

APPLICATIONS OF PALEOLIMNOLOGY TO SOCKEYE SALMON NURSERY LAKES AND ECOSYSTEMS IN THE PACIFIC NORTHWEST AND ALASKA

A workshop of the salmon nutrient research community
October 8th and 9th 2008 Institute of Ocean Sciences, Sidney BC



Fisheries and Oceans
Canada

Peches et Oceans
Canada



OBJECTIVE

THE TWO-DAY WORKSHOP WILL REVIEW AND SYNTHESIZE SEDIMENT CORE STUDIES CONDUCTED IN SOCKEYE SALMON NURSERY LAKES IN BC, ALASKA, WASHINGTON, IDAHO, AND OREGON TO BETTER UNDERSTAND WHAT PALEOLIMNOLOGICAL TECHNIQUES CAN TELL US ABOUT LONG-TERM CHANGES IN SALMON ESCAPEMENTS AND LAKE ECOLOGY RELATIVE TO SALMON HARVESTING AND CLIMATE CHANGE. THE WORKSHOP WILL CONCLUDE WITH A PANEL DISCUSSION TO CRITICALLY EVALUATE THE POTENTIAL APPLICATION OF PALEOLIMNOLOGICAL TECHNIQUES TO THE FUTURE MANAGEMENT OF SOCKEYE SALMON.

SPEAKERS & TOPICS

WEDNESDAY OCTOBER 8, IOS AUDITORIUM

SETTING THE STAGE

PALEOLIMNOLOGICAL TECHNIQUES: What can lake sediments tell us about past salmon abundance? **Irene Gregory-Eaves**, Department of Biology, McGill University

ESCAPEMENT DATA pitfalls and time series reconstructions for paleoindicators and their relevance to Ecosystem-Based Management of wild salmon. **Kim Hyatt**, Pacific Biological Station, Fisheries and Oceans Canada

THE IMPORTANCE of salmon-derived nutrients on lake ecosystems. **Peter Leavitt**, Canada Research Chair in Environmental Change and Society, University of Regina

BIOGEOCLIMATIC INFLUENCES on the reconstruction of sockeye salmon abundance from lake sediments. **Daniel Selbie**, Department of Biology, McGill University

TRANSLATING VARIATION in sediment 15N into pre-historical salmon population dynamics. **Daniel Schindler**, School of Aquatic and Fishery Sciences, University of Washington

MARINE-DERIVED NUTRIENTS & TROPHIC INTERACTIONS

THE FATE of salmon-derived nutrients: Insights from lake studies in Alaska. **Bruce Finney**, Department of Biological Sciences, Idaho State University

LONG-TERM FOOD web dynamics in sockeye nursery lakes of Alaska. **Guangjie Chen**, Department of Biology, McGill University

LAKE CASE STUDIES AND RECONSTRUCTIONS

PALEOINDICATIONS OF long-term escapement, watershed, human and climate disturbances to the rearing environments of sockeye salmon in Quesnel and Shuswap Lakes. **Erland Maclsaac**, Fish-Forestry Research, Fisheries and Oceans Canada and Cooperative Resource Management Institute, Simon Fraser University

WHAT DO tree cores tell us about past salmon abundance in the watersheds of Owikeeno Lake, Rivers Inlet, BC? **Tom Reimchen**, Department of Biology, University of Victoria

SYNOPSIS OF FIRST DAY

KEY PANEL discussion questions and next day agenda
Erland Maclsaac

WORKSHOP BANQUET at Dunsmuir Lodge

THURSDAY OCTOBER 9, IOS AUDITORIUM

LAKE CASE STUDIES AND RECONSTRUCTIONS CONTINUED

WHAT DO sediment cores tell us about past salmon abundance in the watersheds of Owikeeno Lake, Rivers Inlet, BC? **Misty MacDuffee**, Raincoast Conservation Foundation

RECENT PALEOLIMNOLOGY of three salmon nursery lakes in the Fraser River Basin. **Will Hobbs**, Dept of Earth & Atmospheric Sciences, University of Alberta

RECENT INFLUENCE of sockeye abundance and climate change on paleolimnology of Kitlope Lake, British Columbia
Aaron Hill, Hillfish Consulting

THE UTILITY of paleoecology and sedimentary 15N as indicators of past salmon abundance in coastal British Columbia. **Marlow Pellatt**, Parks Canada, Western and Northern Service Centre

CHANGES TO the productivity and trophic structure of a sockeye salmon rearing lake in British Columbia. **Janice Brahney**, Environmental Biogeochemistry Lab, University of Colorado

NOT WANTED on the voyage - biovector contaminant transport and lake sediment records. **Robie Macdonald**, Institute of Ocean Sciences, Fisheries and Oceans Canada

ASSESSMENT OF sediment 15N in glacial sockeye salmon nursery lakes located in northern Southeast Alaska and northern British Columbia. **Dave Barto**, Alaska Department of Fish and Game

WHAT LAKE core sediments tell us, **Robie Macdonald**, Institute of Ocean Sciences, Fisheries and Oceans Canada

PANEL DISCUSSION: Moderator: **Erland Maclsaac**

PANEL PARTICIPANTS: **Bruce Finney, Daniel Selbie, Peter Leavitt, Daniel Schindler, Kim Hyatt**

PANEL FOCUS: To facilitate discussion, the panelists will be asked to provide their opinions on key questions arising from the workshop. An open question and answer session with the workshop audience will follow.

SUMMARY AND WRAP UP

