

Aleutian Islands 2012 Report Card

Region-wide

- In 2011/2012, the winter North Pacific Index was nearly one positive standard deviation of the 1975-2012 mean implying a **weak Aleutian Low pressure system and less storminess** than average in the region. **Westerly wind anomalies prevailed** in this region for much of the past year, which may have **suppressed northward transport through Unimak Pass and perhaps also the Aleutian North Slope Current**.
- **Water column temperatures were the coldest recorded** during eight survey years since 1994.
- **Biomass of pelagic forager and apex fish predator foraging guilds has decreased across the region** since the last survey in 2010, although patterns vary among species. The overall decline may indicate an **underlying environmental shift, lower catchability due to cold water or reflect high variances commonly observed in estimated biomass among survey years**.
- There are several species showing longitudinal trends in the fish pelagic foragers foraging guild: the **biomass of walleye pollock increases towards the east**, whereas that of **northern rockfish and Pacific ocean perch increases towards the west**.
- **Fishing patterns have recently changed throughout the system**, largely in response to increased protection for Steller sea lions, although the final impacts to individual fishing sectors are currently unknown.
- The amount of **area with observed trawling has declined overall**, likely reflecting less fishing effort, particularly in the western ecoregion.
- In general, **schools in the Aleutian Islands have shown no recent trends in enrollment**, possibly indicating that communities with year-round residents that experience direct interactions with the ecosystem through residential and subsistence activities are stable.

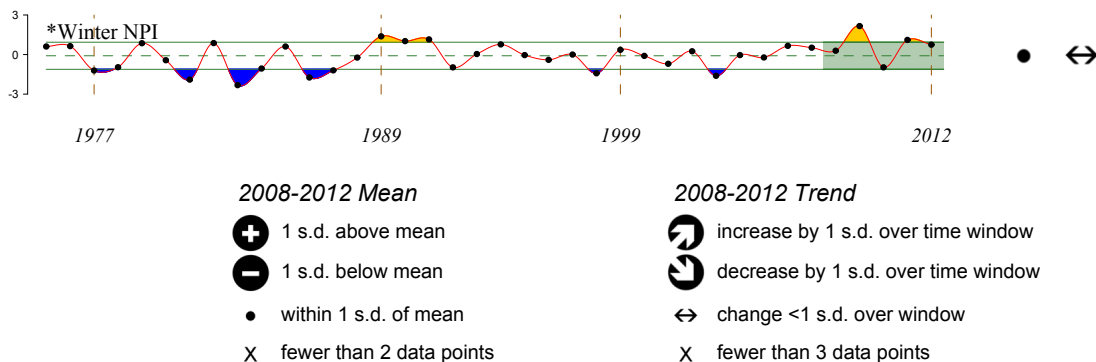


Figure 1: The winter North Pacific Index time series. * indicates time series updated in 2012.

Western Ecoregion

- Although **reproductive success of planktivorous auklets increased in 2012**, they have shown an overall declining trend in the past five years, **possibly indicating a return to average zooplankton foraging conditions** compared with the above average reproductive years of 2007-2009.
- **Forage fish trends have varied** in tufted puffin chick meals. In general, *Ammodytes* (sand lance) have been more common since 2000, whereas gadids have been less common. The numbers of hexagrammids varied among years, but show a decreasing trend in the past five years.
- The **pelagic fish foraging guild biomass has decreased** since the last survey in 2010. Pollock, Pacific Ocean perch, and Atka mackerel contributed to this trend; whereas northern rockfish increased.
- The **decrease in the fish apex predators foraging guild** apparent in the 2012 trawl survey is driven by Pacific cod, skates and large scuplins, reversing the increasing trend in this foraging guild observed in 2010.
- Steller **sea lions continue their decades-long decline** in this ecoregion although at a slower rate. Between 1991 and 2008, non-pup counts declined 81%, or at a rate of -10% per year.
- The **amount of area trawled declined dramatically** in 2011 due to recent measures aiming at increasing protection for Steller sea lions.

Hot topic A recent analysis of spatial concentration of blackspotted/rougheye rockfish harvest relative to abundance indicates that exploitation rates for the western Aleutian Islands have been at or above the natural mortality rate (M) in 2004, 2006, and from 2008-2010, ranging between 1.00 to 1.94 times the M value of 0.03. Thus, the fishery is obtaining higher catches than would be expected from the survey data. One potential explanation is that differences in the timing and spatial distribution of trawls between the fishery and surveys may affect the availability to and catchability of the fishing gear. It is also possible that the survey abundance in the western Aleutians is an underestimate of the true abundance.

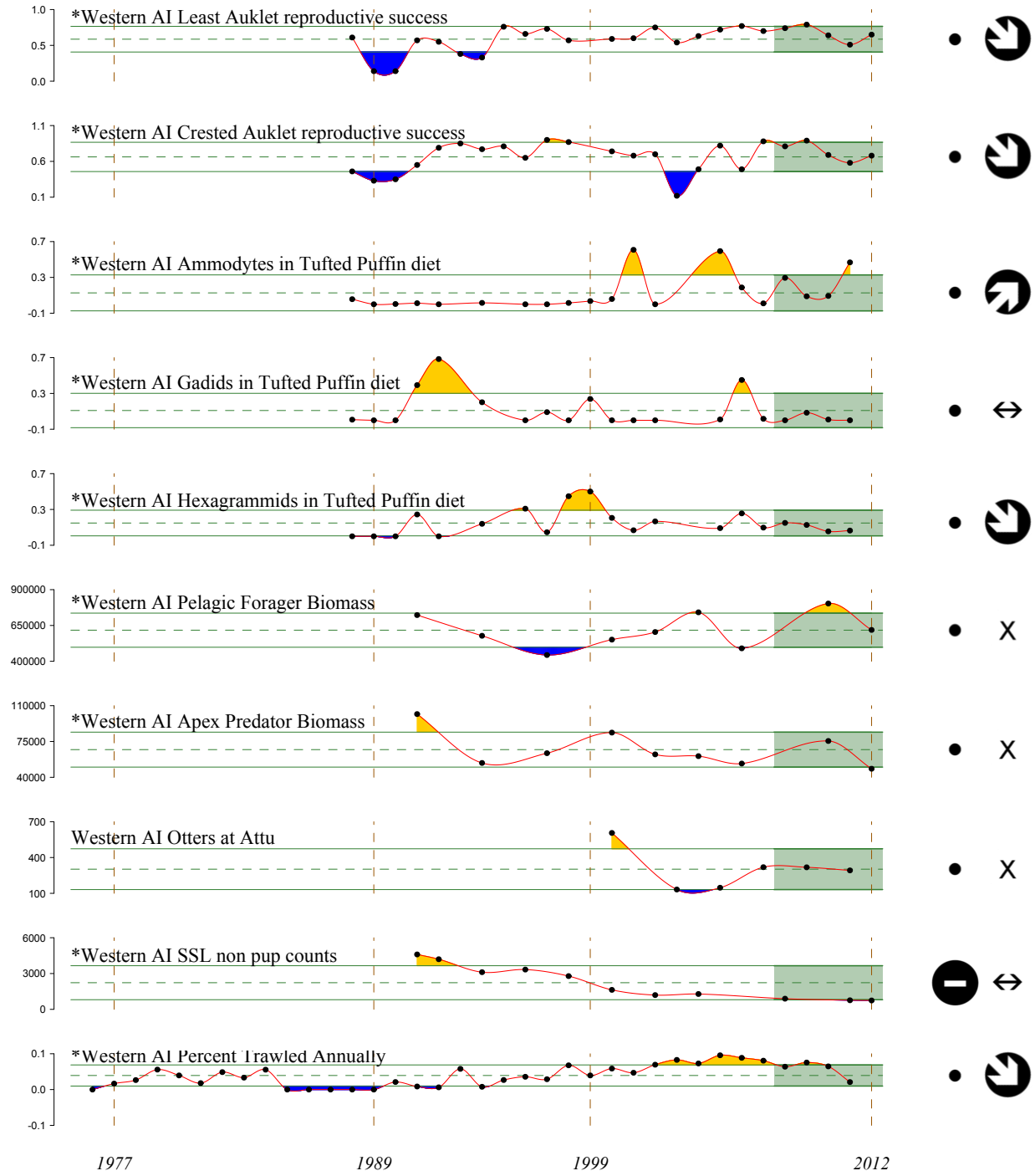


Figure 2: Western Aleutian Islands ecoregion indicators. * indicates time series updated in 2012. See Figure 1 for legend.

Central Ecoregion

- The **pelagic fish foraging guild biomass declined** overall since the last survey in 2010, reversing an increasing trend since 1994. Most of the decline can be attributed to Atka mackerel, although Pacific Ocean perch biomass has increased.
- The **slight decline in fish apex predator biomass** is largely driven by arrowtooth and Kamchatka flounders. Pacific cod biomass increased.
- **Counts of non-pup Steller sea lions in 2011 continued to decline.** The recent counts are more than one standard deviation below the long term mean.
- **School enrollment has shown no trend** in recent years, following a decline since peak enrollment in 2000.

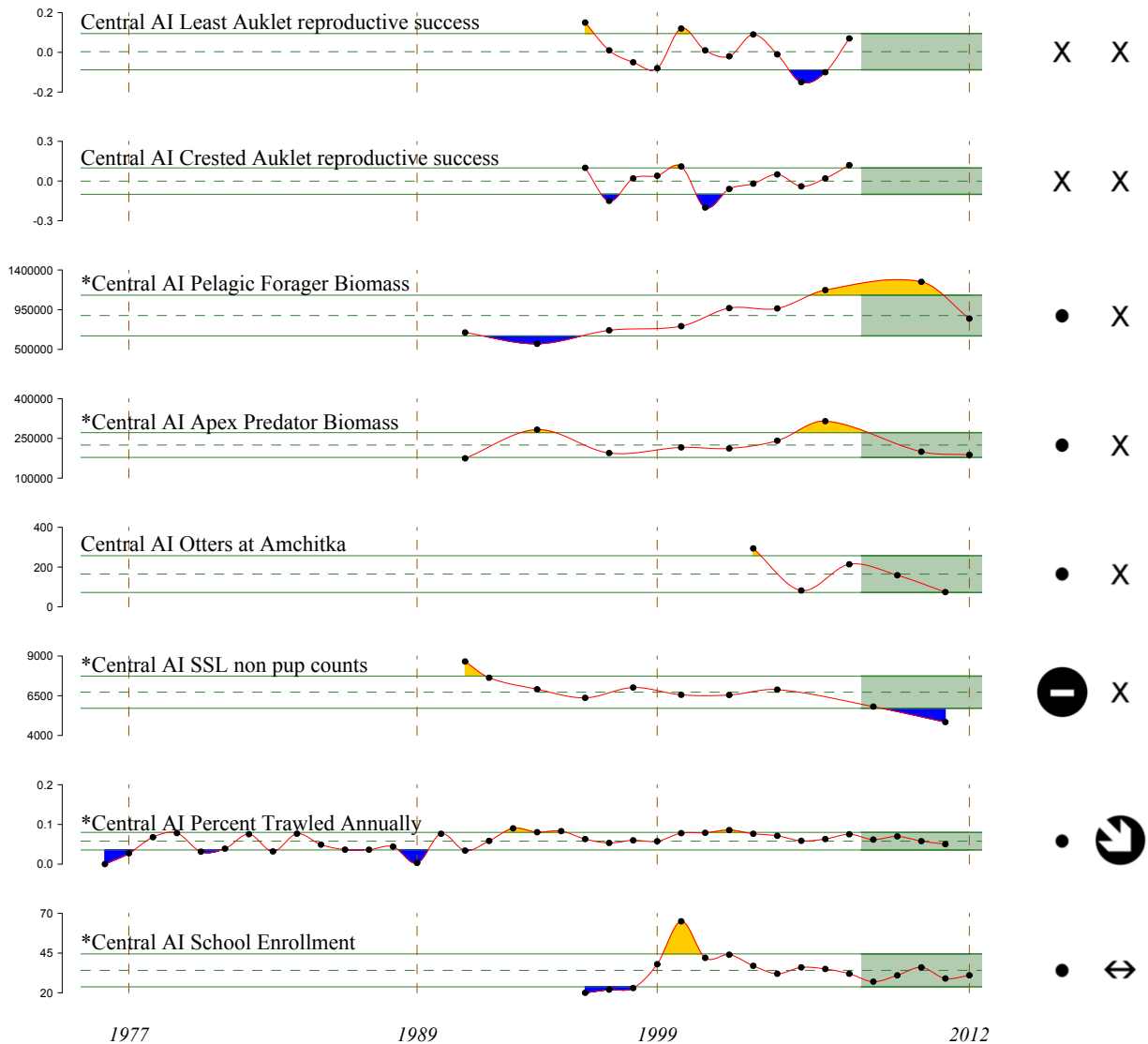


Figure 3: Central Aleutian Islands ecoregion indicators. * indicates time series updated in 2012. See Figure 1 for legend.

Eastern Ecoregion

- **Forage fish trends have varied** in tufted puffin chick meals. In general, *Ammodytes* (sand lance) and gadids have shown opposite trends. *Ammodytes* were more common from 1998 to 2008, and have shown a declining trend in the last five years. Gadids were more common through the 1990s and have been increasing recently. Hexagrammids are uncommon in this region. These patterns suggest puffins are responding to changes in forage fish availability.
- The **fish pelagic forager biomass declined** to the lowest value since 2002. Pollock and Atka mackerel contributed to this trend.
- **Fish apex predator biomass declined to the lowest in the time series.** All species groups declined since the last survey in 2010.
- In contrast to the other ecoregions, **non-pup counts of Steller sea lions remained high** in 2011. Counts were largely stable through the 1990s, but increased at a rate of 3% per year between 2000 and 2008.
- **School enrollment has fluctuated** in this ecoregion, but has shown no overall trend in the past five years.

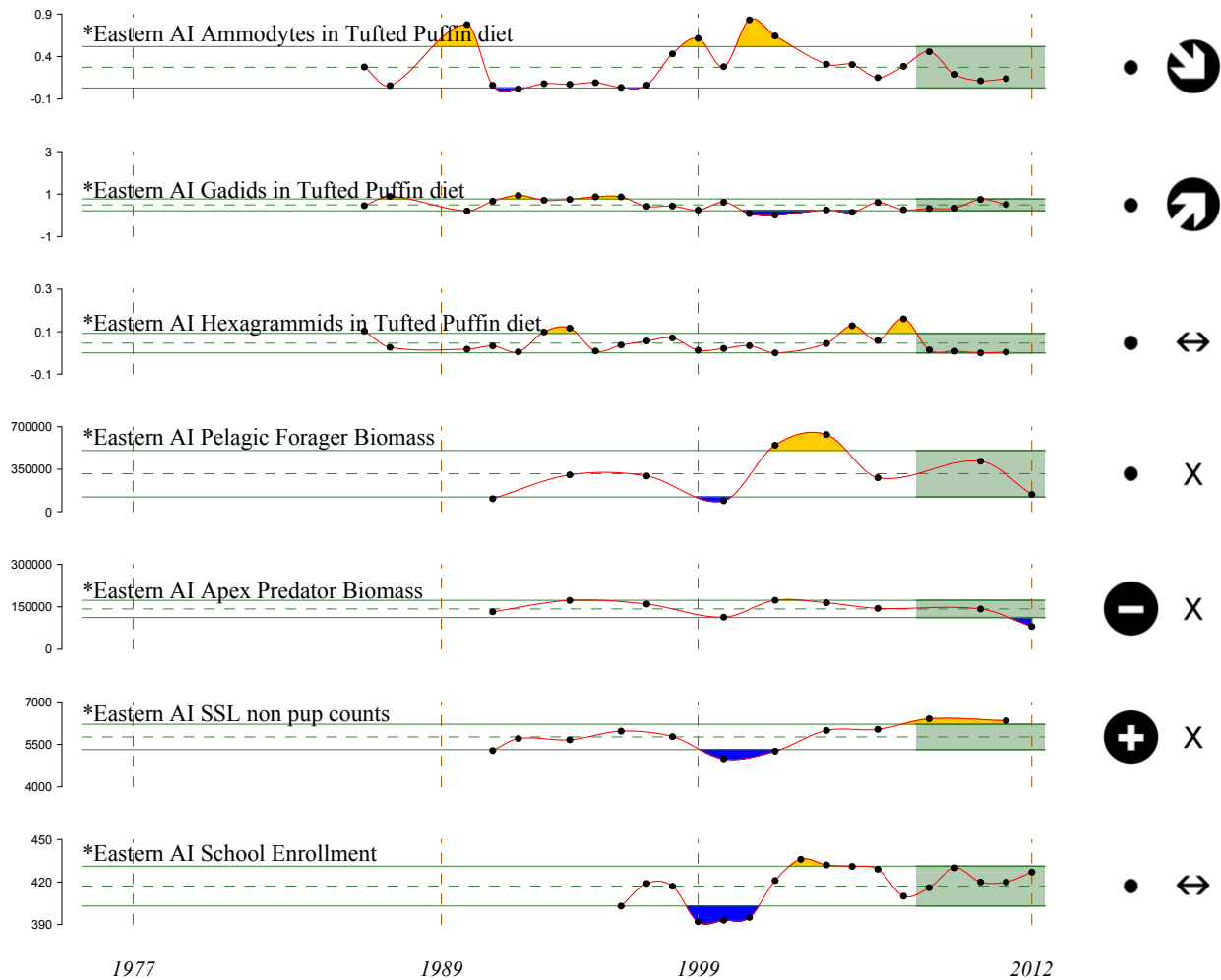


Figure 4: Eastern Aleutian Islands ecoregion indicators. * indicates time series updated in 2012. See Figure 1 for legend.