

WHITE HAKE IN DIVISIONS 3L, 3N, 3O AND 3Ps

Background

White hake (*Urophycis tenuis*) belongs to the gadoid or cod family of fishes. They are found in the Northwest Atlantic from Cape Hatteras in the south to the Gulf of St. Lawrence, Grand Banks, and off southern Labrador. The areas of greatest abundance are the southern Gulf of St. Lawrence, Scotian Shelf and southwestern Grand Banks.

Young white hake are pelagic, and do not move to the bottom until they are 8-13 cm (3-5 inches) in length. They occur over a wide range of depths from 200-1000 meters (109-492 fathoms), and tolerate water temperatures from just above 0°C to 21°C although preferring 5-11°C.

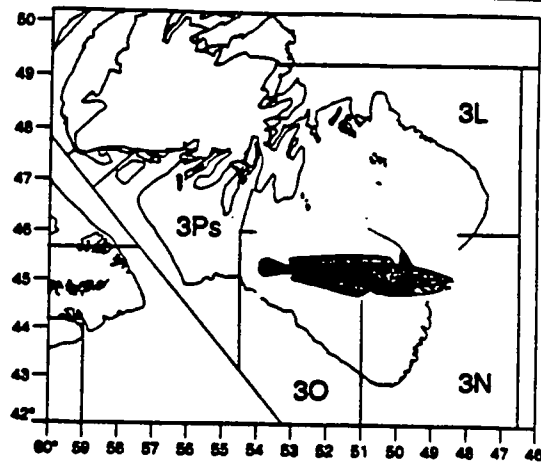
White hake are relatively fast growing, reaching about 53 cm (21 inches) by age 5, and 75 cm (30 inches) by age 10. They can reach a very large size; females of greater than 130 cm (51 inches) have been captured.

These fish spawn at different times in different areas. The time of spawning in the Grand Banks area is believed to be in mid-summer, and available evidence indicates that males mature at a smaller size (about 40 cm (16 inches) than females (about 47 cm (19 inches)). White hake are thought to perhaps be the most productive of the commercially exploited groundfish species in the Northwest Atlantic based on egg production.

White hake feed on a variety of prey items including large and small crustaceans, copepods, small fish and squid. Fish seems to be the most important prey of larger fish.

White hake is often difficult to distinguish from red hake. However, red hake is primarily found on the Scotian Shelf and it is doubtful that any are caught in Newfoundland waters.

Until recently, white hake was mainly taken as a by-catch in other fisheries in the 3LNOPs area. With the decline of the more traditional groundfish species however, interest in directed fisheries for white hake has increased. Currently there are no catch limits for white hake although by-catches of other species during directed hake fisheries are tightly controlled.



The Fishery

From the time of extension of jurisdiction until 1994, Canadian catches ranged between about 1,000 and 4,000 metric tons, averaging about 2,000 metric tons annually. Until 1993 it was taken only as by-catch in gill nets and longlines. In most years, the majority of the catches were taken in Division 3O and Subdivision 3Ps, although about 1,000 metric tons were taken in 3L in each of 1987, 1988 and 1989. Experimental trawl fisheries began in 1993, but catches dropped dramatically in 1994 and 1995 due to high cod and haddock by-catches.

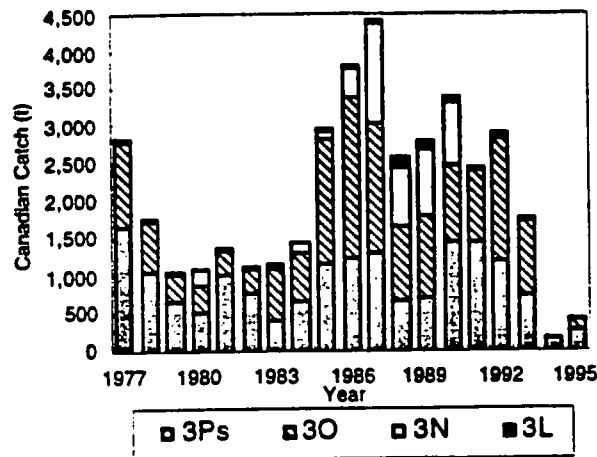
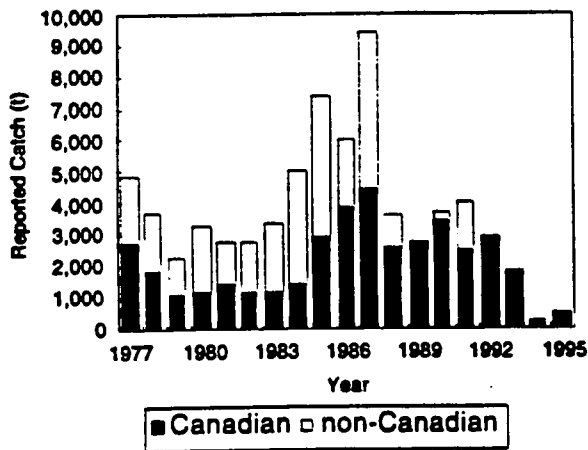
Landings (thousand metric tons)

Year	77-90 Avg.	1992	1993 ¹	1994 ¹	1995 ¹	1996
Can.	2	3	2	2	4	
Others	2	0	0	+	0	
Total	N/A	3	2	2	4	

¹ Provisional

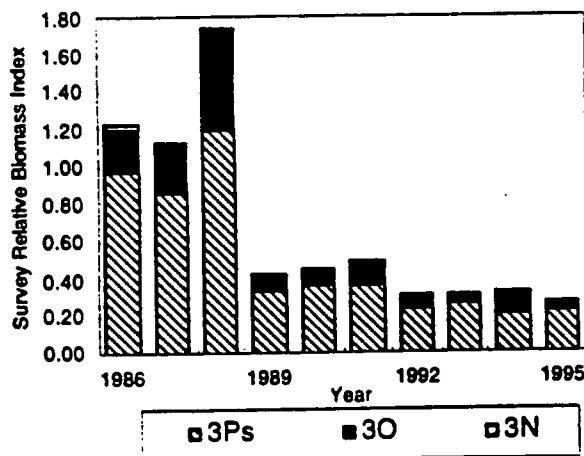
+ Catch less than 500 metric tons

Non-Canadian catches also averaged about 2,000 metric tons annually after extension of jurisdiction, but catches were taken in divisions 3N and 3O. There may have been some misreporting during the second half of the 1980s. Annual reported catches declined to less than 100 metric tons annually after 1988 except for 1991 when 1,500 metric tons were reported.



During the 1996 fishery, white hake have averaged 69 cm (27 inches) in 3O, and 26 inches in 3Ps.

Resource Status



There is very little known about white hake in the 3LNOPs area as they have not been routinely studied. Research survey indices of relative biomass indicate that most are found in Division 3O and Subdivision 3Ps, with more being present in 3Ps. High estimates were obtained in 1986-1989, but there was a subsequent drop in both areas to a lower level in 1989. Since then, estimates have fluctuated in 3O with some indication of decline in 3Ps. It is possible that white hake are distributed deeper than depths covered by the surveys.

Sources of Uncertainty

The drop in biomass suggested by the surveys between 1988 and 1989 cannot be explained at present. Information on stock structure, growth, mortality and movements are also lacking.

There are indications that hake caught in Newfoundland waters and classified as red hake are actually white hake since red hake are primarily found on the Scotian Shelf.

Outlook

The white hake fishery has mainly been as by-catches in the past. Since closure of many of the traditional fisheries in the area, more directed effort has been exerted, but catches have remained below historical averages due to problems with by-catch of other species. Since then, the estimates have been relatively stable. During this most recent period, catches averaged about 2,500 metric tons. It is perhaps reasonable to believe that the directed fishery could be expanded to this catch level. Care must continue however, with regard to by-catches of other species during any expanded white hake fishery.

The fishery for white hake is becoming more important to Newfoundland fishers. It is important that adequate information be collected during any fishery so as to enable better evaluation of this resource in the future.

For More Information

Research Document: Kulka, D.W., E. DeBlois and B. Davis. 1996. Non-traditional groundfish species on the Labrador Shelf and Grand Banks - wolffish, monkfish, white hake and winter (blackback) flounder. DFO Atl. Fish. Res. Doc. 96/97.

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