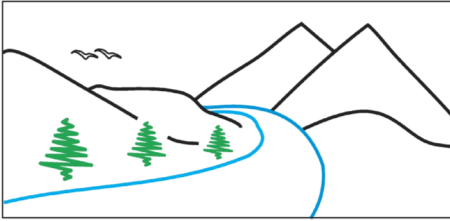


N R E S i



"Our environment is our future"

RESEARCH COLLOQUIUM SERIES

Dr. Ellen Petticrew

Dr. John Rex

Geography Program, UNBC



Friday

Oct 23, 2009

3:30 - 4:30

LECTURE THEATRE

7 - 152

**LIGHT REFRESHMENTS
SERVED AT 3:20 PM**

Influence of bio-geomorphic processes on marine-derived nutrient cycling in Pacific salmon-bearing streams

Pacific salmon are recognized as a keystone species in their Pacific Northwest natal watersheds. Spawning salmon can deliver substantial quantities of marine derived nutrients and organic matter to natal streams because they gain 95-99% of their mass while at sea. Spawning salmon also alter streambed conditions by redistributing gravels and resuspending fine sediment during the construction of their nests, termed redds.

The terrestrial benefits of spawning salmon are broadly recognized because of the direct consumption of salmon by bears, scavenging by birds and insects, and the uptake of marine derived nitrogen by riparian vegetation. Aquatic benefits appear to be less obvious with some studies showing that nutrients returned by spawning salmon support algae, benthic macroinvertebrates, and fish including juvenile salmon while others have shown that the disturbance and nutrient exports caused by spawning activities resulted in a net loss of nutrients. To understand this apparent discrepancy it is first necessary to understand the underlying nutrient delivery and retention processes that influence the ability of a watershed and its aquatic biota to benefit from salmon delivered nutrients.

This talk presents findings from a series of field and controlled flume investigations that have identified a mechanism for the retention of these marine-derived nutrients.