BOB SRM

PART 5

SITKA TREBC

RC 31

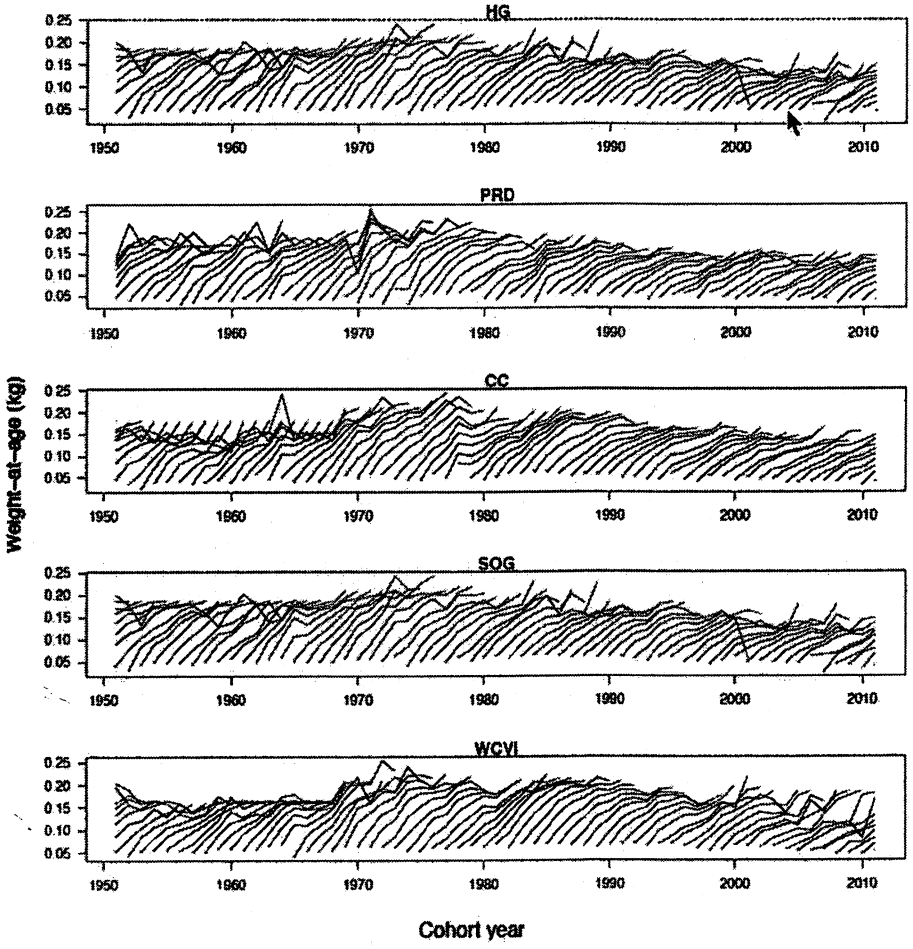

Fig. 12. Empirical mean weight at age by cohort for ages 2 to 10 in the five majors stock groups, 1951-2011. Values are based on the biological samples taken from the commercial and test fisheries. Lines showing a decreasing slope, such as those in recent years, indicate older fish are smaller. HG: Haida Gwaii; PRD: Prince Rupert District; CC: Central Coast; WCVI: West Coast Vancouver Island; SOG: Strait of Georgia. Source: Martell et al. (2012).

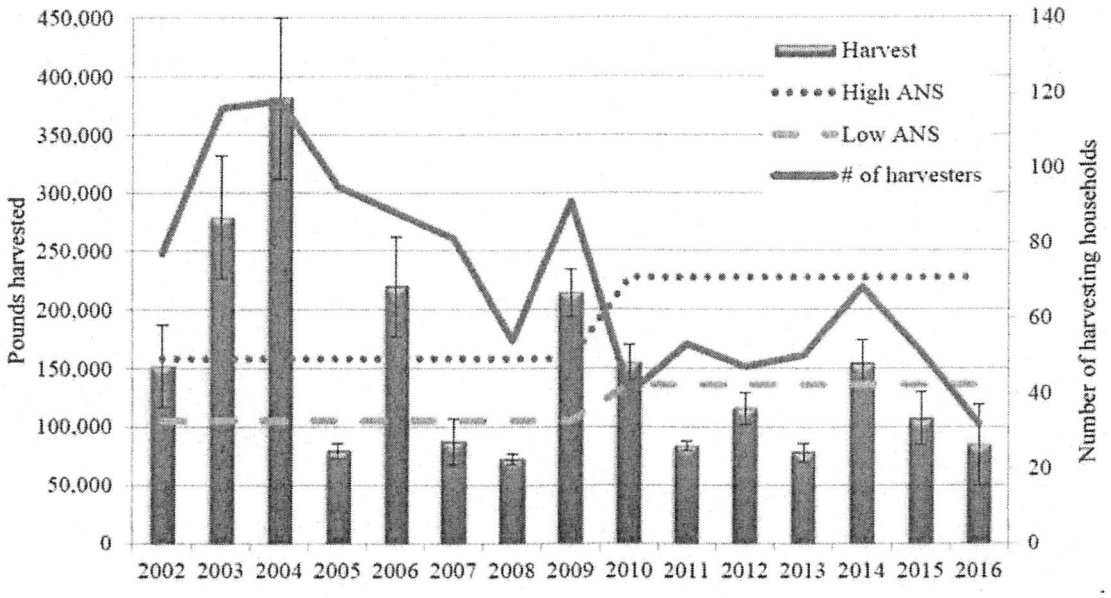

Fig. 13. Total pounds of usable weight of herring spawn harvested, number of households, and amount reasonably necessary for subsistence (ANS) of herring spawn on all substrates in Sitka Sound, 2002-2016. Source: Sill and Cunningham (2017).

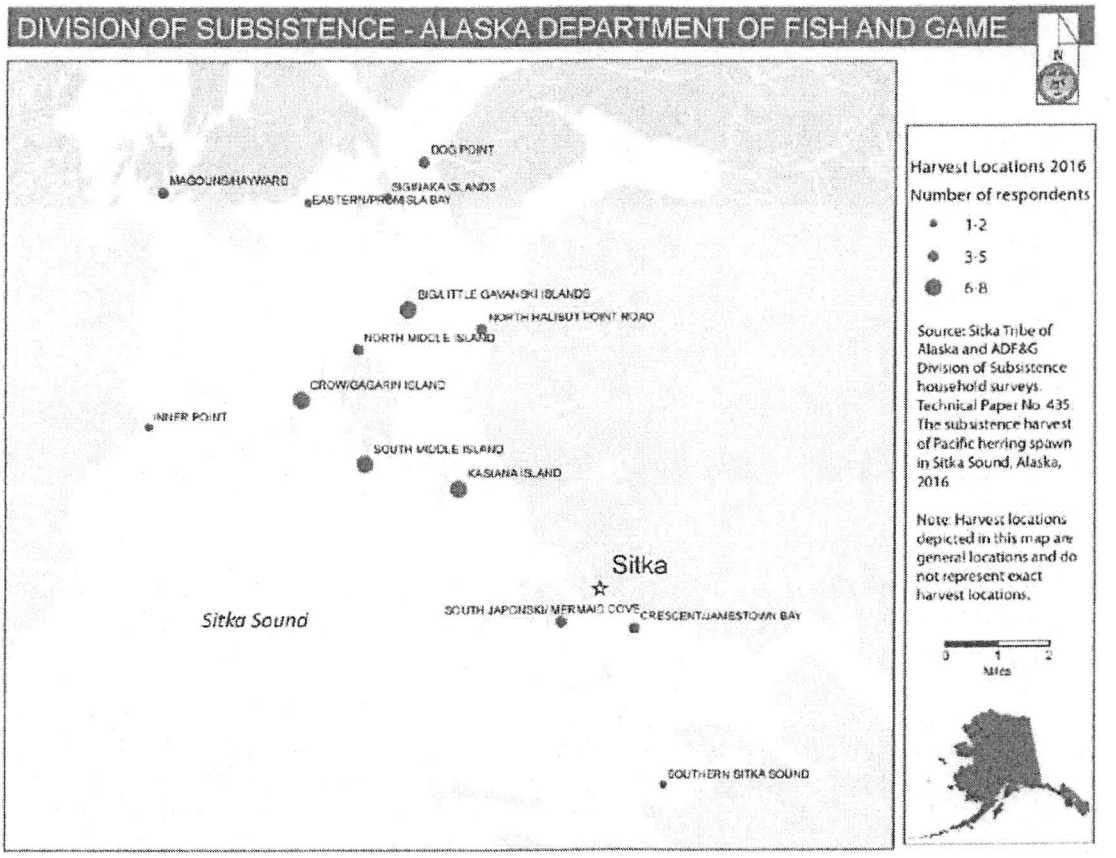

Fig. 14. Reported locations of subsistence herring fishing in 2016. Source: Sill and Cunningham (2017).

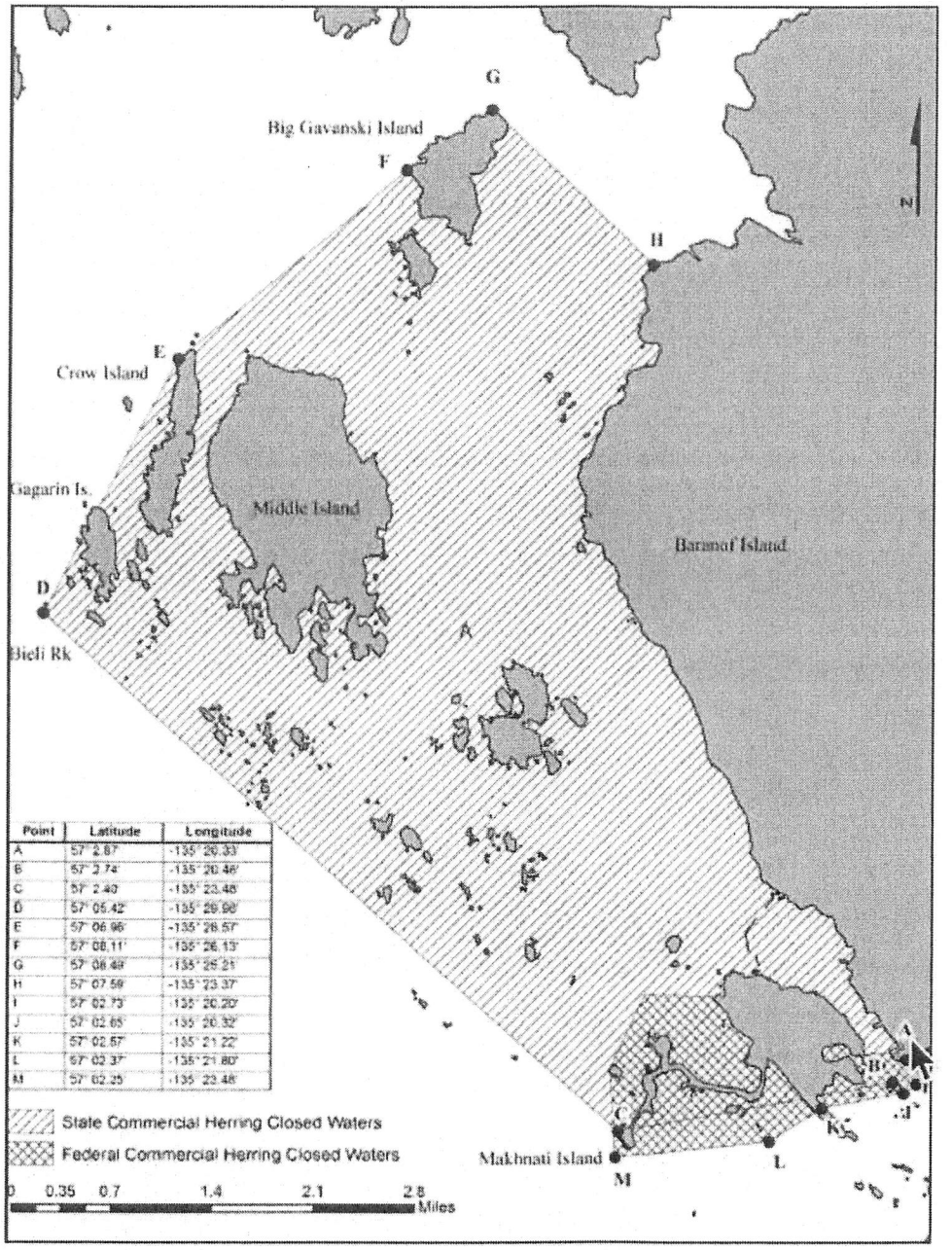

Fig. 15. Map of Sitka Sound areas closed to commercial herring harvests in 2018. Source: Thynes et al. (2018).

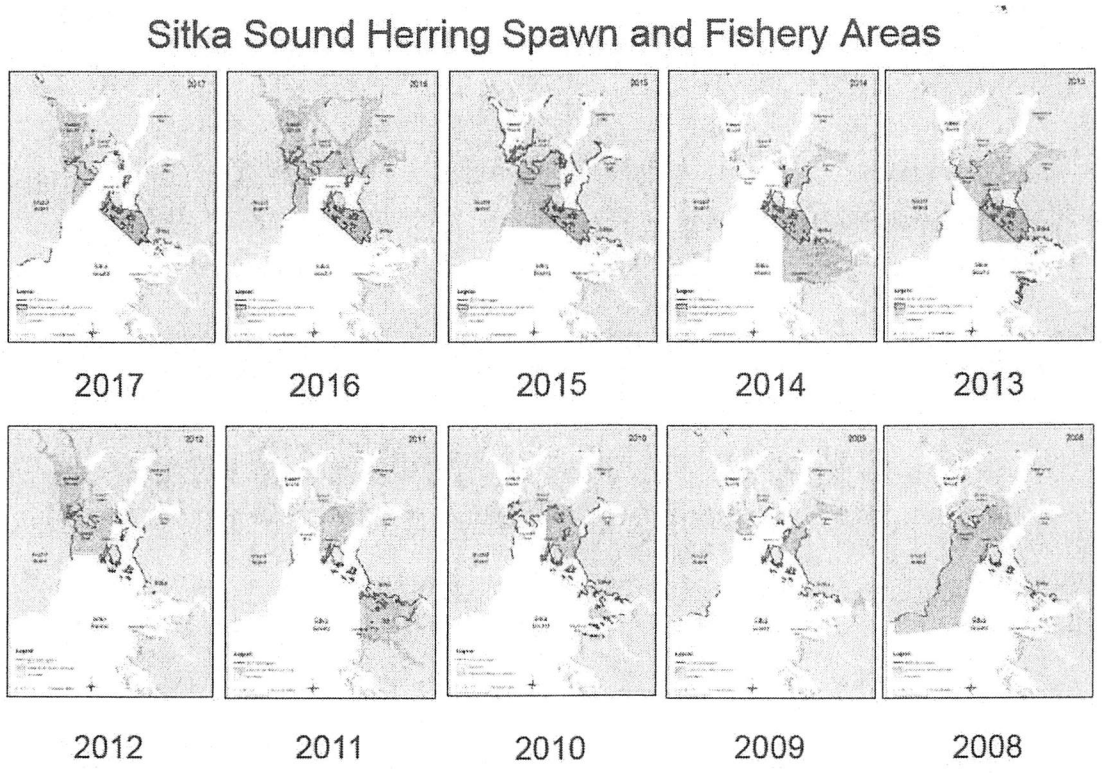

Fig. 16. Maps of herring spawning distribution (red shoreline) and commercial fishing areas (grey shaded areas), 2008-2017. Light blue area was closed to commercial fishing during 2013-2017. Source: Hebert (2018).

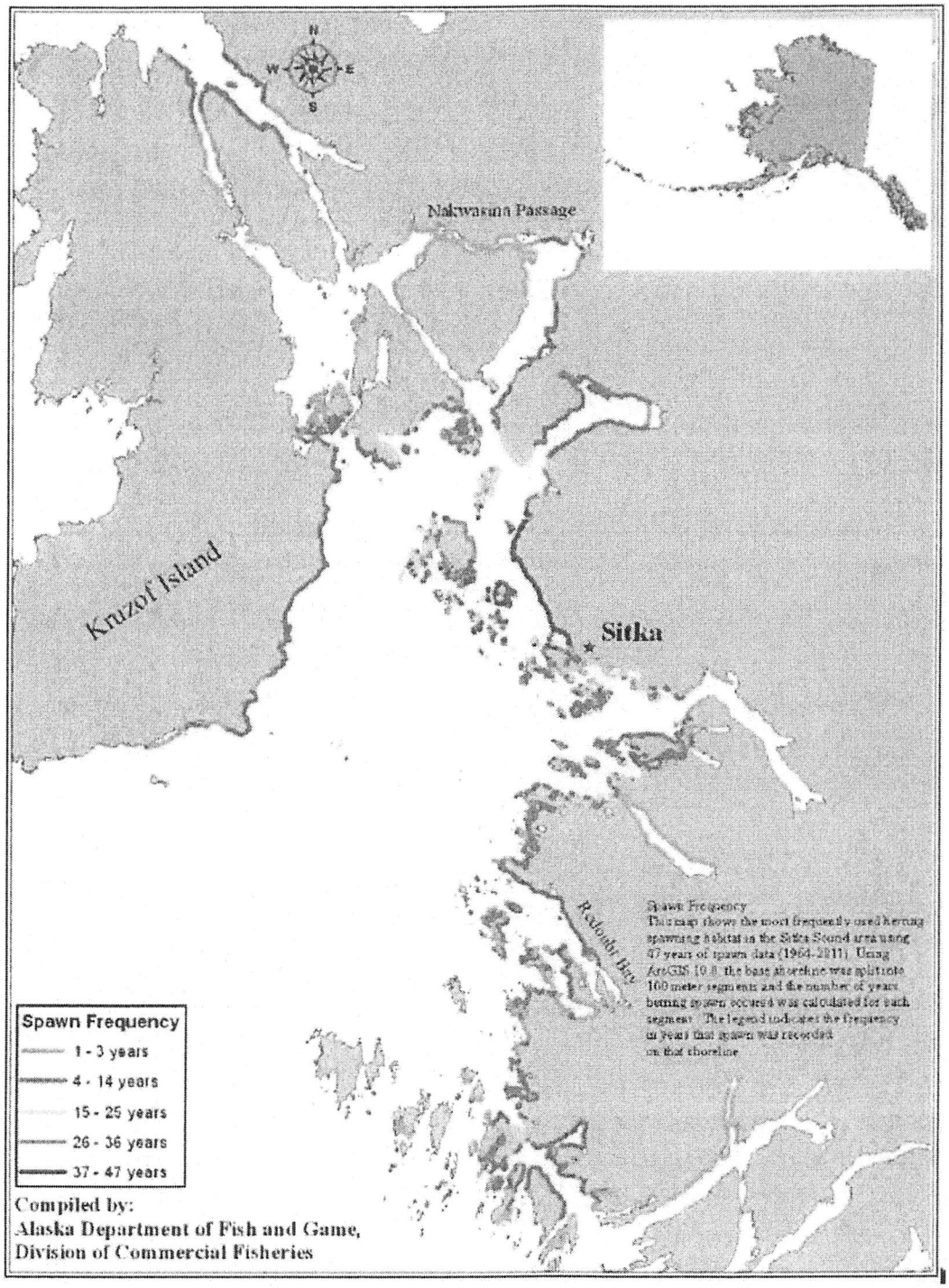

Fig. 17. Frequency of recorded herring spawn in Sitka Sound, 1964-2011. Source: Sill and Cunningham (2017).

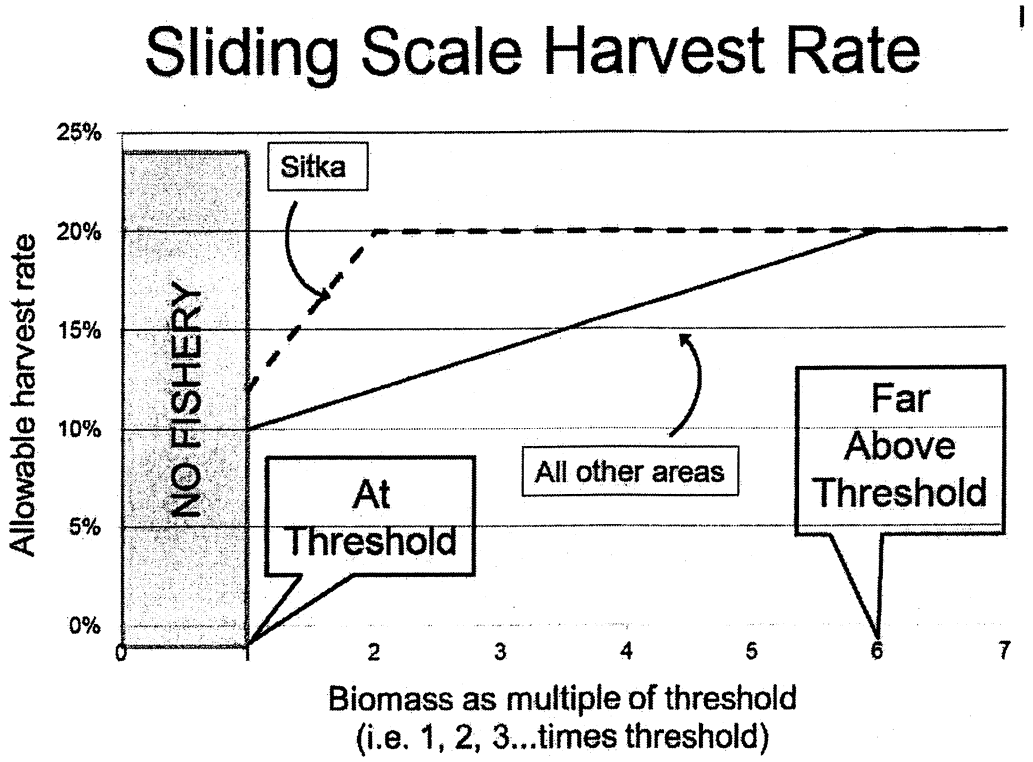

Fig. 18. Allowable harvest rate of herring in Sitka Sound versus other areas of Southeast Alaska in relation to the total biomass threshold determined for each fishery. In Sitka Sound, the forecasted herring biomass must equal or exceed 25,000 tons before the commercial fishery can open. Source: Hebert (2018).

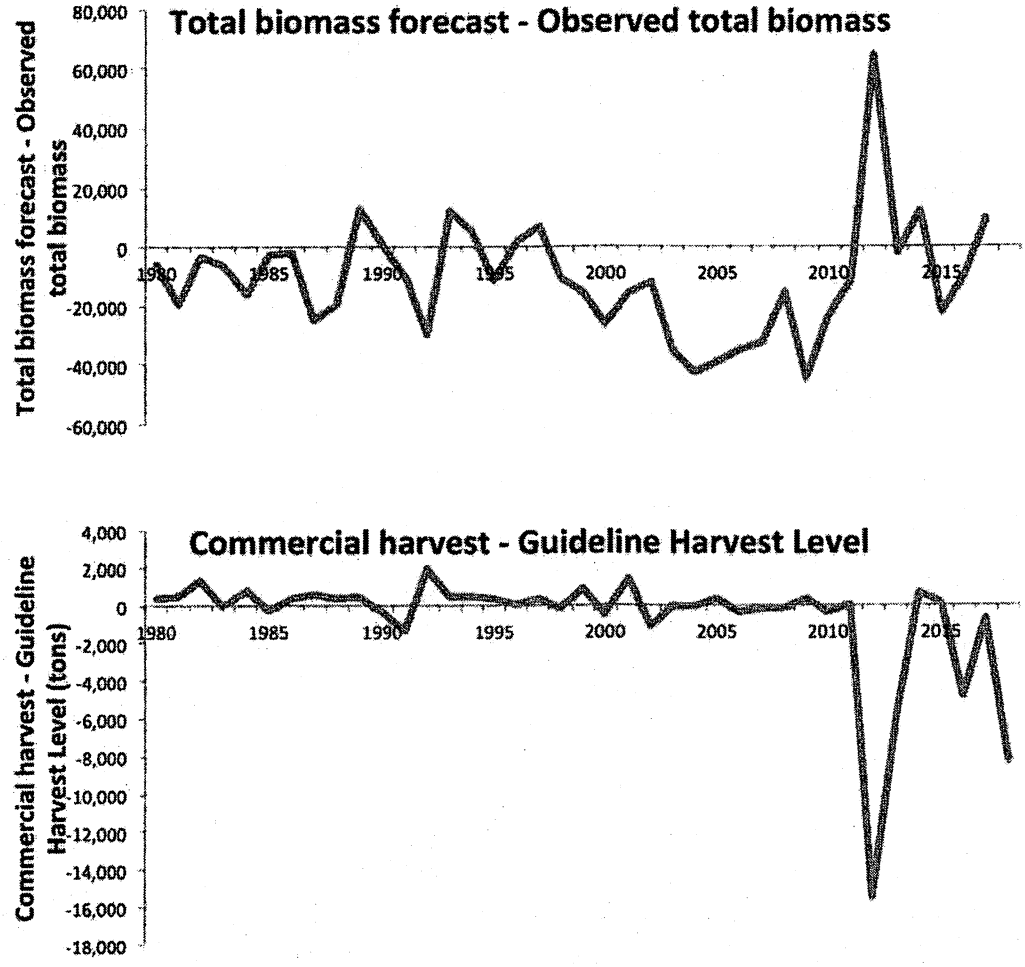

Fig. 19. Forecast error of Sitka Sound herring (upper graph) and commercial harvest in relation to the pre-season guideline harvest level, 1980-2017. Sources: Thynes et al. (2018); www.adfg.alaska.gov/index.cfm?adfg=commercialbyareasoutheast.herring#harvest

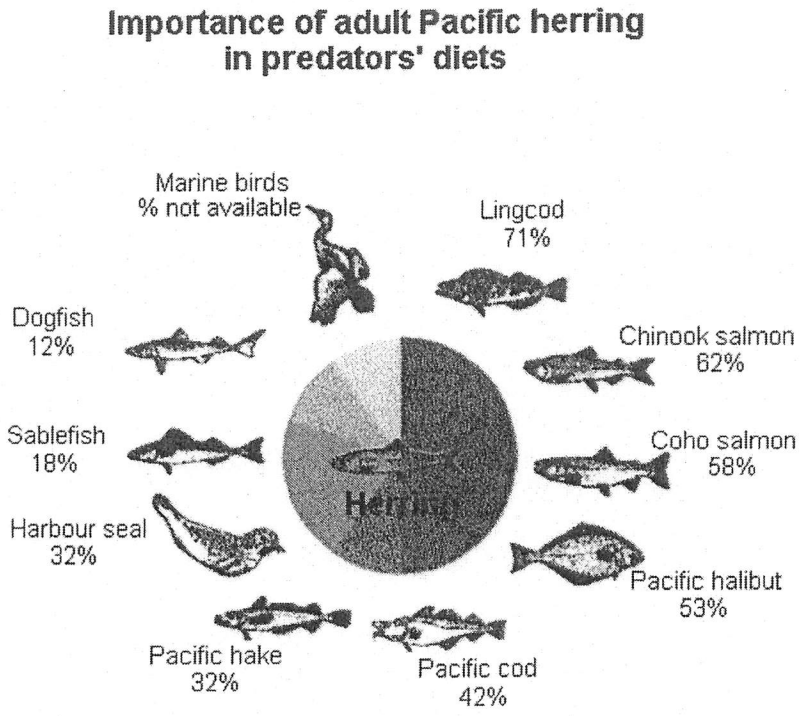

Fig. 20. The importance of adult herring in the diet of key predators. http://www.pac.dfo-mpo.gc.ca/science/species-especes/pelagic-pelagique/herring-hareng/hertags/pages/default4-eng.htm

APPENDIX

Written observations and comments provided by STA.

STA Problem Statement: Subsistence harvesters are unable to obtain enough herring eggs to meet their needs due to changes in herring abundance and spatiotemporal distribution and density of herring spawn.

I. Is the State of Alaska meeting the "subsistence priority" in the State Constitution and providing subsistence harvesters a "reasonable opportunity" for subsistence under the current management regime?
   a. Current management is not prosecuted over space and time to minimize disturbance to spawning herring
      i. Increasing quota and stagnant processing capacity has led to harassing herring over longer time periods
      ii. This partially explains the apparent dichotomy between ADFG finding an increasing biomass and a declining subsistence harvest in recent years
   b. What was a two-day fishery and a two-week spawn has become a two-week fishery and a two-day spawn
      i. Spatiotemporal shifts have led to herring spawn being available for a shorter time and farther from town; people with jobs or limited boats and cash for fuel cannot access spawn
      ii. The current concentration of harvest in the Core Area is a relatively new occurrence; TEK suggests that previously every family had their own bay or cove all over the Sound where they harvested herring eggs
   c. Typical years have a bimodal temporal distribution for spawning herring – this may indicate multiple, genetically distinct populations, differentiated temporally
      i. Traditional knowledge suggests two groups of fish with unique migration routes into Sitka Sound
      ii. Two populations of genetically distinct fish would likely require a different management strategy
   d. The State of Alaska has a poor track record of managing herring in Southeast Alaska
      i. Only 2 of 12 stocks monitored by the State are at their threshold, though TEK would suggest all stocks are managed under a shifted baseline
         1. Lynn Canal and Kah Shakes were traditionally the other two premier herring fisheries in Southeast and both have crashed and show no real sign of recovery to pre-commercial harvest abundance
      ii. Sitka is the last population that consistently provides a viable subsistence harvest; eggs are shared all over the state. If Sitka Sound subsistence harvest continues to decline, an irreplaceable piece of Alaska Native culture will be lost, perhaps forever. As the last subsistence stock remaining, Sitka Sound herring require a more conservative management strategy