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

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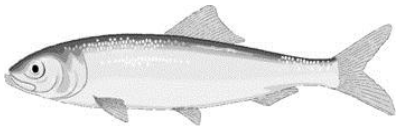

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### 2011 Arctic-Yukon-Kuskokwim Herring Outlook

The 2011 Arctic-Yukon-Kuskokwim herring forecast and harvest allocations, given a maximum 20% exploitation rate of the projected biomass, are listed below for the northeastern Bering Sea herring stocks (Table 1).

Table 1. Projections of Pacific herring spawning biomass and harvest guideline for commercial fishing districts in the northeastern Bering Sea, Alaska, 2011.

| District | Threshold | 2010 Observed Biomass (tons) | | 2011 Projected Biomass (tons) | Exploitation Rate (%) | 2011 Harvest Guideline (tons) |
|---|---|---|---|---|---|---|
| Security Cove | 1,200 | 13,440 | | 13,119 | 20 | 2,624 |
| Goodnews Bay | 1,200 | 33,490 | [b] | 36,810 | 20 | 7,362 |
| Cape Avinof | 500 | 2,393 | [c] | 2,324 | 15 | 349 |
| Nelson Island [a] | 3,000 | 5,449 | [c] | 5,252 | 16 | 850 |
| Nunivak Island | 1,500 | 3,141 | [c] | 3,322 | 20 | 664 |
| Cape Romanzof | 1,500 | 4,852 | [c] | 5,538 | 20 | 1,108 |
| Norton Sound | 7,000 | 43,454 | [c] | 42,477 | 20 | 8,495 |
| Port Clarence | - | - | | - | - | 165 |
| Totals | | | | 108,843 | 20 | 21,617 |

[a] Nelson Island commercial harvest is 20% of projected biomass minus 200 tons for subsistenc

[b] Biomass estimates from Goodnews Bay include Jacksmith Bay aerial survey estimates conducted on the same day.

[c] 2009 projected biomass was used because recent biomass estimate was unavailable.

## 2011 Arctic-Yukon-Kuskokwim Herring Forecast Summary

This news release is to inform fishermen of projected herring biomass and guideline harvest levels, and the strategies employed if commercial fishing does occur. At this time, it is anticipated that some level of commercial herring fishing may occur in the AYK Region in 2011. Under the Bering Sea Herring Fishery Management Plan 5 AAC 27.060 commercial fishing will not open in a district unless the minimum threshold biomass is observed in that district.

Based on postseason escapement projections, the 2011 estimated spawning biomass for northeastern Bering Sea herring stocks (Security Cove to Norton Sound Districts) will be 112,695 tons. If the return is as anticipated the total allowable harvest could be 21,617 tons. A harvest of this magnitude in the AYK herring fishery would be one of the largest on record.

The 2011 AYK Region biomass projection was based on good aerial survey biomass estimates from Security Cove, Goodnews Bay, and Jacksmith Bay. Biomass estimates from previous years were used for Cape Avanof, Nunivak Island, Nelson Island, Cape Romanzof, and Norton Sound. In 2010 the Alaska Department of Fish and Game (department) collected herring samples from the test fishery at Goodnews Bay and Nelson Island in Kuskokwim Bay, and from the commercial fishery in Norton Sound. Samples were analyzed for age class composition, which suggested that the forecasted population will be comprised of herring ages 6-7 (47%), ages 8-9 (32%), ages 10+ (15%), and ages 4-5 (6%).

The actual biomass observed in 2011 may fall above or below the preseason projections based on variability in the quality of aerial biomass assessments and annual fluctuation of survival or recruitment rates. Recruitment events typically occur every eight to ten years, as suggested by the dominant age 5-6 herring and high biomass estimates in Security Cove, Goodnews Bay, and Jacksmith Bay during 2010. The expected low proportion of age 4-5 herring in 2011 may signal that the recruitment period will be complete.

The department will conduct aerial surveys as regularly as possible and monitor catch statistics inseason. Guideline harvest levels, therefore, may be adjusted according to inseason aerial assessments of herring biomass. If aerial surveys are not adequate because of poor weather and water clarity conditions, stock abundance will alternately be assessed using projected biomass, test catches, and spawn deposition observations. In accordance with the AYK Region harvest strategy, any operational commercial fishery will not target newly recruited age classes (age 2 through age 5 herring). The duration of fishing periods and harvests would vary in each district depending on inseason biomass estimates, roe quality, spawning activity, weather conditions, fishing effort, and processor input.

### *Security Cove District*

The 2011 projected biomass for the Security Cove District is 13,119 tons and the minimum biomass threshold is 1,200 tons. A 20% exploitation rate would result in a harvest of 2,624 tons. The department will plan to verify herring biomass inseason to determine if the biomass is large enough to support this level of harvest. Herring ages 6-9 are expected to comprise 80% of the returning biomass (30%, 21%, 13%, and 10%, respectively). Age 10 and older herring are expected to comprise 15% of the biomass.

### *Goodnews Bay District*

The 2011 projected biomass for the Goodnews Bay District is 36,810 tons and the minimum biomass threshold is 1,200 tons. A 20% exploitation rate would result in a harvest of 7,362 tons. This harvest guideline is the largest on record. The department will plan to verify herring biomass inseason to determine if the biomass is large enough to support this level of harvest. Herring ages 6-7 (53%) and ages 8-9 (22%) are expected to dominate the fishery with age 10 and older (15%) and ages 4-5 (6%) are expected to comprise the remaining biomass.

### *Cape Avinof District*

The 2011 projected biomass for the Cape Avinof District is 2,393 tons and the minimum biomass threshold is 500 tons. The exploitation rate will be no greater than 15% because of the limited database for this area and to ensure the subsistence fishing priority, and would potentially result in a harvest of 349 tons. Herring ages 6-9 are expected to comprise 83% of the returning biomass. Age 10 and older herring are expected to comprise approximately 13% of the biomass.

### *Nelson Island District*

The 2011 projected biomass for the Nelson Island District is 5,252 tons and the minimum biomass threshold is 3,000 tons. A 20% exploitation rate would result in a commercial harvest of 850 tons after 200 ton subsistence harvest is accounted for. Herring Ages 6-9 are expected to make up 84% of the returning population, contributing 17%, 26%, 23%, and 18% respectively. Herring age 10 and older, 13%, and ages 4-5 (4%) are expected to comprise the remaining biomass.

### *Nunivak Island District*

The 2011 projected biomass for the Nunivak Island District is 3,322 tons and a minimum biomass threshold of 1,500 tons. A 20% exploitation rate would result in a harvest of 664 tons. Ages 6-9 are expected to comprise 83% of the returning biomass, 16%, 26%, 23%, and 18% respectively. Herring age 10 and older, 13%, and ages 4-5 (4%) are expected to comprise the remaining biomass.

### *Cape Romanzof District*

The 2011 projected biomass for the Cape Romanzof District is expected to be 5,538 tons and the minimum biomass threshold is 1,500 tons. A 20% exploitation rate would result in a harvest of 1,108 tons. Since water turbidity in the Cape Romanzof area generally prevents aerial observations

of herring, spawn deposition and test and commercial catch rates will be used to determine the timing and duration of commercial fishing periods. Herring ages 6-9 are expected to comprise 83% of the returning biomass, 16%, 26%, 23% and 18%, respectively. Herring age 10 and older, 13%, and ages 4-5 (4%) are expected to comprise the remaining biomass.

### *Norton Sound District*

The 2011 projected biomass for the Norton Sound District is 42,477 tons and a minimum biomass threshold of 7,000 tons. A 20% exploitation rate would result in a guideline harvest of 8,495 tons. A maximum of 320 tons of herring are reserved to allow for the pound fishery to harvest a maximum of 90 tons of product (combined weight of herring roe and kelp). This leaves 8,175 tons for sac roe harvest. The beach seine harvest is allocated 10% of the sac roe projected harvest, or 818 tons. The 2011 herring fishery will be opened by emergency order and the fishery will close by emergency order when up to 20% of the available herring biomass has been harvested. Varied harvest rates may be applied to individual subdistricts based on biomass distribution, roe quality, weather, and sea ice conditions. Herring ages 6-9 are expected to comprise 83% of the returning biomass, 16%, 26%, 23% and 18%, respectively. Herring age 10 and older, 13%, and ages 4-5 (4%) are expected to comprise the remaining biomass.

### *Port Clarence District*

Generally, the department does not project an outlook for the Port Clarence fishery because of the lack of data and the limited scope of the fishery. The guideline harvest of 165 tons established by the Alaska Board of Fisheries in 1981 will determine the allowable harvest in 2011. This harvest guideline is based on 2 years of research conducted by the department in both the Port Clarence and Kotzebue Districts. Even though this guideline has not appeared in the regulation book since 1984, it still represents the best estimate of harvestable biomass.