# AMY S. GREENE **ENVIRONMENTAL** CONSULTANTS ....

# ECOLOGICAL RISK ASSESSMENT

AMY S. GREENE ENVIRONMENTAL CONSULTANTS, INC. (ASGECI) provides natural resources surveys and ecotoxicological evaluation of soil, sediment, and surface water sampling results for incorporation into screening level ecological risk assessments and baseline ecological evaluations. ASGECI utilizes Federal and State-approved methods and tools to assess exposure and risk to various wildlife species and is experienced in the triad approach to ecological risk assessment, including benthic macroinvertebrate population studies, tissue residue analysis, and toxicity studies. In addition, ASGECI is experienced at modeling the potential impacts to ecological receptors based on toxicity reference values derived for chemicals of ecological concern.

ASGECI performs ecological evaluations and ecological risk assessments, using federal and state-approved methods and tools to assess exposure and risk to various wildlife species and determine protective site-specific remediation standards. In the initial baseline ecological evaluation, ASGECI can identify contaminants of potential ecological concern (COPECs), environmentally sensitive natural resources and potential migration pathways to determine if further investigation is warranted. ASGECI uses a weight-of-evidence approach to ecological risk assessment and can perform rapid bioassessments, habitat surveys, bioaccumulation studies, and food chain modeling to estimate risks and provide risk-based remedial action guidance.

Since 1986 ASGECI has provided environmental services on over 3,600 projects in 11 states for diverse projects including site remediation, transportation; electric and gas utilities; solar installation; education; recreation; military facilities; residential; commercial and industrial development; and parks and open space preservation. ASGECI has an excellent reputation for quality work with local, State and Federal agencies.

Our staff maintains professional certifications including Professional Wetland Scientist, U.S. Army Corps of Engineers (USACE) Wetland Delineator; Certified Senior Ecologist; Certified Soil Scientist; Wetland Evaluation Techniques (WET); Habitat Evaluation Procedures (HEP); ISA Certified Arborist; NJ State Approved Forester; NJ Certified Tree Expert; U.S. Fish and Wildlife Service Recognized Qualified Bog Turtle Surveyors; and Certified Professional in Soil Erosion and Sediment Control (CPESC). Many of our staff are OSHA HAZWOPER certified.

#### **Our Services Include:**

- Ecological Risk Assessment •
- Freshwater and coastal wetland delineation
- Wetland Functional Assessments
- State and U.S. Army Corps of Engineers (USACE) wetland permitting •
- ٠ Wetland restoration/mitigation design and construction
- Environmental construction and post-construction monitoring •
- Stream, streambank and riparian corridor restoration design and construction
- Environmental Impact Assessments and Impact Statements NEPA, State and Local •
- Endangered and threatened species surveys, habitat management design and construction • monitoring
- Terrestrial, Aquatic and Marine ecological studies •
- Soil Erosion and Sediment Control Planning and Monitoring
- GIS mapping and analysis/GPS mapping

### ASGECI holds a GSA Schedule in the following Special Item Numbers:

- 899-1: Environmental Planning Services and Documentation
- 899-7: Geographic Information Services

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## **REPRESENTATIVE ECO-RISK PROJECT EXPERIENCE**

- E. Davis Inc. Baseline Ecological Evaluation (BEE), Piscataway Township, Middlesex County, NJ. *Client:* Environmental Waste Management Associates, LLC. ASGEFCI conducted all phases of a BEE including site assessment, wildlife and habitat inventory, and toxicological analysis of potential impacts posed to sensitive environmental receptors. This investigation was conducted in accordance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E).
- Brookfield Avenue Landfill Superfund Site Ecological Risk Assessment, Staten Island, New York. Client: CDM Federal/New York City Department of Environmental Protection. ASGECI biologists collected a variety of aquatic and semi-aquatic organisms from a tidal estuary and its associated wetlands for the purpose of conducting tissue residue analysis for contaminants associated with the landfill. This work was conducted in support of an Ecological Risk Assessment being to allow for landfill closure. The organisms collected included white perch (*Morone americana*), striped bass (*Morone saxatilis*), common carp (*Cyprinus carpio*), American shad (*Alosa sapidissima*), gizzard shad (*Dorosoma cepedianion*), mumnichog (*Fundulus heteroclitus*), Atlantic silverside (*Menidia menidia*), snapping turtle (*chelydra serpentina*), and ribbed mussels (Geukensia demissa). The target species were collected utilizing a wide variety of trapping techniques including hoop traps, seines, gill nets, throw nets, and killitraps.
- Global Landfill Superfund Site Closure and Mitigation, Old Bridge Township, Middlesex County, NJ. *Client:* Golder Associates, Inc. ASGECI performed oversight of an ecological screening program to monitor the landfill closure activities. Selected sediment sampling locations around the perimeter of the landfill as well as at a reference location for the purpose of conducting a toxicity assessment and benthic macroinvertebrate analysis. Identified a tidal wetland mitigation site, designed a NJDEP approved wetland mitigation plan and performed construction, planting and post construction monitoring.
- Zscheigner Refining Company Superfund Site, Howell Township, Monmouth County, NJ. *Client:* CDM Federal Programs Corporation/US Environmental Protection Agency. ASGECI conducted conducting biota sampling for the purpose of determining the potential for ecological impacts from contaminants associated with the subject Superfund site. The project involved the trapping of small mammals for the purpose of determining the extent of contamination contained within body tissue of the indigenous species to the site. Small mammals were trapped utilizing drift lines with pitfalls, Museum and Victor snap traps, and Sherman live traps. Captured small mammals were evaluated as to species, sex, age, weight, length, and physical abnormalities. Samples were processed in the field for shipment to the laboratory for analysis. Conducted macroinvertebrate study to determine the effects of site related contaminants on the macroinvertebrate population of Haystack Brook. Study methodology incorporated the guidelines established in *Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers* (USEPA 1999) and *Field and Laboratory Methods for Macroinvertebrate and Habitat Assessment of Low Gradient, Nontidal Streams* (USEPA 1997). Conducted Phase I Bog Turtle Habitat Survey and Swamp Pink Survey of the 200 acre study area. Surveys were conducted to assess the potential for site-related contaminants to impact rare, threatened, or endangered species, and to determine whether future remediation activities would disturb potential habitat.
- BOMARC Facility, McGuire Air Force Base, Plumsted Township, Ocean County, NJ *Client:* U.S. Department of Defense/URS Corporation. ASGECI prepared an Ecological Risk Assessment as part of a remedial investigation of a groundwater plume discharging to a stream. The study included inventory of wildlife and habitat, surface soil sampling and analysis, and a toxicological evaluation of potential impacts to sensitive environmental receptors.
- Peekskill Plaza Shopping Center, City of Peekskill, Westchester County, NY. *Client:* Bell Environmental. ASGECI prepared a New York State Fish and Wildlife Resource Impact Analysis as part of a NY State Department of Environmental Conservation remedial investigation of a groundwater plume emanating from below the site. This study involved an investigation into the potential toxicological impacts of groundwater contaminants on sensitive environmental receptors if the contaminant plume were to reach a nearby stream corridor.
- Honeywell Benthic Macroinvertebrate Study, Jersey City, Hudson County, NJ. *Client:* Honeywell Corporation/Environ International. ASGECI collected macroinvertebrate tissue samples from the sediment of the Hackensack River. This work involved the use of ponar and other dredging devices to collect polychaete worms from Hackensack River sediment. The polychaete worms collected were processed, depurated, packaged, and sent to a laboratory for chromium content.
- Highpoint Landfill Macroinvertebrate Study, Lopatcong Township, Warren County, NJ. *Client:* APEX Environmental. ASGECI conducted a multiyear macroinvertebrate study to determine the effects of chlorinated solvents emanating from the landfill on the aquatic fauna in the watershed of Lopatcong Creek. The study methodology incorporated the guidelines established in *Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers* (USEPA 1999).

