

1988 Herring Fishery Management Plan
Cape Avinof District

By

Kim Francisco, Area Management Biologist
Keith Schultz, Assistant Area Management Biologist

Regional Information Report¹ No. 3B88-11

Alaska Department of Fish and Game
Division of Commercial Fisheries

P.O. Box 90
Bethel, Alaska 99559
(907) 543-2433

333 Raspberry Road
Anchorage, Alaska 99559
(907) 344-0541

¹The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate needs for up-to-date information, reports in this series may contain preliminary data.

INTRODUCTION

This management plan was developed to inform fishermen and processors of strategies that will be employed by the Department of Fish and Game to manage the herring fisheries in the Cape Avinof District. This management plan is a review of the status of the fisheries and herring stocks, processor buyer requirements and a summary of on-going Department studies. Figure 1 describes district boundaries. Fishermen are urged to contact the Department of Fish and Game before fishing if they have any questions.

FISHERY BACKGROUND

The Cape Avinof area was closed to commercial fishing by emergency order in 1978 when commercial herring fisheries first began in the Kuskokwim Area (Area W). The Alaska Board of Fisheries closed the area by regulation in 1979 to protect the subsistence fishery that was occurring on herring stocks of unknown magnitude. Increased knowledge of herring abundance, subsistence fisheries and increased public interest in a commercial fishery resulted in the Alaska Board of Fisheries establishing a commercial fishing season for the first time during 1988. Table 1 presents the available data on the herring stock and expected harvest magnitude in this district. The Cape Avinof stock appears to be showing the same decline as the other Kuskokwim Area herring stocks and will only be exploited at 10% of the available biomass.

FISHERY OUTLOOK

Status of Stocks:

The arrival of herring in the Cape Avinof district occurs from mid-May to mid-June depending on ice and weather conditions. Peak herring spawning probably occurs 10-20 days after that of Togiak District, similar with that of the Norton Sound District.

A peak season aerial biomass estimate of 1,225 st was made on 3 June 1987. A sample of herring provided by the residents of Kipnuk had the following age composition: 5.3% Age 6, 6.9% Age 7, 28.9% Age 8, 59% age 9+ fish. This age structure was similar to that observed in neighboring districts. Age 8, 9, and 10 herring comprised over 80% of the total biomass in district. Projections from the 1987 herring biomass estimate using mean rates of natural mortality and growth for each age class indicate that the 1988 herring biomass should be approximately 800 st. Increased mortality of old herring (age 9+) and the recruitment of young herring (age 4 and 5) could alter these projections.

Department personnel will be conducting aerial surveys and sampling age class composition in-season to gain information on current biomass levels.

Management Strategies:

Harvest should approach 80 st for Cape Avinof in 1988. Herring harvest levels will be adjusted in-season based on the observed herring biomass. If it is not possible to determine herring abundance using aerial surveys, stock condition and abundance will be assessed using a combination of the data including age class composition, commercial catch rates, percentage roe recovery, ratios of pre to post spawners from test and commercial catches, spawn deposition observations and the pre-season projection.

The Alaska Board of Fisheries amended "5 AAC 27.895 HARVEST STRATEGY" at the request of local residents. The exploitation rate will range from 0-15 percent of the estimated herring biomass for each district. As discussed with the Board, Cape Avinof herring stocks will be exploited at a 10% exploitation rate in 1988 due to the continued decline in the herring biomass in this district.

Commercial fishing season openings and fishing periods will be regulated by emergency order. The commercial fishery will be opened when good quality herring are reported to be available or significant spawning activity is observed. Periodic closures of commercial fishery will be scheduled to allow undisturbed subsistence fishing, to construct meaningful accumulative harvest estimates, if the total harvest is nearing the guideline harvest level and stock strength has yet to be entirely defined, and if large numbers of spotter aircraft create a safety hazard for ADF&G personnel conducting aerial surveys.

Due to the nature of the herring gill net fishery, significant wastage can occur from unmarketable herring having poor roe recovery. Unmarketable fish can be used for subsistence. Gill net fishermen can minimize wastage by "testing" herring quality. This is accomplished by setting part of the net for a short period of time and checking the roe quality of a small catch. If roe quality is acceptable, then fishermen can then set all their gear. The volume of herring that are discarded (not sold or utilized for subsistence) will be estimated and included in the total harvest.

Management Research Projects:

Fishery biologists and technicians will be stationed in Nelson Island district at Toksook Bay and aboard a tender vessel or the

village of Kipnuk during the fishery. Duties will include conducting aerial biomass assessment surveys, processor registration, catch monitoring, and sampling the commercial catch for age, length, weight and gonad condition information. Daily fleet broadcasts will be made in each district on VHF 11 and CB 7 to inform fishermen and processors of current fishery status.

Herring abundance will be estimated primarily by aerial surveys. Surface area estimates will be made of each school and depending on water depth, a surface area to tonnage conversion factor will be selected. Tonnage conversion factors have been determined by capturing schools of herring with known surface areas and weighing the resulting catch. The data base for tonnage conversion is updated annually from research conducted in the Togiak District. There are problems inherent with aerial surveys and some of these are inclement weather, variable densities and depth of schools, fish school species identification and multiple school counting.

The Department plans to monitor subsistence fishing catches in order to better assess the incidence of herring in the district. Fishermen are encouraged to call the Bethel office with herring reports. There is minimal funding available for the technician assigned to this district and it is important that they not arrive too soon.

Enforcement:

Fishery regulation enforcement will primarily be handled by Fish and Wildlife Protection Division of the Department of Public Safety. Season and period openings and closures will be patrolled, licenses "spot checked" and other enforcement duties performed as warranted.

FISHING REGULATIONS

Following is a summary of commercial herring fishing regulations for the Cape Avinof District. This is not a complete listing, but was meant as an aid to fishermen. Some wording may vary slightly from the final form.

NEW

5 AAC 27.060. BERING SEA HERRING FISHERY MANAGEMENT PLAN. (a) The Department shall follow the directives of the Bering Sea Herring Management Plan, as well as the regulations that govern the individual herring fisheries, when managing the commercial herring fisheries that take place in the Bering Sea.

(b) Unless otherwise specified in this chapter, the Department shall manage the fisheries so that the exploitation

rate on eastern Bering Sea herring stocks does not exceed 20 percent of the biomass of those stocks.

(c) The following thresholds are minimum biomass levels for each herring fishing district. When the Department estimates, in season, that the biomass in a district is below its threshold, the department may not allow a commercial harvest of herring in that district.

<u>District</u>	<u>Threshold (s.t.)</u>
Port Moller	1,000
Togiak	35,000
Security Cove	1,200
Goodnews Bay	1,200
Cape Avinof	500
Nelson Island	2,500
Nunivak Island	1,500
Cape Romanzof	1,500
Norton Sound	7,000

NEW

5 AAC 27.875. DESCRIPTION OF DISTRICTS. ... (e) The Cape Avinof District consists of all waters extending landward of Kikegteg, Pingurbek, and Kwigluk Islands from the longitude of Tsintulik Slough (163° 11' W. long.) to the longitude of Ursukfak River (164° 11' W. long.).

NEW

5 AAC 27.885. GEAR. Herring may be taken by gill nets only.

NEW

5 AAC 27.888. GILL NET SPECIFICATION AND OPERATION. (a) No single herring gill net may be less than 50 fathoms in length, unless the gill net is attached to a commercial herring fishing vessel and the gill net is personally attended by a herring interim use or entry permit holder. The aggregate length of herring gill net in use by a herring interim-use or entry permit holder may not exceed 100 fathoms in length. No more than 100 fathoms of herring gill net and no more than two gill nets may be on board or operated from any commercially licensed herring fishing vessel, except that no more than 50 fathoms and one gill net may be on board or operated from any vessel taking or attempting to take herring during periods specified by emergency order for the reduced gear length.

(b) Each gill net in operation must be buoyed at both ends and at least one buoy must be plainly and legibly marked with the permittee's herring interim use or entry permit number.

(c) A vessel used to take herring or a vessel towed by it may have on board it no more than one legal limit or gear in the aggregate, except that it may have on board it sufficient unhung gear for mending purposes.

5 AAC 27.250 GEAR FOR HERRING. (c) The mesh size of a herring gill net may not be less than 2 1/8 inches and may not exceed 3 inches.

5 AAC 27.890 WATERS CLOSED TO HERRING FISHING. (a) Herring may not be taken for commercial purposes in any waters of Statistical Area W that are not set forth in Sec. 875 of this chapter.

(b) Herring spawn on kelp and herring spawn on any other substrate may not be taken for commercial purposes in any waters of Statistical Area W.

NEW

5 AAC 27.893. VESSEL SPECIFICATIONS AND OPERATIONS. (a) In the Goodnews Bay, Nelson Island, Nunivak Island, and Cape Avinof Districts, no vessel used to take herring may be more than 30 feet in overall length. For the purposes of this section, "overall length" means the straight line measurement between the extremities of the vessel.

(b) In the Nelson Island, Nunivak Island, and Cape Avinof Districts, no vessel used to take herring may have on board it any mechanical device designed to shake or dislodge herring from a gill net.

NEW

5 AAC 27.896. BUYER REPORTING REQUIREMENTS . In addition to the requirements of 5 AAC 39.130 (f) each buyer or his agent shall report in person to a local representative of the department upon arrival on the fishing grounds and before commencing operations in any district in Statistical Area W. Each buyer shall;

(1) identify and describe all vessels to be employed in processing or transporting herring from each district;

(2) report daily all herring purchased from fishermen or other processing records in each district as specified by a department representative, this may be a requirement for fish tender operators if specified by a local department representative; and,

(3) submit fish tickets before departure from each district and no later than 10 days after termination of buying operations in each district or as otherwise specified by a local department representative.

5 AAC 27.897. POSSESSION OF SALMON. Salmon taken incidentally in conjunction with commercial herring fishing must be returned to the water.

NEW

5 AAC 27.898. SUPEREXCLUSIVE USE AREAS. (a) The Goodnews Bay and Cape Avinof Districts are superexclusive use areas. The Nelson Island and Nunivak Island Districts are a combined superexclusive use area.

(b) A person who participates in the commercial taking of

herring as a CFEC permit holder in a superexclusive use area at any time from February 1 through June 30 may not participate or have participated in the commercial taking of herring, either as a CFEC permit holder or a crew member aboard a vessel used to take herring, in another superexclusive or non-exclusive use area at any time from February 1 through June 30 of that same year.

(c) A person who participates in the commercial taking of herring as a crew member aboard a vessel that is used to take herring in a superexclusive use area at any time from February 1 through June 30 may not participate in any commercial taking of herring as a CFEC permit holder in another superexclusive or non-exclusive use area at any time from February 1 through June 30 of that year.

(d) A vessel used in the taking of herring in a superexclusive use area at any time from February 1 through June 30 may not be used or have been used in the taking of herring in another superexclusive or non-exclusive use area at any time from February 1 through June 30 of that year.

(e) Notwithstanding (a), (d) of this section, any person who participate in the taking of herring and any vessel used to take herring in the Goodnews Bay District may also participate in the taking of herring or may be used to take herring in the Security Cove District.

5 AAC 39.002. LIABILITY FOR VIOLATIONS. Unless otherwise provided in 5 AAC 01 - 5 AAC 41 or in AS 16, a person who violates a provision of 5 AAC 01 - 5 AAC 41 is strictly liable for the offense, regardless of his intent.

5 AAC 39.119. VESSEL IDENTIFICATION. (a) Unless otherwise specified, commercial fishing vessel required to be licensed under AS 16.05.490 must display its permanent vessel license plate number.

(1) in permanent symbols at least 12 inches in height and with lines at least one inch in width that contrast with the background.

(2) on both sides of the hull, cabin, or mast;

(3) in a manner such as to be plainly visible and unobscured; and

(4) at all times when registered to fish.

Subsistence Fishing

5 AAC 01.020. SUBSISTENCE FISHING BY COMMERCIAL FISHERMEN. Commercial fishermen may retain fish for their personal use from their lawfully taken commercial catch.

NEW

5 AAC 01.285. LIMITATIONS ON PARTICIPATION IN SUBSISTENCE FINFISH FISHERIES... (d) Only those residents domiciled within 20 miles of the coast between the westernmost tip of the Naskonant Peninsula and the terminus of the Ishowik River and on Nunivak Island may take herring and herring roe in those locations.

PERSONAL USE HERRING FISHERY

5 AAC 77.010. METHODS, MEANS AND GENERAL RESTRICTIONS. (a) Finfish may be taken for personal use only by a holder of a valid resident Alaska sport fishing license or by an Alaskan resident exempt from licensing under AS 16.05.400...

(b) It is unlawful to buy, sell, trade or barter fish or their parts taken under the regulations in 5AAC 77....

(d) Each personal use fishermen shall plainly and legibly inscribe his or her first initial, last name and home address on a keg or buoy attached to a gill net or pot...

Table 1. Comparative herring fishery data, Cape Avinof District, 1985 - 1987.

	1985	1986	1987	1988
EST. BIOMASS (st)	2,000	1,400	1200	800
SUBSISTENCE				
Catch (st)	30	2	28	NA
Fishing Families	55	12	49	NA
COMMERCIAL				
HARVEST (ST)				80
EXPLOITATION RATE (%)				10

- 1 Projection based on natural mortality rates surveys prevented by conditions.
- 2 Incomplete estimate. Survey not allowed by three village councils.
- 3 Incomplete estimate. Survey not allowed by two village councils
- 4 Preseason projection. Harvest may be adjusted based on inseason biomass estimates.

**Kuskokwim Management Area
Cape Avinof District**

