



**Science Outreach – Athabasca  
presents...**

# **“Stories Fish Tell Us: Tales from the Ear Bone”**

**Speaker: Dr. Heidi Swanson**

Postdoctoral Fellow,  
Department of Biological Sciences,  
University of Alberta

**Date:** October 3, 2012

**Place:** Athabasca University  
Governing Council Chambers

**Time:** 7 PM to 8:30 PM



Admission is free.

Refreshments will be available after this presentation.

Life for fisheries scientists and managers would be much simpler if fish could talk. We often wonder what habitats fish use, if populations are being overharvested, and if environmental stresses affect growth and reproduction. There are many ways to study these aspects of fish ecology, but one innovative technique uses fish ear bones. Ear bones, or otoliths, aid fish in balance and hearing, record fish growth (think of tree rings), and carry a chemical autobiography of each fish's life. By studying ear bone structure and chemistry, we can determine fish age and growth, habitat use, exposure to contaminants, frequency of spawning, and population health. In this talk, we will explore the technique of 'otolith microchemistry' through case histories and examples from many different North American fish species. We will discuss recently-discovered ocean migrations in lake trout (a freshwater fish!), and explore how archived otolith collections may be used to study climate change. Come and learn how a combination of big fish, tiny bones, and powerful lasers can teach us to 'listen' to fish.

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