Status Review of Chum Salmon from Korea

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Outline

- History of Chum Salmon Enhancement Program in Korea
- Status of Korean Salmon
  - Catch and escapement
  - Return rate
- Environmental changes
  - SST
- Salmon with Environmental changes
- Summary
Chum salmon enhancement program was started in 1967.

Yeongdong Inland Fisheries Research Institute was established at Yangyang in 1984.

My institute covers about 60-70% of total Korean chum fingerling releases and adult salmon catches.

The locations of stream/river in the east coast of Korean Peninsula where fry salmon are released.
Status of Korean Salmon
Number of adult chum salmon returned since 1970

![Chart showing the number of adult chum salmon returned from 1970 to 2006. The chart indicates a significant peak in the early 1990s. The data is divided into two categories: rivers and set net.](chart.png)
Variation of the return rate

Ocean Entry Year

- '87 1.57%
- 0.10%
Environmental Changes
Mean Sea Surface Temperature in August

1981 (Mean = 27.98) 2004 (Mean = 29.93)
Water Temperature Change (1968-2005) (Jung, 2008)
Salmon with Environmental Changes
Air temperature at Kodiak

Pink salmon catch in Alaska

Pink salmon catch in North Korea
Return rate & SST

(Mean SST=12.9 °C)

(R=-0.599, P<0.01)
Return rate by hatchery

Ocean Entry Year

Return rate (%)

- Yangyang
- Samcheok
- Uljin
Summary

For the last four decades, Korea's chum salmon program has focused on improving the conditions of salmon stocks by artificially fertilizing eggs, raising fingerlings, and releasing them.

The return rates of chum salmon to Korean waters were seriously reduced from 1.5% in 1990s to around 0.5% in 2000s.

Future climate change (ex. Warm surface waters) would be expected to reduce the production of chum salmon in Korea.