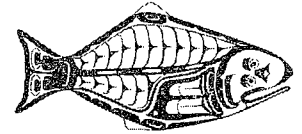


Information Bulletin

NUMBER 28

AUGUST 1983

P.O. BOX 95009, SEATTLE, WASHINGTON 98145-2009

CIRCLE HOOKS OUTFISH TRADITIONAL HALIBUT HOOKS

In recent years, halibut fishermen have experimented with different hook-types and reported higher catches with a circle-shaped hook as compared with the traditional J-shaped hook. Although relatively new to the halibut fishery, circle hooks have been used for many years in other fisheries such as the tuna longline fishery and appear to share similar characteristics with hooks used by native American fishermen prior to the 1900's.

To examine the relative efficiency of circle hooks, IPHC chartered the M/V CHINA B during July-August 1983. The vessel used snap gear and fished near Sitka, Alaska. The U.S. National Marine Fisheries Service played a key role in the study by providing a two man submarine with a support vessel to observe the hooks along the bottom. Results from the submarine are not yet available but should provide additional information on the fishing characteristics of the two hook-types. Two experimental designs were used in the study. The first involved alternating hook-type every hook, i.e. a circle hook followed by a traditional hook. The second design called for alternating hook-type every skate.

The results were as follows:

Hook Type	<u>Alternate Hook Experiment</u>			<u>Alternate Skate Experiment</u>		
	<u>No. Hooks Observed</u>	<u>Halibut per 100 hooks</u> <u>No. fish</u>	<u>Pounds</u>	<u>No. Hooks Observed</u>	<u>Halibut per 100 hooks</u> <u>No. fish</u>	<u>Pounds</u>
Circle	1410	24.9	647	991	30.0	768
Traditional	1388	16.3	466	1122	17.7	478

The results clearly indicate that circle hooks outfish traditional halibut hooks: circle hooks caught 39% and 61% more poundage in the two experiments. Circle hooks tended to catch slightly smaller halibut than the traditional hook, although more observations are needed to confirm this difference.

The use of circle hooks contributed to the high catch rates observed in the 1983 halibut fishery which in turn resulted in taking the catch limit in fewer days than expected. The use of circle hooks also presents a problem in standardizing data collected from the commercial fishery for stock assessment purposes. Consequently, IPHC needs more information on the fishing characteristics of circle hooks. Additional experiments are planned for later this year or early next year to more precisely determine differences in hook efficiency and to relate those differences to factors such as soak-time, levels of abundance, and size of fish.