

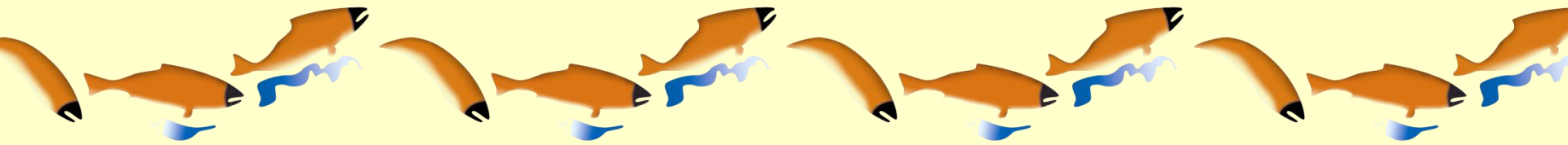
**2007-2009**



**Chinook Salmon**  
**Okanagan Population**  
*Oncorhynchus tshawytscha*

# Introduction

- ❖ Chinook designated as threatened and recommended for listing under Species at Risk Act.
- ❖ In December 2009 the Minister is considering to not recommend that Chinook be listed under Species at Risk Act – decision April 2010.
- ❖ In the Columbia basin only anadromous Chinook that return to Canada
- ❖ Recognized as DU based on 1) genetic differentiation; 2) geographic and reproductive isolation and 3) unusual life history characteristics





Spawning (October)



Fry Emerge (April and May)



Migrate as adults to spawning grounds

Move to ocean as smolts (within weeks or year of emergence)

Ocean Migration



# Current Research

- ❖ Juvenile sampling in Okanagan River/Osoyoos Lake
- ❖ Adult enumerations and biosampling
  - ❖ Genetics
  - ❖ Otoliths
- ❖ Redd surveys



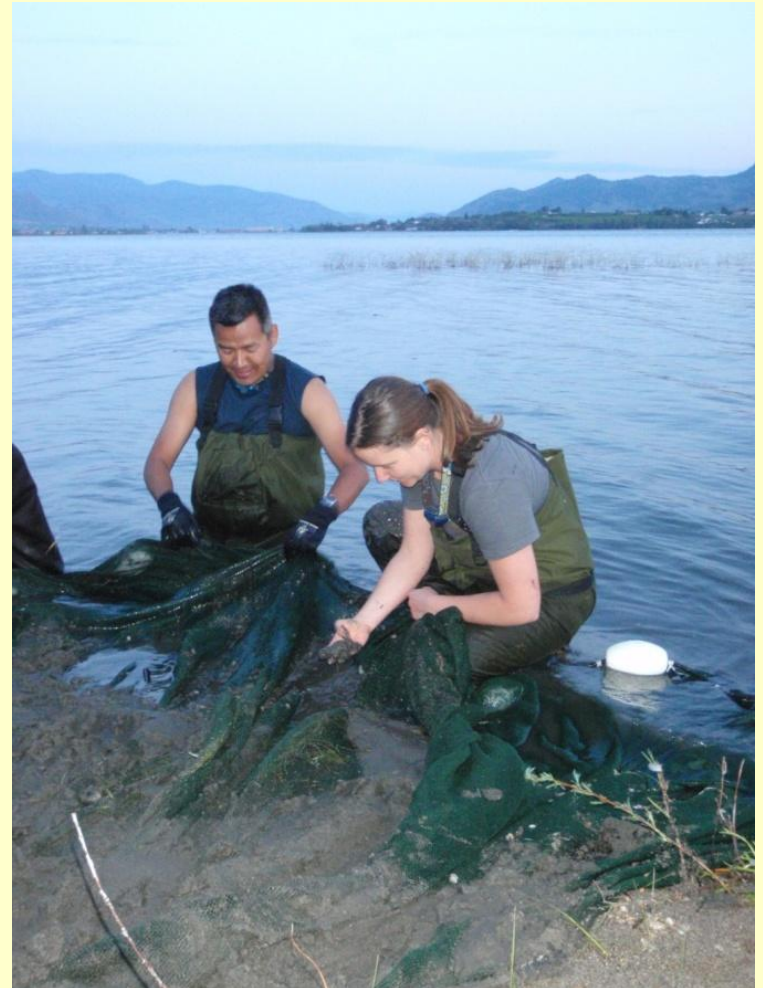
# Adult Enumeration

- ❖ Counts occurred in conjunction with SK floats
- ❖ General decline in the last three years
- ❖ Peak count of 3, but series of counts of 2
- ❖ Five females and one male sampled in 2009
- ❖ One Chinook found above McIntyre Dam



# Osoyoos Lake

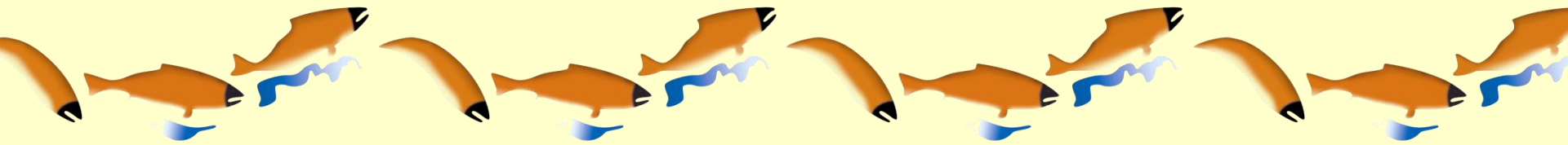
- ❖ Juveniles were beach seined at various locations around the northern end of Osoyoos Lake
- ❖ No fish tissue found within the stomachs of any of the yellow perch (2009 results still pending)
- ❖ Juvenile Chinook captured each year –in 2009 numbers were lower than previous years



# Life History Determination

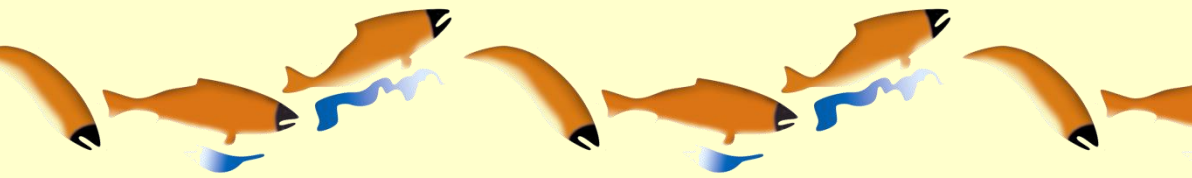


- ❖ Portion of the population exhibits stream type history
- ❖ Juvenile Chinook in Okanagan River in August 2008
- ❖ CH caught in 2009 in Osoyoos Lake later in the year ranging in size from 31-34 cm
- ❖ Supported by work by Lyse Godbout (work in progress)



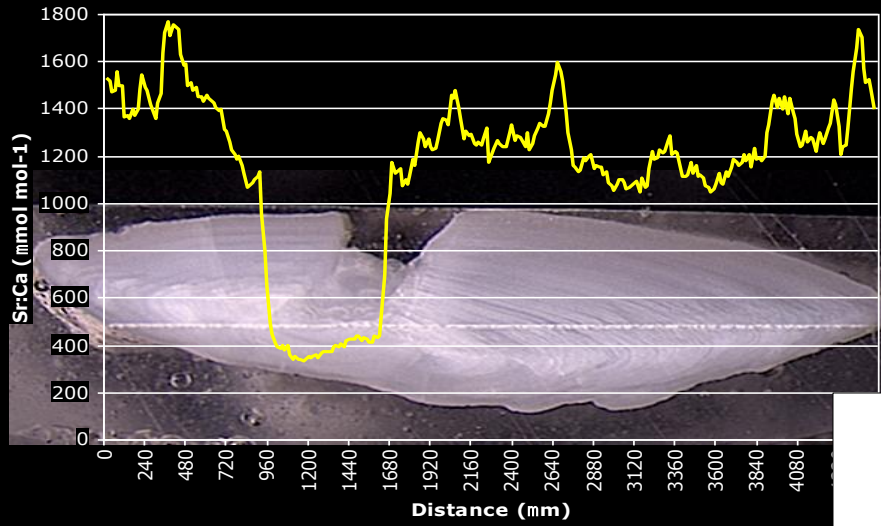
# Otoliths

- ❖ Analyzed for strontium content to determine if fish migrated to the ocean
- ❖ All fish sampled in 2007-2008 showed oceanic migration patterns
- ❖ Confirmed with muscle samples analyzed for carbon and nitrogen isotope signatures in 2007
- ❖ No CH from Osoyoos Lake sampled



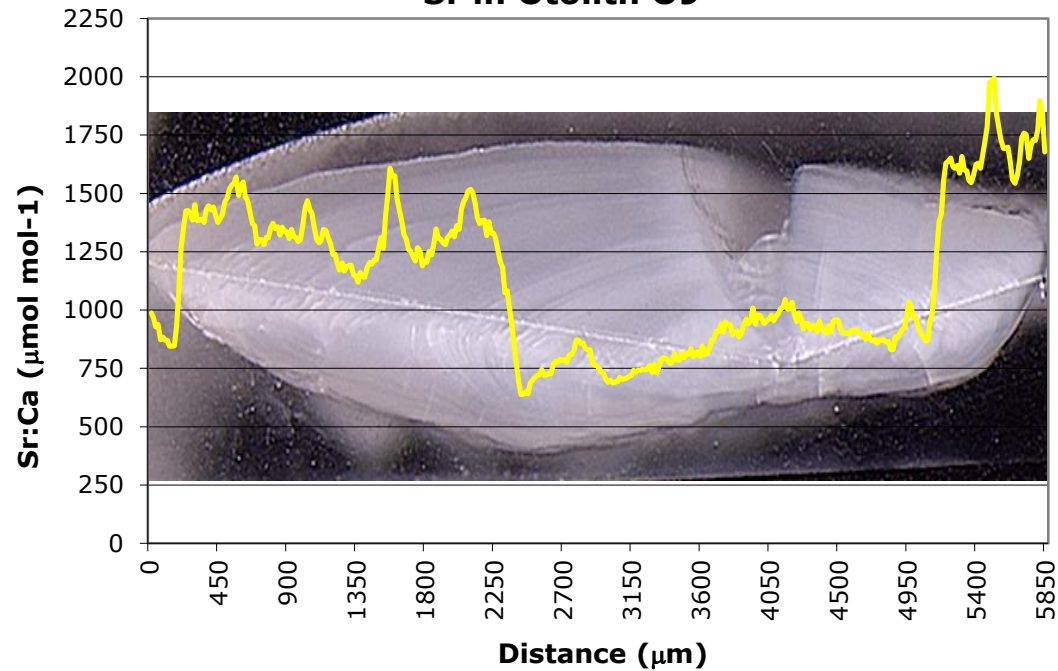
# Fourth Type

### Sr in Otolith 4027

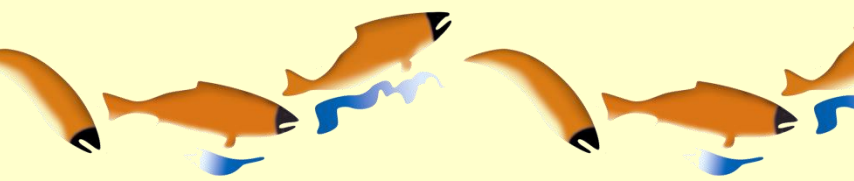


2007

### Sr in Otolith O9



2006



# Preliminary life history thoughts

- ❖ Okanagan population has both ocean and stream type life history patterns, as well as a small residualised population which may occur in some years
- ❖ Influenced by Osoyoos Lake thermal regime



# Recommendations

- ❖ Continue to monitor Chinook spawn timing and escapement
- ❖ Continue yearly biological sampling
- ❖ Look at difference between Zosel dam counts and spawning ground counts (radio tagging at Zosel?)
- ❖ ONA work with DFO on Chinook summary report
  - ❖ Host workshop
- ❖ Develop stock monitoring/improved information plan that will support recovery planning

