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Lost or discarded driftnets found in
Canadian waters in 1988.

by

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INTRODUCTION

Vessels from Japan, Taiwan, and Korea annually conduct extensive driftnet (gillnet) fisheries for flying squid Ommastrephes bartrami in the North Pacific Ocean. It is difficult to obtain reliable estimates of the quantity of fishing gear and effort involved in this fishery, although it is clearly substantial. For example in 1983 an average of 150 Japanese vessels (I.N.P.F.C. document # 3110), approximately 200 Korean vessels (Gong, et al. 1985), and 101 Taiwanese vessels (Chen 1985) participated in high seas squid fisheries. Each vessel typically deployed 30 to 50 km of gillnet each night, amounting to a total of 13530 to 22550 km of gillnet in the water each night. The high seas squid fishery has continued to expand since 1983 so it is likely that this is a conservative estimate of the amount of vessels and gear involved in more recent years.

Recently there have been concerns raised in Canada about driftnets that are lost or discarded in the high seas squid fisheries. The main concern is that these nets may continue to "ghost fish" for long periods, possibly capturing and killing significant numbers of salmon, sea mammals, and sea birds before finally sinking to the ocean bottom or washing ashore. Some fishermen have also expressed concern that these nets are a hazard to navigation.

METHODS

To address these concerns the Department of Fisheries and Oceans has conducted the Drift Net Program annually since 1986. This is a volunteer observer program and various approaches have been

used to obtain the cooperation and assistance of as many people as possible. The methods used and results for 1986 and 1987 are provided in an earlier report (Hargreaves 1987). In 1988 the following methods were used:

1. advertisements were placed in fishing industry newspapers and magazines, describing the appearance of high seas driftnets and asking fisherman and the general public to report any sightings of unattended nets seen either in the water or washed up on the shore. An advertisement was placed each month in the "The Fisherman" newspaper (distribution of approximately 8000 copies per issue), bimonthly in the "The Native Voice" newspaper (distribution of approximately 2000 copies per issue), and in the June issue of "The West Coast Fisherman" magazine (distribution of approximately 15000 copies per issue, including 13000 copies mailed directly to fishermen).

2. the Offshore Surveillance Division, Department of Fisheries and Oceans, was contacted and asked to keep a continuous watch for driftnets on all Patrol Vessels.

3. posters were placed at approximately twelve locations along the B.C. coast from Victoria to Prince Rupert, informing fishermen and the general public of this program and requesting their cooperation and assistance. The locations included most major fish processing plants where commercial fishermen unload their catch and at the busiest government small craft harbours (Prince Rupert, Port Hardy, Port Alberni, etc.).

4. a total of 112 commercial trollers involved in the West Coast Troll Program administered by the Department of Fisheries and Oceans, and fishing throughout the coastal waters of British Columbia, were instructed to report on their daily log sheets any sightings of driftnets.

RESULTS

The results (Table 1) include all sightings and samples of net reported during the period from 1 January to 31 August 1988. These results may require revision to include any additional observations reported during the period of 1 September to 31 January, 1988. However, in 1987 there were no additional reports of lost or discarded gillnets received after 31 August.

DISCUSSION

A total of six sightings of lost or discarded gillnets were received in 1988 up to 31 August. This is a much smaller number than the 25 sightings reported during the same period in 1987, despite more extensive commercial and public advertisement of the Drift Net Program in 1988. All five samples received were from monofilament nets, ranging in size from 101.6 to 146.1 mm (4.0 to 5.75 inch) stretched mesh. In four cases the gillnet sections were found on beaches. The other two sections of gillnet were found floating in surface waters off the west coast of Vancouver Island. One of these contained the remains of a seabird but apparently none of the other gillnet sections contained any remains of fish, marine mammals, or birds. There were no reports this year of driftnets tangling in vessel propellers or fishing gear.

As in previous years, most of the lost and discarded gillnets reported in 1988 probably arise from high seas driftnet fisheries. The net samples indicate that all nets sighted in 1988 were constructed of monofilament, with a typical size range of approximately 100 to 120 mm (4 to 4.7 inch) stretched mesh. This is the type of material and size range of netting commonly used in high seas squid driftnet fisheries (Ignell 1985; Gong et al. 1985). The oblong-shaped styrofoam or plastic floats attached to the net samples are also identical to those commonly used on high seas driftnets but rarely used by Canadian and United States fishermen. In addition, Canadian fisheries regulations prohibit the use of monofilament gillnets with mesh sizes larger than 57 mm (2.3 inch) stretched mesh in B.C. waters. This regulation is strictly enforced so it is unlikely that any of these nets are of Canadian origin.

A small percentage of the gillnets reported may come from U.S. fisheries. The United States permits use of monofilament gillnets in some commercial and native fisheries. Single strand monofilament gillnets are permitted under current fisheries regulations in both Washington and Oregon. However, in Washington use is restricted to Puget Sound fisheries and the minimum size is 127 mm (5 inch) stretched mesh (personal communication, E. Jacoby, Washington Dept. Fisheries). In Oregon the use of monofilament gillnets are permitted only in the shad fishery in the Columbia River and the legal mesh sizes range from 136.5 to 158.8 mm (personal communication, J. Galbraith, Oregon Dept. Fish and Wildlife). Ocean currents along the west coast could carry lost or discarded gillnets from U.S. fisheries into

Canadian waters, particularly from Washington. This may account for some sightings of lost or discarded gillnets with mesh sizes of 127 mm (5 inch) stretched mesh or larger. Only one of the gillnet sections reported in 1988 had mesh of this size. Regulations in Alaska apparently allow only multifilament gillnets. The regulations require a minimum of 30 filaments per strand, typically constructed with a core of 24 fine filaments covered with 6 coarse filaments. None of net samples reported through the Drift Net Program since 1986 were constructed of this type of mesh.

ACKNOWLEDGEMENTS

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LITERATURE CITED

- Anon, 1984. Catch and effort statistics for the Japanese squid driftnet fishery in the North Pacific in 1983. Fisheries Agency of Japan. I.N.P.F.C. Doc. No. 3110.
- Chen, T.F. 1985. High seas gillnet fisheries of Taiwan. In: R.S. Shomura and H.O. Yoshida (editors), Proceedings of the workshop on the fate and impact of marine debris, 26-29 November 1984, Honolulu, Hawaii. U.S. Dep. Commer., NOAA Tech. Memo. NMFS, NOAA-TM-NMFS-SWFC-54. 1985.
- Gong, Yeong, Yeung Seung Kim, Soon Song Kim, 1985. Distribution, and migration of flying squid, *Ommastrephes bartrami* (LeSueur), in the North Pacific. Bull. Korean Fish. Soc. 18:166-179.
- Hargreaves, N.B. 1987. Incidence of lost or discarded drift nets recovered in Canadian waters during 1986, and preliminary observations for 1987. 10 pp. (I.N.P.F.C. Doc. No. 3215, submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Vancouver, B.C., Canada. November, 1987). Department of Fisheries and Oceans, Biological Sciences Branch, Pacific Biological Station, Nanaimo, B.C. V9T 5K6.

Ignell, S.E. 1985. Results of the 1985 research on the high seas squid driftnet fisheries of the North Pacific Ocean. (Document submitted to the International North Pacific Fisheries Commission, Tokyo, Japan, November 1985. 20 p. Northwest and Alaska Fisheries Centre, Natl. Mar. Fish. Serv., Natl. Oceanic Atmos. Admin., Auke Bay Laboratory, P.O. Box 210155, Auke Bay, Ak 99821.)

Table 1: Comments, observations, and descriptions of sightings reported in 1988. Only data reported prior to 1 September are included.

<u>Date</u>	<u>Location</u>	<u>Observation or Comments</u>	<u>Reported by:</u>
3/3/1988	Bottle Inlet	Section of monofilament gillnet found on beach Sample: 111.1 mm mesh and 152.4 x 44.5 x 44.5 mm corks.	Gary Buechler Chief, Offshore Surveillance
22/4/1988	North Beach, East of Masset	Two separate balls of monofilament gillnet found several miles apart on beach. Sample: 111.1 mm mesh. No corks sampled.	Rodney Schatz Submitted by: Lyle Enderud, Fisheries Officer Masset, B.C.
18/5/1988	Imperial Eagle Channel, Barkley Sound 48 53.7 N 125 12.0 W	Found bundle of monofilament gillnet floating on sea surface. Entire bundle taken to P.B.S. Total length of 44 m, estimated by counting corks (55) and average spacing between corks (61 cm). Sample: 101.6 mm. mesh and 190.5 x 38.1 x 57.2 mm corks.	Al Ranger Master, W.E. RICKER
25/5/1988	6 miles West of Cape Beale	Found bundle of monofilament gillnet floating on sea surface. Entire bundle examined. Total length of 37.2 m, estimated by counting corks (45) and spacing between corks (64 cm). Net contained remains of seabird (could not be identified) and <u>Macrocystis egregia</u> . Also had plastic "handle" attached with writing on one side. Sample: 101.6 mm mesh and 190.5 x 38.1 x 57.2 mm corks.	Ed Battison Master, M.V. Deneb
28/5/1988	Point No Point (Glacier Point)	Found bundle of monofilament gillnet on beach. No corks attached. Total length estimated at 15 to 20 m. No evidence of fish, bird, or mammal remains. Sample: 146.1 mm mesh.	Mike Dempsey Victoria, B.C.