

# *Quarry Restoration/Lake and Wetland Park Development*

*Crystal Lake, Illinois*

Since 1997, Applied Ecological Services has been working with the community of Crystal Lake to restore a depleted gravel quarry into a high quality public recreation lake and wetland community park. AES was retained primarily as a contractor to install wetlands previously designed by other consultants. However, design evaluations suggested modifications were required, and AES is working with Crystal Lake, other consultants and regulatory agencies to refine concept plans for the wetland and prairie restoration project. In particular, AES is working to integrate the design more favorably with the passive and active open-spaces intended for the multi-use park system. The 190-acre, groundwater-fed lake has been described as a “jewel among Illinois lakes”. Because a major goal is to provide high quality fishing opportunities, AES is working with other consultants to study existing fish populations and habitat conditions, to design shoreline littoral zones as habitat for forage fish and to provide lake management recommendations for fisheries.



AES is also conducting complex groundwater analyses and hydrologic studies of the lake’s water levels which historically show fluctuations of 7-8 feet. Because of plans for a public marina, boat docks and a swimming beach, AES management plans to control lake level fluctuations must be extremely accurate. Additionally, AES is directing slope stability analyses on several slopes that have exhibited instability due to steepness, groundwater seepage and unstable, silty soils.

A key financial component that AES is designing into the project is a 40-acre wetland mitigation area. The wetland mitigation will allow the village of Crystal Lake to sell wetland credits to area developers, which will assist in funding the quarry restoration/park development project.

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