

**ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF COMMERCIAL FISHERIES
NEWS RELEASE**



*Sam Cotten, Commissioner
Scott Kelley, Director*



Contacts:

Greg Buck, Area Research Biologist
 Sherri Dressel, Statewide Herring Fisheries Scientist
 Phone: (907) 267-2355
 Fax: (907) 267-2442

Anchorage Regional Office
 333 Raspberry Road
 Anchorage, AK 99518
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2018 TOGIAK HERRING FORECAST

The 2018 Togiak herring forecast and harvest allocations are listed below for the Togiak District sac roe and spawn-on-kelp fishery and the Dutch Harbor food and bait fishery. This forecast is based on a maximum 20% exploitation rate of the projected biomass as defined in regulation 5 AAC 27.865 Bristol Bay Herring Management Plan. The following represents the allocations and quotas based on current regulation.

Table 1.–The 2018 Togiak District Pacific herring biomass and harvest forecast and allocation by fishery and gear.

	Biomass (Short Tons)	Harvest (Short Tons)
Forecasted Biomass	136,756	
Total Allowable Harvest (20% exploitation rate)		27,351
Togiak Spawn-on-Kelp Fishery (Fixed Allocation)		1,500
Remaining Allowable Harvest		25,851
Dutch Harbor Food/Bait Allocation (7.0% of remaining allowable harvest)		1,810
Remaining Allowable Harvest for Togiak District Sac Roe Fishery:		24,042
Purse Seine Allocation (70%)		16,829
Gill Net Allocation (30%)		7,212

2018 TOGIAC HERRING FORECAST SUMMARY

The Pacific herring mature biomass in the Togiak District was estimated by aerial surveys at 90,269 tons in 2017 and is forecast to be 136,756 tons in 2018 (Figure 1). Age 4–6 herring are expected to comprise 15% of the biomass, age 7–10 herring are expected to comprise 51% while the remaining 34% are expected to be age 11+ of the run by weight (Figure 2). The average weight of a fish in the forecasted mature population is projected as 378g while the average weight of a fish in the forecasted mature population that is vulnerable to the purse seine fishery is forecast as 381g. The difference between these two weights is due to the selectivity of the purse seine fleet. The allowable harvest at a 20% exploitation rate of the forecasted 2018 run implies a potential harvest of 27,351 tons in all fisheries and 24,042 tons in the Togiak sac roe fisheries (purse seine and gillnet). A harvest of this size would be ~81% of the recent 10-year average purse seine fleet harvest.

An age-structured assessment (ASA) model is used to forecast the Togiak herring population. The ASA model utilizes time series of catch, age composition of the purse seine harvest, age composition of the mature population data, and aerial survey biomass estimates plus catch from 1980 forward. Samples from the entire commercial purse seine harvest are used to estimate age composition of the seine harvest. Sample groups from the commercial purse seine harvest that include the peak run survey and the post-fishery survey as well as harvest prior to the peak are used to estimate age composition of the mature population biomass. Aerial survey biomass estimates plus pre-survey harvest are used to estimate mature biomass. This model uses between-dataset weighting and variable weighting within the aerial survey dataset to reflect the confidence staff has in the respective datasets and the confidence staff has in the individual aerial survey estimates based on the number of surveys, timing of surveys, weather and water conditions. The forecasted average weight at age of herring for 2018 was calculated as the most recent two-year average.

Survey biomass estimates of the Togiak herring mature population have been estimated with aerial surveys since the late 1970s, concurrent with development of the sac-roe fishery. Surveys to estimate total mature biomass were not flown in 2016 due to budget constraints. In 2017, surveys were flown between 28 April and 15 May with the highest biomass observed on 9 May in 2017. Due to weather limitations, peak biomass was likely not observed in 2017, so the 2018 forecast was based on previous aerial surveys and 2017 biological data.

Herring are detected in our sampling effort when they recruit into the fishery; a process that we believe begins around age-4 and is fully complete by age-9. Large recruitments in this population generally occur every eight to ten years and typically last one or two years. The last large recruitment event experienced by the Togiak herring population was the 2005 year-class, which was detected in 2009 when the age-4 fish recruited to the fishery. Biological sampling in 2017 suggests that the age-4 recruit class may be larger than the past few years. It should be noted that measuring contributions of younger age classes is difficult because these fish are not fully recruited (available) in the harvest and often arrive on the spawning grounds near the end of the fishery.

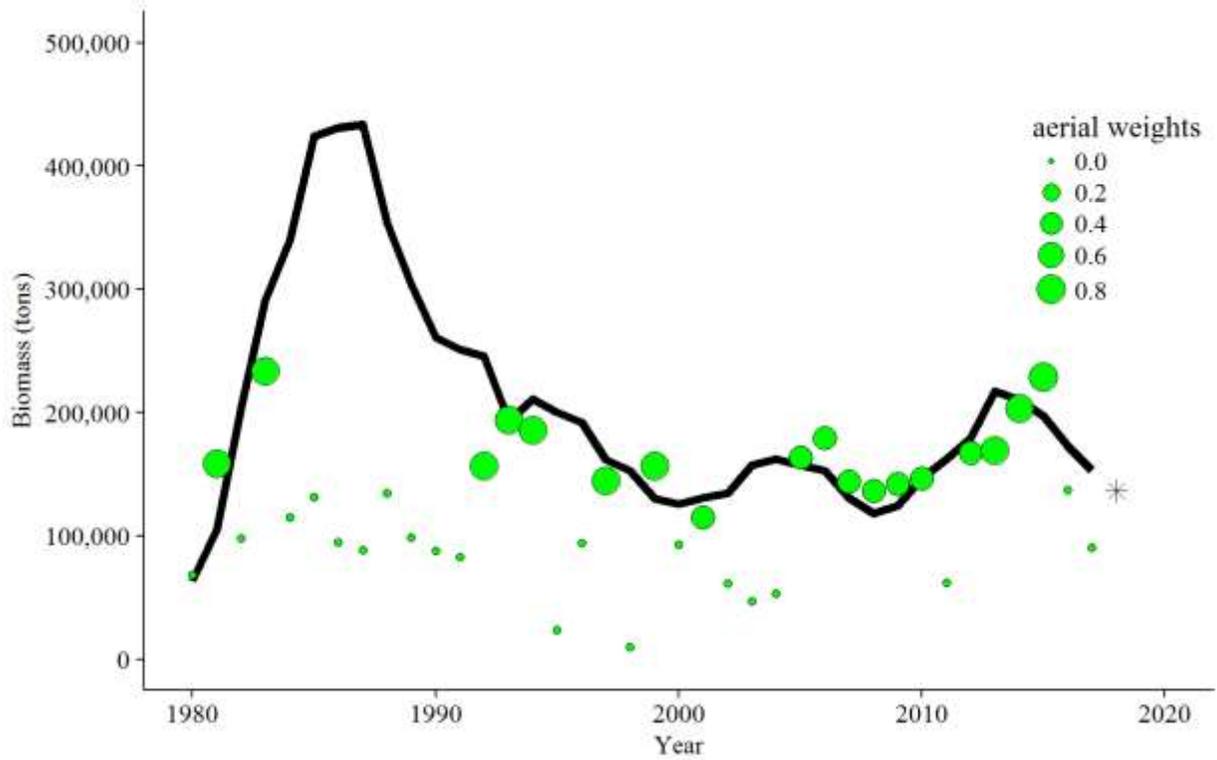


Figure 1.—Model-estimated mature biomass (black line). Annual abundance estimates (circles) were given confidence weightings ranging from 0 (no confidence) to 1 (full confidence) indicated by relative circle size. Estimated mature spawning biomass forecast for 2018 indicated by black star.

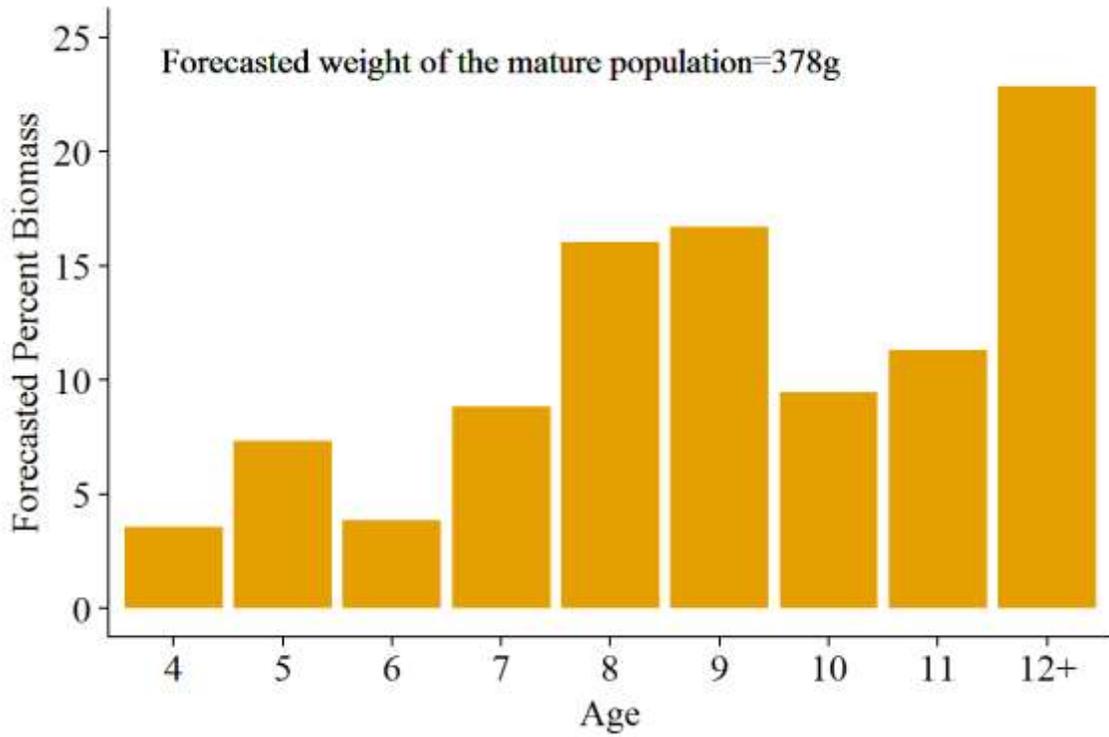


Figure 2.—Forecasted age composition and average weight (grams) for the 2018 Togiak mature biomass.