific Quality Assurance Plans for numerous facilities.
- Conducted third-party QA audits on ongoing §316(b) studies.

Data Management and Analysis

- Developed and managed a large-scale biological monitoring database spanning over 40 years of studies and hundreds of thousands of records.
- Developed and utilized state-of-the-art statistical modeling techniques to analyze entrainment and impingement survival data.

ASA has delivered successful solutions for over 100 facilities throughout the United States



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