May 2nd, 1:30 PM - 3:00 PM

**Nine years of rockfish surveys in the Strait of Juan de Fuca**

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Seattle Aquarium’s shifting baseline study of rockfish in the Strait of Juan de Fuca 2005-2013
Shifting baselines: Changing reference points to describe significant differences.
Thirty four species of rockfish are found in Washington waters. Thirteen are state listed as endangered, threatened or species of concern.

2 ESA threatened: yelloweye rockfish (S. ruberrimus) & canary rockfish (S. pinniger)
1 ESA endangered: boccacio (S. paucispinis)

Rockfish are long lived (30- >100 years), slow to reach maturity (5-20 years) and slow growing, making them vulnerable.

Rockfish tend to be sessile fish species with small home ranges making surveys feasible.

We have exhibited rockfish for >35 years.
• In 2005 we formalized a monitoring program to establish baseline data.

• The goal is a repeatable annual count in fixed locations to measure significant changes in species diversity, abundance and size classes over time.

• Using underwater video transects, a proven and precise method to measure abundance of sessile fish species such as rockfish and lingcod.
Methods

1. North Forward 50 meters
2. North Reverse 50 meters
3. South Forward 50 meters
4. South Reverse 50 meters
Results
Average number of fish all sites

Average number of fish
The majority of adult fish species documented were the schooling rockfish: blacks and blues.

There was only one significant difference between years at all sites and that was the high numbers of blacks and blues in 2009 (p<0.001).

Other common species documented include: kelp greenling, china rockfish, and lingcod.
YOY Rockfish all sites

Average number of fish

Year

2006 2007 2008 2009 2010 2011 2012 2013
There were 2 significant recruitment events of juvenile rockfish over all sites in 2006 (p=0.03) and 2012 (p=0.02), coined “jackpot recruitment” by Paulson.

There were other significant recruitment events of YOY in 2008, 2009, 2011 and 2012 only at site 4, and at sites 1 and 4 in 2013.
CONCLUSIONS:

The majority of adult fish species found in this reef system were the schooling rockfish, blacks and blues.

The highest numbers of these fish were found in 2007 (non-significant) and 2009 (significant) in all sites.

The second most abundant fish observed at all sites were YOY rockfish, particularly at site 1 and 4 which are at the same depth: 50-65 feet.

Many factors can affect significant recruitment such as SS temperature, predators, currents, etc. and at this time we do not know what is driving these events.