

# Biological Monitoring for the Mining Industry

CEC offers a full range of biological monitoring services to mining clients in the aggregate, coal and hardrock industries. We own and operate boats, sophisticated testing equipment and capture gear, and also provide a wide variety of laboratory analyses.



CEC's biological monitoring services are used to meet regulatory requirements pertaining to mining issues, such as permitting, subsidence evaluations, construction of overburden valley fills, NPDES problems (i.e., Section 308 and TMDL concerns), refuse area issues, and reclamation.

Our services include aquatic and terrestrial studies, regulatory liaison, and permitting, all of which are provided by a highly-skilled team of professionals with backgrounds in environmental science, biology, geology, hydrogeology, aquatic and terrestrial ecology, wetlands, soil science, agronomy, toxicology, and engineering.

In addition, our biological monitoring services can be implemented to develop cost-effective variances to permit requirements such as bat mitigation requirements, water quality discharge limits, and refuse and mine site soil cover thickness – ultimately reducing the operation and/or construction costs of the facility.

## AQUATIC SERVICES

- Whole Effluent Toxicity (WET) Testing
- Fisheries Surveys (streams, rivers, lakes)
- Stream Restoration
- Watershed Assessments & Planning Studies
- Bioaccumulation Studies
- Biofouling Organism Monitoring
- Clean Water Act Section 308 and TMDL Studies
- Dye & Flow Studies
- Endangered Species Surveys (freshwater mussels, rare fish)
- Environmental Impact Studies
- Freshwater Mussel Monitoring
- Habitat Evaluation
- Pond & Lake Management

## TERRESTRIAL SERVICES

- Agronomy & Phytoremediation Services
- Invasive Plant Inventory
- Ecological Risk Assessment
- Endangered Species Evaluations & Surveys (including Indiana and other endangered bats)
- Ecological Land Restoration (revegetation of disturbed sites, invasive plant control, restoring native plant communities)
- Wetlands Determination, Delineation, and Mitigation
- Wetlands Function and Value Assessment