

IMS Seminar  
October 30, 2013  
201 O'Neill, 3:30 pm

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### **Prevalence, Sources, and Effects of Elevated Strontium in Boreal Nesting Duck Eggs**

Scaup populations have declined substantially since the 1980s, and reached a low of 3.25 million birds in 2006, 48% below the North American Waterfowl Management Plan goal. To date, no single factor has been isolated that fully explains this decline. Reviews indicate that female survival and juvenile recruitment are lower now than during population highs. Several theories have been postulated for reduced survival and recruitment including environmental contaminants, poor spring nutrition, and habitat loss due to climate change. Although lesser scaup contaminant burdens have been measured in several studies and generally been below known-effect levels, recent work by researchers in the boreal forest of Alaska found elevated levels of radio-strontium in eggshells and an inverse relationship between total strontium concentrations in eggs and eggshell thickness. My research objectives are to measure the prevalence of elevated total and radiostrontium in waterfowl eggs in Interior Alaska, determine the source, and assess effects to eggshell quality, hatchability, and duckling health.

