

Report Card Summary

At the January 2016 CPT meeting, it was agreed that we would start with a pilot report card using Bristol Bay red king crab. The initial indicators shown here were chosen based on data availability. All indicators were created using the spatial extent of the Bristol Bay management area.

Ecosystem indicators used for Bristol Bay red king crab

Total red king crab biomass: index for overall productivity of the stock. Includes all size ranges and both sexes.

Pre-recruit biomass: index for future abundance of legal crab. Includes male crabs (110-134 mm CL) that will likely enter the fishery (reach minimum legal size limit) the following year.

Bottom temperature: impacts spatial distribution of ovigerous females, which generally occur farther north in warm years relative to cold years.

Proportion cold pool: index of the southern extent of the cold pool.

Competitor biomass: likely competitors with juvenile and adult crabs for food. Includes sea star, urchin, and sea cucumber biomass from NOAA survey.

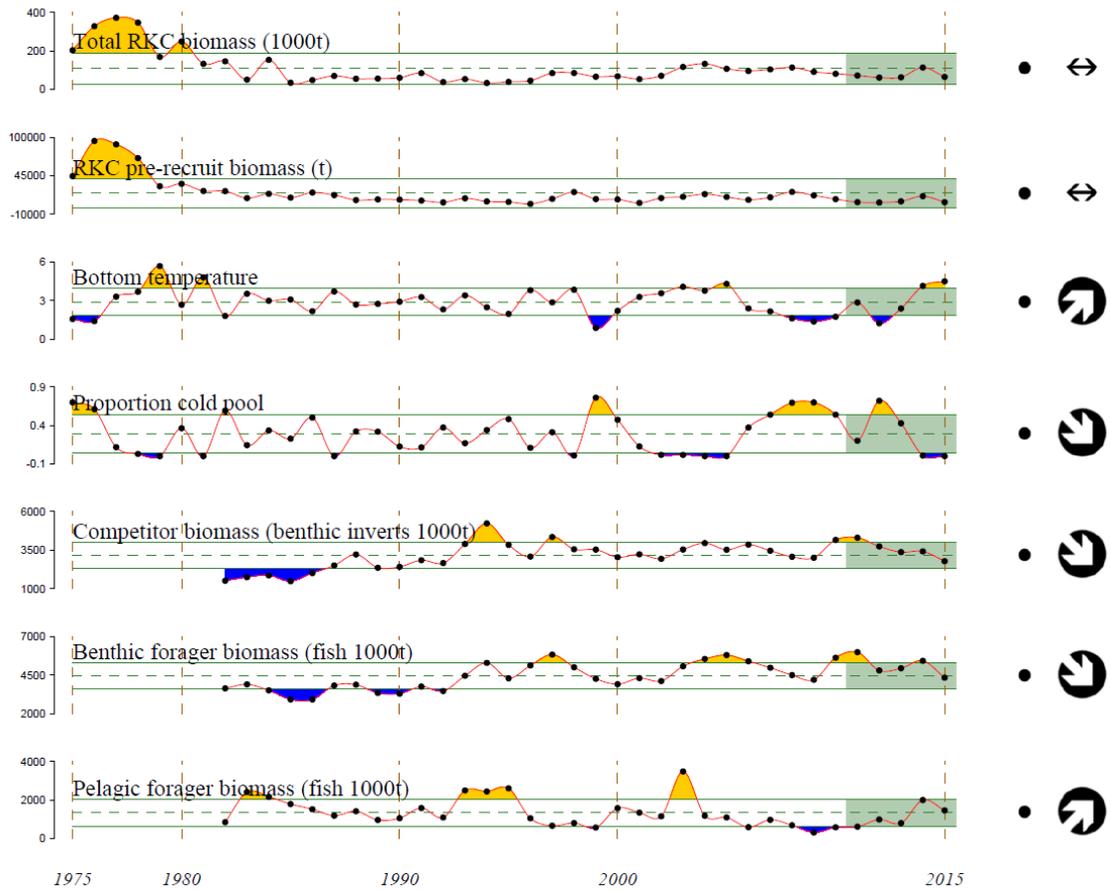
Benthic forager biomass: likely predators of juvenile and adult crabs. Includes sculpin, flatfish, pacific cod, and skate biomass from NOAA survey.

Pelagic forager biomass: likely predators or crab larvae. Includes walleye pollock, herring, capelin, salmon, eulachon, and sand lance biomass from NOAA survey.

Bristol Bay Red King Crab

- **Total red king crab biomass and pre-recruit** (males 110-134 mm CL) biomass has remained relatively stable since 1981; however, **biomass in 2015 is below that of 2014**.
- **Spring/summer bottom temperatures in Bristol Bay was high** in both 2014 and 2015 relative to recent years, and **the cold pool did not extend into the Bristol Bay** management area in 2014 or 2015.
- **Survey biomass of competitors (sea stars, urchins, sea cucumbers) decreased in 2015**, which may allow greater food availability for juvenile and adult red king crabs.
- **Survey biomass of benthic foragers (sculpins, flatfish, pacific cod, skates, rockfish) decreased in 2015**, but is similar to the long-term mean.
- **Survey biomass of pelagic foragers (walleye Pollock, herring, capelin, salmon, eulachon, sand lance) decreased in 2015**, but the overall trend is increasing in the previous five-year timespan.

Bristol Bay Red King Crab



2011-2015 Mean

- ⊕ 1 s.d. above mean
- ⊖ 1 s.d. below mean
- within 1 s.d. of mean
- X fewer than 2 data points

2011-2015 Trend

- ↻ increase by 1 s.d. over time window
- ↺ decrease by 1 s.d. over time window
- ↔ change <1 s.d. over window
- X fewer than 3 data points