



Advisory Announcement
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SITKA SOUND HERRING FISHERY ANNOUNCEMENT

The guideline harvest level (GHL) for the 2022 Sitka Sound sac roe herring fishery is **45,164 tons** of mature herring. This is based on a 20% harvest rate of an age structured analysis (ASA) forecast of 225,820 tons of mature herring biomass. The GHL is the largest ever set for Sitka Sound. This is because the 2022 forecast is the largest ever and no reductions have been made to the GHL as was done in the previous two years to buffer against uncertainty surrounding the extremely large and partially mature 2016-year class. The consistent estimates of this large year class produced by observation and modeling for the past three years has reduced the department's concerns about uncertainty of the size of the cohort and thus a reduction to the 2022 GHL is not warranted.

While the 2022 forecast is the largest ever completed for Sitka Sound herring, it is 8% smaller than the model estimated 2021 mature herring biomass (245,302 tons). Model estimates with data collected in 2020 and 2021 indicate that both the 2020 and 2021 Sitka Sound herring forecasts underestimated the biomass returns in those years. The forecasted age composition for Sitka Sound is 6% age-3, 26% age-4, 2% age-5, 59% age-6, 3% age-7, and 4% age-8+. The forecast uses spring commercial purse seine weights at age from the 2021 fishery harvest: age-3, 67 grams; age-4, 92 grams; age-5, 111 grams; age-6, 136 grams; age-7, 155 grams; and age-8+, 142 grams. The forecasted average weight across all age classes is 121 grams.

To forecast biomass, the department uses an ASA model with a long time series of egg abundance and age composition data from department surveys and herring samples obtained from active spawning and the sac roe fishery. Herring egg abundance is estimated using aerial, vessel, and SCUBA diving surveys. Shorelines with herring spawn are mapped and followed by dive surveys to estimate egg density and width of egg deposition. The department mapped 102.3 nautical miles (nmi) of herring spawn in the Sitka Sound area during the spring of 2021, compared to the recent 10-year average of 60.6 nmi. The 2021 egg deposition estimate was the highest on record since the department began egg deposition dive surveys, for the second year in a row. Over half of the surveyed egg deposition occurred on the Kruzof Island shore, south of Hayward Strait. Nearly 40% of the surveyed egg deposition occurred in the northern and eastern parts of Sitka Sound, and about 10% of the surveyed egg deposition occurred south of Sitka. Model-estimated age composition by number of spawning herring in 2021 was 12% age-3, 2% age-4, 76% age-5, 4% age-6, 3% age-7, and 3% age-8+.

Advisory Announcement web site: <http://www.adfg.alaska.gov/index.cfm?adfg=cfnews.main>.

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