

University of BC - Okanagan (\$14,000)

Project Title: Osoyoos Lake Sediment Coring Project

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The main goal of this project is to determine pre-European settlement water quality of Osoyoos Lake using sediment core analyses. This work is in collaboration with the Okanagan Nation Alliance, Osoyoos Lake Water Quality Society and the Ministry of Environment. Cores collected from the north and south basins of Osoyoos Lake will be analyzed for fossil pigments (Irene Gregory-Eaves at McGill University, Montreal Quebec), diatom algae and dating (Brian Cumming at Queen's University, Kingston Ontario). An important component of these analyses involves the relationship between phosphorus and algae. Phosphorus is the key nutrient driving aquatic productivity and is responsible for overall water clarity and quality in freshwaters. As lakes change in productivity in response to phosphorus loading over time, algal communities also change, leaving a record in the sediment layers. These changes in algal community composition can be measured along with estimates of past phosphorus concentrations from the present to pre-European settlement. From this estimate, current phosphorus water quality objectives for Osoyoos Lake can be re-evaluated and will be instrumental in guiding waste management and phosphorus management efforts within the Osoyoos Lake basin and areas upstream.



To date, all project planning/co-ordination and fieldwork has been completed. The fieldwork was a collaborative effort including Ministry of Environment staff, Okanagan Nation Alliance boat operator, Osoyoos Lake Water Quality Society members and UBCO researchers. Three sediment cores were collected from central locations in Osoyoos Lake using a slide hammer corer. One core was collected from the north basin (90cm) and two from the south basin (85cm and 99cm). The cores were then sectioned into 0.5cm intervals and kept in cold storage until they were shipped to the University laboratories for chemical and biological analyses.

The project is on schedule and should be completed by the end of March 2009. The laboratory analyses are expected to be completed by mid-February 2009 and a report detailing the findings will be completed by the end of March 2009. Along with a technical report, a series of web-ready PowerPoint slides will be created and made available to the public.

The project is running smoothly; we have an agreement with the laboratories that the work should be completed by mid-February 2009.