NRES / CSAM Colloquium Series

FRIDAY

Feb. 10, 2006

4:00 - 5:00 pm

LECTURE THEATRE 7-212

REFRESHMENTS SERVED AT 3:50 PM

Meet the Peace/Williston Fish and Wildlife Compensation Program Biologists 5:10-6:00 Refreshments Served

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

The Peace/Williston Fish and Wildlife

Dr. David W. Schindler

University of Alberta
Professor of Ecology

The Cumulative Effects of Climate Warming and other Human Stressors on Freshwater Quantity and Quality in the Western Prairies of Canada

Canada's western prairie provinces are a large, semi arid area in the rain shadow of the Rocky Mountains. Annual precipitation in the 20th century generally averaged 300-500 mm. Runoff from the glaciers and snowpacks of the mountains has been a necessary supplement to maintain river flows and instream flow needs. But recent evidence suggests that the 20th century may have been unusually wet. Recurrent droughts in pre-historic times often lasted for decades. Climate has already warmed by 1-4 C since the mid-20th century, causing increases in average evaporation. Snowpacks and glaciers have declined. As a result, river flows in summer have already decreased by 30-85%, lake levels have declined, and wetlands have disappeared. Rapid growth in human populations, agriculture and industry are increasing nutrient supplies to many prairie waters. The combination of dwindling water supplies and nutrient increases is causing extreme eutrophication in lakes of the western prairies. Natural drought, climate warming, damage to natural drainage patterns and human demands for water will combine to cause severe water problems in the years ahead.