

RECORD ICE SEASON

The winter of 1960-61 may well go down in the annals of the Department of Transport as the "season of the big freeze".

Conditions may not have set an all-time record for severity, but the prolonged cold weather in January, with temperatures in the Gulf of St. Lawrence and along the coasts of the Maritime provinces and Newfoundland dropping far below zero for lengthy periods, created the most difficult ice conditions in those areas in many years.

During the really severe weather, low temperatures and a lack of wind combined to speed up freezing along Gulf and Maritime shipping lanes until shallower areas were solidly frozen and even the deep-water areas were almost entirely covered with grinding, dangerous ice. Throughout the season, however, the icebreaker fleet of the Transport Department worked ceaselessly to keep the main shipping lanes open and to escort vessels to and from major ports along the shores of Quebec, Newfoundland, New Brunswick and Nova Scotia.

ICEBREAKER FLEET

The Department now has a fleet of 10 heavy icebreakers, as well as eight other vessels classified as "light icebreakers", capable of working in limited conditions of ice.

Nine of the heavy icebreakers are deployed in Eastern waters, including the St. Lawrence River and Gulf and around the coasts of the Maritimes and Newfoundland. The tenth, CMS "Camsell", serves as a supply and buoy vessel on the Pacific Coast during most of the year and in summer makes a trip to the Western Arctic, for which she was specially designed.

The ships, in addition to CMS "Camsell", capable of full icebreaking duties are: CMS "John A. Macdonald", a 15,000-horsepower vessel measuring 6,186 gross tons, the newest and largest of the icebreakers, CMS "d'Iberville", CMS "Labrador", CMS "N.B. McLean", CMS "Montcalm", CMS "Wolfe", CMS "Sir Humphrey Gilbert", CMS "Ernest Lapointe" and CMS "Saurel".

CMS "John A. Macdonald" is capable of working the heaviest of Arctic ice. Her tremendously strong hull is plated with steel nearly two inches thick. The vessel is able to travel up to 20,000 miles without having to take on fuel or supplies for her crew, which includes 25 officers, 16 petty officers and 38 crew members.

CMS "d'Iberville" carries a full complement of about 75 officers and men and, in past years, has become famous for her annual supply run to Eureka, the joint Canadian-U.S. weather station on Ellesmere Island 750 miles from the North Pole. The "d'Iberville" went into service in 1953 and CMS "Montcalm" CMS "Wolfe", CMS "Camsell" and CMS "John A. Macdonald" have all been built since that time.

The increase, during the past two or three years, in the number of Transport Department ships capable of icebreaking has enabled the department to keep up with the increased winter traffic in the St. Lawrence and Gulf areas.

ICE INFORMATION

To support the icebreaking operations, the Meteorological Branch provides ice information to shipping, with experts from the Branch being trained for the work. They report on ice conditions from the various ships and carry out regular aerial ice surveys over the river and gulf shipping lanes by means of chartered aircraft. They record their findings on special charts, using a unique "ice language" that has been developed in co-operation with other nations in the past several years. The ice observers employ such words as "ropak", "stamukah" and "frazil", and talk of "polynyas", "bergy bits", "slush", "brash" and "block". It's all a part of the important new terminology that defines various types of ice and conditions relating to them.

An "Ice Central" office has been established at Halifax, from which ice charts, based on the observers' findings, are made available to shipping and the public in general.

This year is the fourth in which the aerial ice surveys have been made by the department over the Gulf region, by ice observers based at Seven Islands, Quebec. An ice-information officer, who is also an experienced deep-sea captain, is stationed at Sydney, Nova Scotia, to assist in advising shipping and to act as liaison between shipping interests and the ice-charting and forecasting headquarters.

The ice-information officer has the sizeable task of co-ordinating the operations of the icebreakers with the day-to-day shipping requirements. He acts as advanced operations officer for the Director of Marine Operations at Ottawa, so that the headquarters staff is fully posted at all times on the location and undertakings of all the icebreakers.

The ice observer, on completing a flight over the Gulf and lower St. Lawrence, prepares a chart of the ice he has seen and sends it by "Weather-fax" facsimile system to the Ice Central at Halifax. Additional copies are also made and forwarded to a regular list of subscribers, such as shipping companies and port officials.

CREATION OF NEW CHARTS

In Halifax, the ice experts consolidate the information submitted by the observer with that obtained from observers on the icebreakers, from other ships and from other sources, such as lighthouse keepers. They then prepare new charts giving copious data for the entire area, which are broadcast by radio facsimile to shipping and all other interested parties. They also prepare ice forecasts, which are transmitted both by facsimile and by mail to persons requiring them.