

Indianford Dam and Lake Koshkonong

Rock, Dane, and Jefferson Counties
Wisconsin

Client:
Rock Koshkonong Lake District (RKLD)

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Spatial Data Surveys

Date of Service: 2001- 2006



Measuring Flow Through Powerhouse



Surveying Upstream Water Levels

Project Description:

The Rock-Koshkonong Lake District proposed to modify the operating orders for Indianford Dam to modestly increase water levels on Lake Koshkonong. Indianford Dam is a run-of-river dam located on the Rock River in Rock County, WI with a watershed of 2,630 sq. mi. at the dam. The dam is comprised of a large, free overflow spillway, six slide gates, and two wicket gates. Indianford Dam partially controls lake levels in Lake Koshkonong, which is located approximately six miles upstream of Lake Koshkonong. The ability of the Dam to effectively control lake levels is limited for several reasons: 1) the relatively large, free overflow spillway, 2) the distance between the dam and the lake, and 3) high tailwater during flood flows. Since only partial control is possible, maintaining regulated minimum, target, and maximum water levels is virtually impossible during most of the year.

A hydrodynamic, continuous hydraulic model was developed for the Indianford Dam, Rock River, and Lake Koshkonong system to evaluate the effects of various dam operation alternatives. The hydraulic model was utilized to evaluate a range of possible dam operation scenarios and compare the predicted water levels to the existing operating order.