

BOB SAM

PART 4

SITKA TRIBE

RC 30

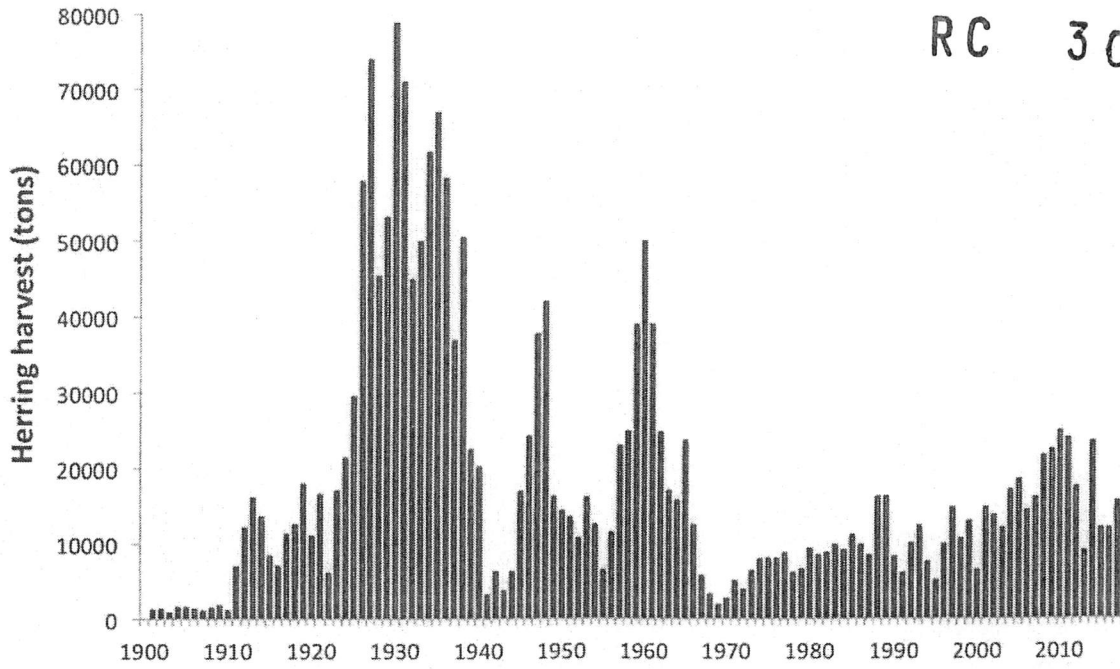
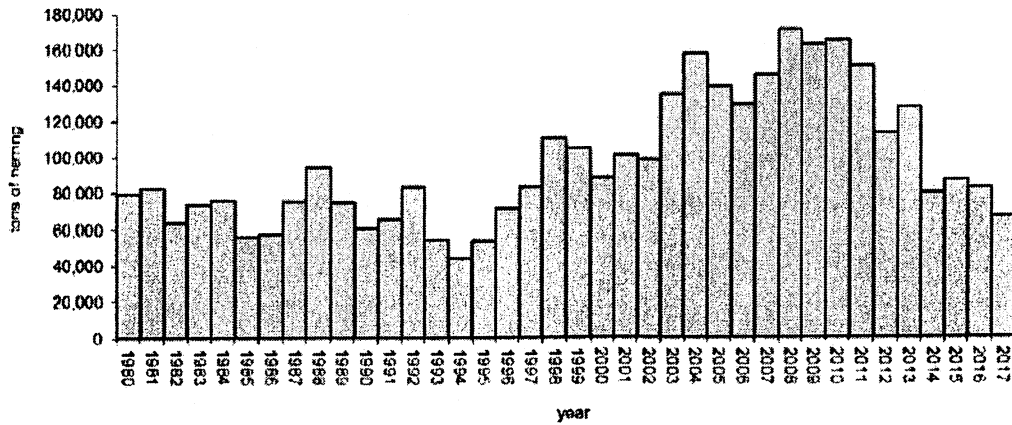


Fig. 1. Commercial herring harvests in Southeast Alaska, 1901-2017. Source: Hebert 2017b.

Combined spawning biomass for all major Southeast Alaska herring stocks



Combined spawning biomass for all major Southeast Alaska herring stocks, excluding Sitka Sound

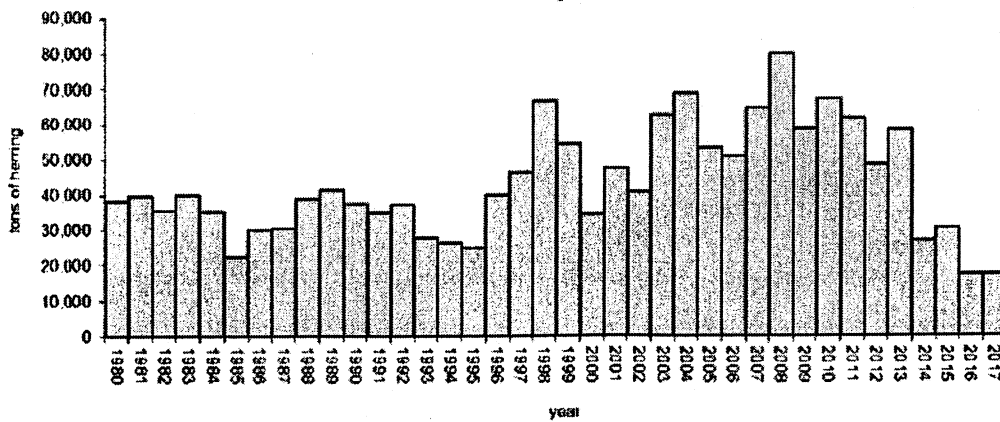


Fig. 2. Post-fishery spawning biomass of major herring stocks in Southeast Alaska (upper graph) and after excluding Sitka Sound herring, 1980-2017. Values based on ASA model for Sitka and Craig, and spawn deposition surveys for all other areas. Spawn deposition surveys were not conducted in four of ten major spawning areas in 2016, and were conducted in seven of ten major spawning areas in 2017. Source: Hebert (2017b).

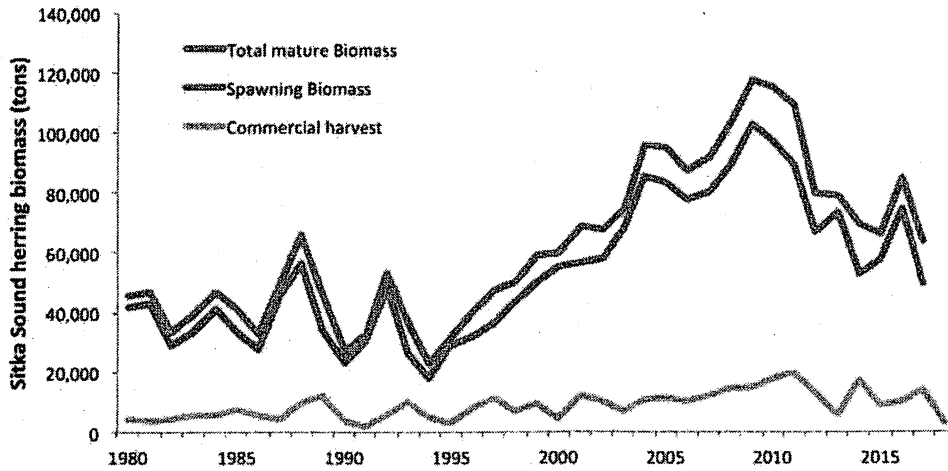


Fig. 3. Biomass of total mature herring, modelled herring spawners, and commercial harvest of herring (tons) in Sitka Sound, 1980-2017. Sources: www.adfg.alaska.gov; Thynes et al. (2018).

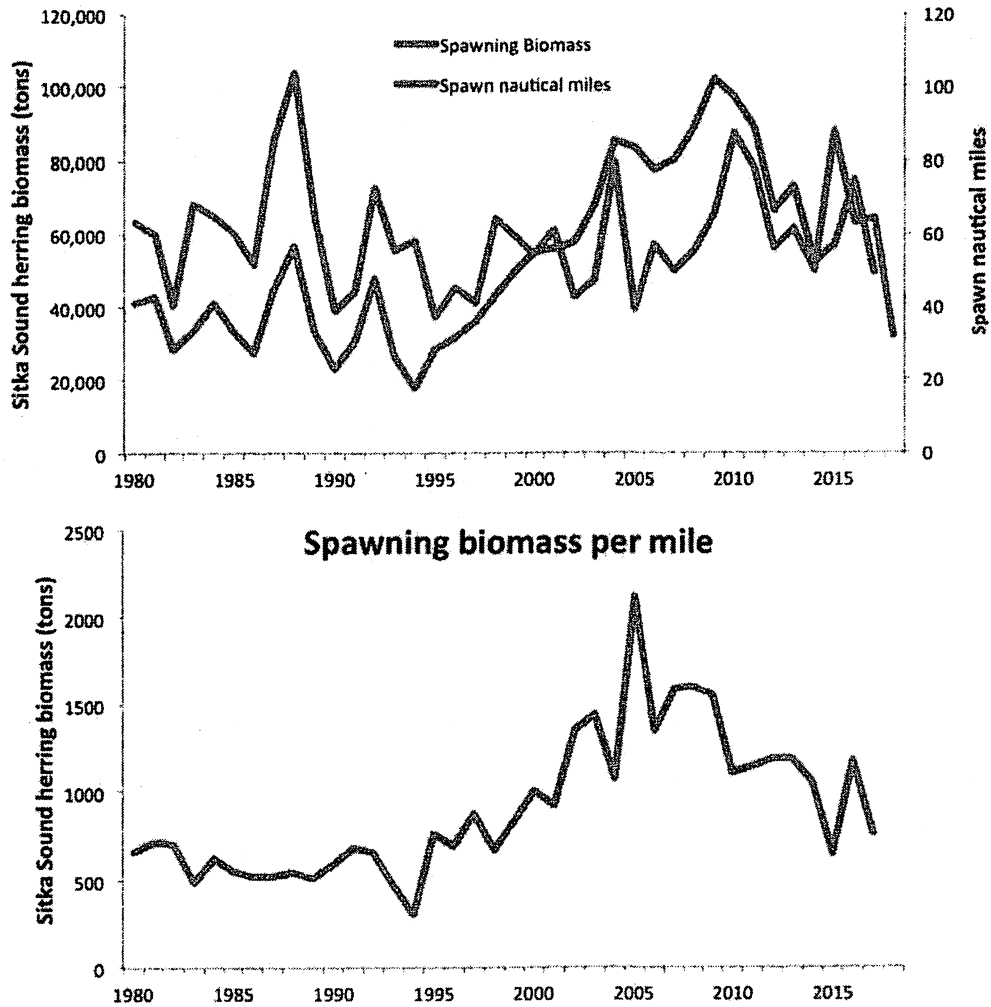


Fig. 4. Comparison of herring spawning biomass and nautical miles of spawn (upper graph) and the biomass of spawners per nautical mile of spawn (spawning density). Data sources: www.adfg.alaska.gov; Thynes et al. (2018).

Age composition for Sitka Sound herring from 1988-2017 from spring cast net samples

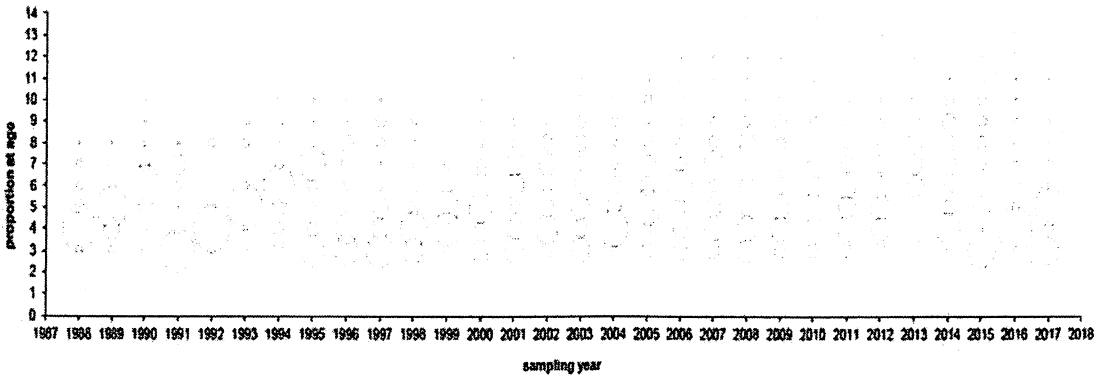


Fig. 5. Age composition of herring in Sitka Sound, 1988-2017. Larger circles reflect greater relative abundance of the age group. Strong herring year classes are shown by diagonal patterns such as those beginning in 1988, 1991, 2003, 2015. Source: Hebert (2017).

Sitka Sound herring mean weight at age - spring cast net

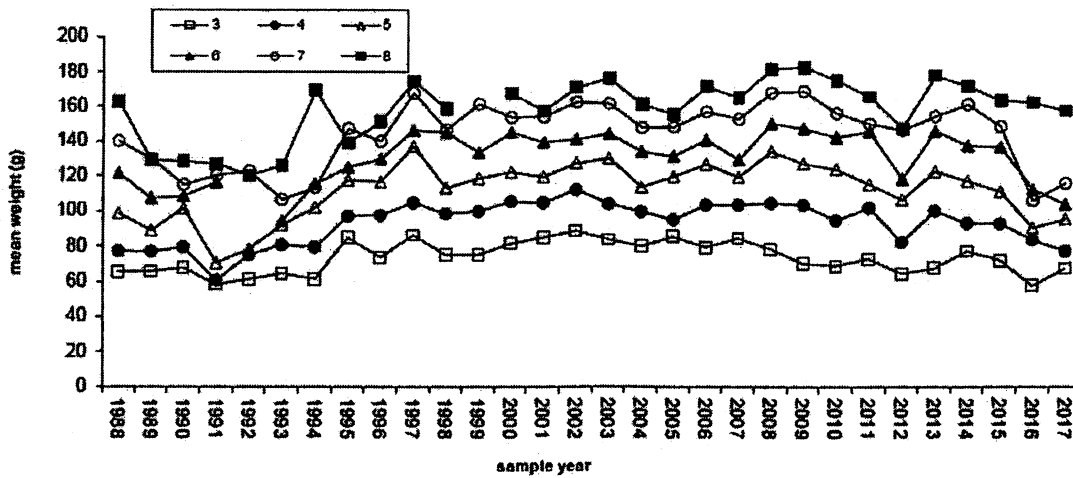


Fig. 6. Average weight (g) at age (age-3 to age-8) of herring in Sitka Sound, 1988-2017. Source: Hebert (2017).

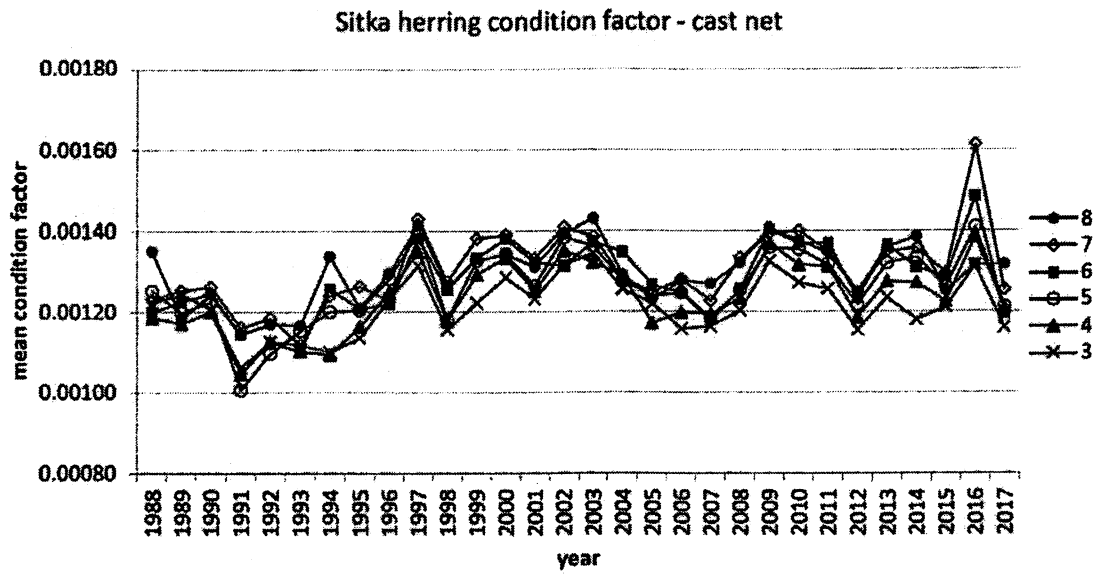
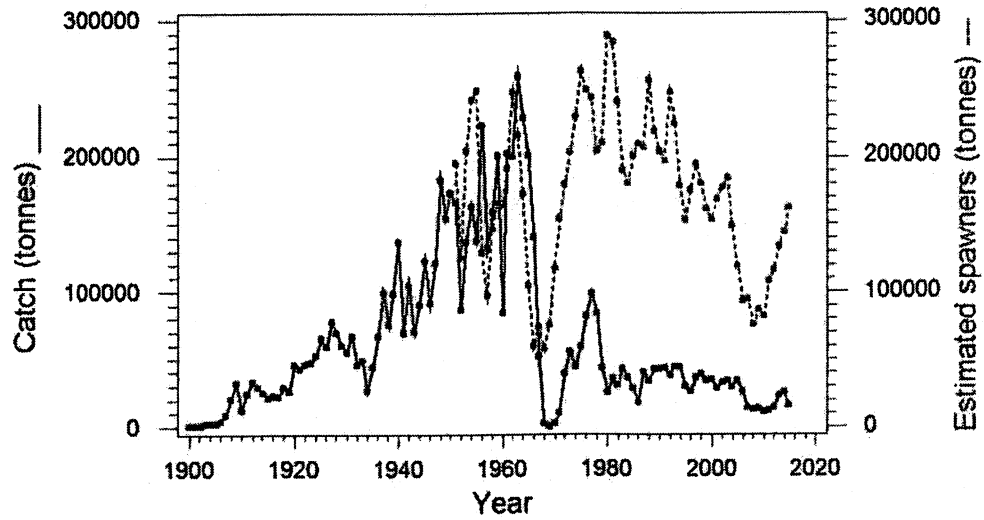


Fig. 7. Average condition factor of each age group (age-3 to age-8) of herring in Sitka Sound, 1988-2017. Values in 2016 may be biased high due to lengths that were underestimated. Source: Hebert (2017).

BC Herring Catch and Estimated Spawners



*Blue = total catch (t). *Red = estimated spawners (t) post-1950.

Fig. 8. Commercial catch and spawning biomass of herring in British Columbia, 1900-2015 (metric tons). Source: <http://www.pac.dfo-mpo.gc.ca/science/species-especies/pelagic-pelagique/herring-hareng/herspawn/pages/default5-eng.html>

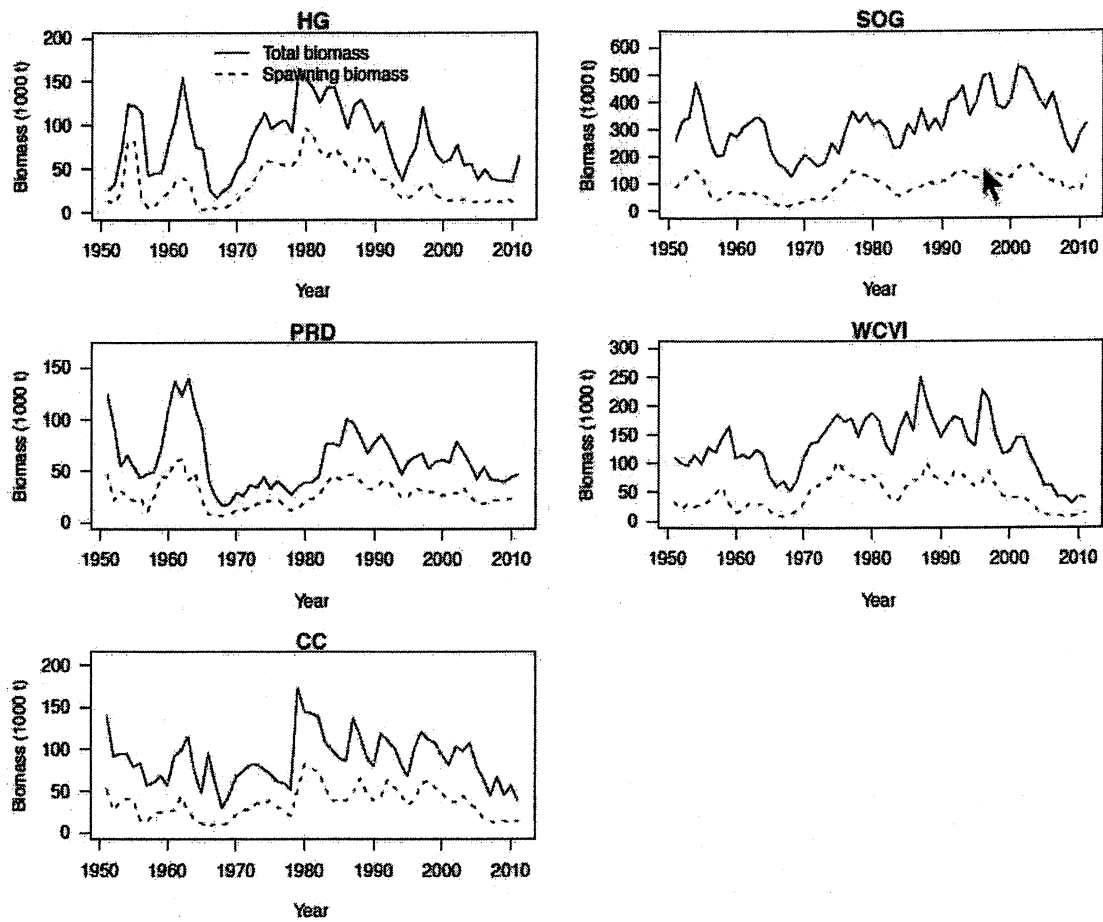


Fig. 9. Estimates of total herring biomass at the start of the year (numbers times empirical weight-at-age) and spawning biomass (post fishery) for the five major stock areas, 1951-2011. HG: Haida Gwaii; PRD: Prince Rupert District; CC: Central Coast; WCVI: West Coast Vancouver Island; SOG: Strait of Georgia. Source: Martell et al. (2012).

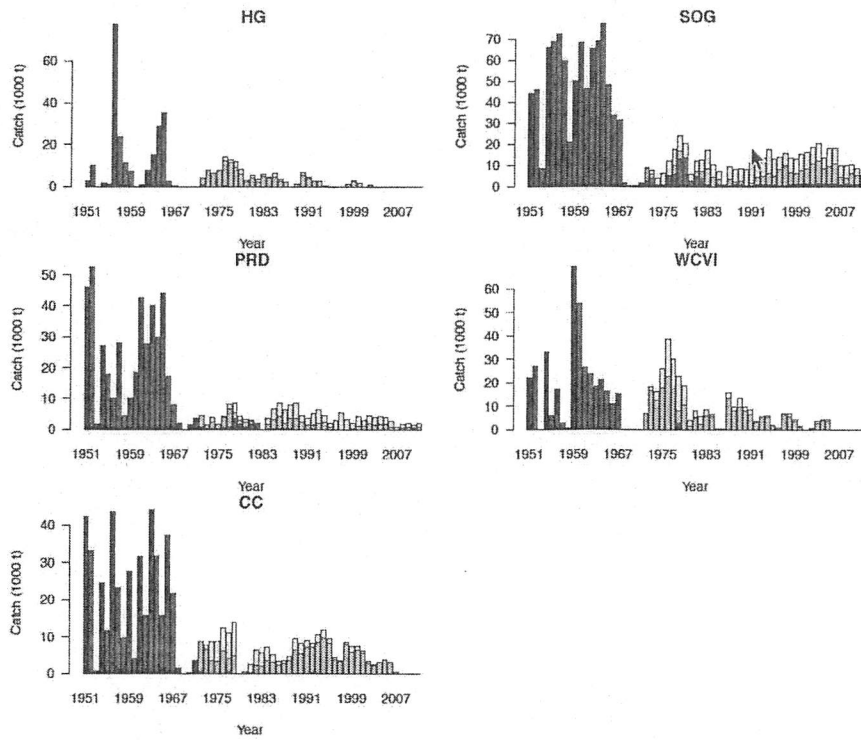


Fig. 10. Estimates of commercial herring catch in the five major areas of British Columbia, 1951-2011. HG: Haida Gwaii; PRD: Prince Rupert District; CC: Central Coast; WCVI: West Coast Vancouver Island; SOG: Strait of Georgia. Source: Martell et al. (2012).

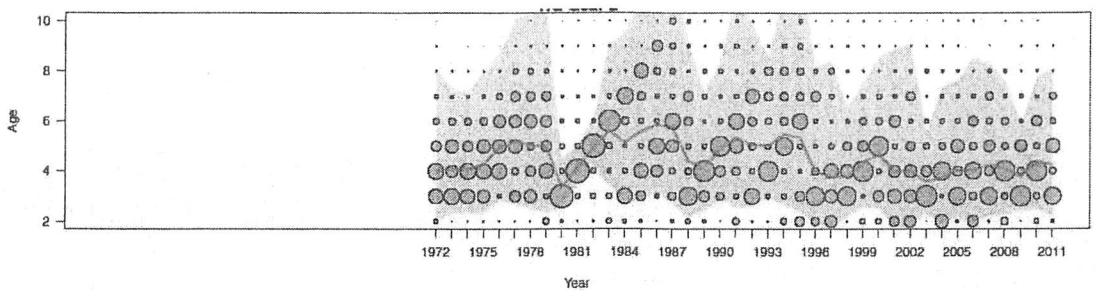


Fig. 11. Proportions-at-age versus time for the seine roe fishery in Haida Gwaii (example of stocks) The area of the circle reflects the proportion-at-age, each column sums to 1, zeros are not shown, and age 10 is a plus group. Also shown is the mean age of the catch (line) and the approximate 95% distribution of ages (shaded polygon) for each year. Other stocks are provided in the source report. Source: Martell et al. (2012).