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Recent Developments in the Georges Bank Scallop Fishery

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History of the fishery

Georges Bank supported a U.S. scallop fishery for many years before the first appreciable Canadian landings from this area in 1956. Participation in the fishery by the Canadian offshore fleet continued to grow as the inshore grounds and the Nova Scotian banks were either fished out or closed to larger boats. Initially, effort was concentrated on the northeastern part of Georges Bank, catches increasing as the fleet became more familiar with the grounds, and as a greater part of their time was spent fishing on Georges. By 1957, Canadian landings had risen to 2 million pounds, one tenth of the total catch from the grounds.

By 1959, skippers and crew were becoming more efficient in shucking the catch and handling the gear. This may have been partly responsible for the steep rise in catch/day in 1959 (Fig. 1). However, that year also marked the first appearance of a new and dominant year-class into the fishery and catches containing 50% discards (below 3 3/4-4" shell length) were reported. The effect of this new year-class was felt the following year; extremely heavy catches gave rise to the practice of "deck loading". Dragging was restricted to 2 to 3 hours in early morning, afternoon, and evening, and the decks were piled high with unshucked scallops. After the deck was loaded, the boat was anchored, and all hands turned to shucking. This high

figure for catch per day in 1960 would certainly have shown a further increase if dragging had continued for the normal 24 hours.

The success of the 1960 season resulted in a continued increase in fleet size, with bigger crews: As a result, shucking power was less of a limitation. In fact, although the record trip for a Canadian boat was made in April 1961 (M.V. Barbara Jo: 62,570 lb for 10 days' fishing) boats had to drag continuously to maintain a high rate of catch. The main year-class contributing to the fishery was that which was recruited to the fishery the previous year. Pockets of this year-class still remained because of the practice of fishing out limited areas of high density before exploring for new beds.

In 1962, fleet size again increased steeply from 28 to 39 boats, and crew size diminished slightly as catch per boat fell off. This trend was continued the following year, when another 10 boats were added to the fleet. High landings were less frequent, and the fleet fished a much greater area of the Bank, including the southeastern part, another 4 to 6 hours steaming from Nova Scotian ports. This year the cull size fell to 3 1/2 inches, thus reducing the number of discards. No dominant year-class was in evidence.

In 1964, landings again increased slightly, at the expense of even greater effort in days fished and greater coverage of the Bank. For the first time, the fleet size remained constant. Although new boats still entered the fishery, equal numbers changed over to swordfish longlining. The cull size remained at 3 1/2 inches.

In 1965, the Virginia fishery, which yielded high catches to U.S. scallopers the previous year, attracted many Canadian scallopers to make trips to the "Capes"; 38% of the Canadian offshore landings came from this area in 1965.

In this year, Canadian landings from Georges Bank showed the first drop since entering this fishery in the early 1950's. Fishing effort on Georges Bank was still widely distributed.

By 1966, 17 million pounds of meats were landed by the Canadian offshore fleet, of which 56% came from the Virginia grounds. Catches of up to 3,100 pounds per day were made off the Capes in 1966, comparable with the peak catches on Georges Bank in 1960-61, and well above the daily landings from Georges over the same period.

Landing statistics

Scallops are not distributed evenly over Georges Bank but are concentrated in definite areas, some of which have a much better record of production than others. In order to study changes in scallop distribution and fishing effort, both U.S. and Canadian fishery scientists pool data on catch statistics and break down landings from the joint fleets into unit areas. The unit areas are defined by a grid of horizontal and vertical lines at 10-minute intervals of latitude and longitude. This divides the Bank into approximately 175 units, 80 square miles in area, some part of each area lying within the 50-fathom line. Decca and Loran bearings from the log records of individual skippers are transposed into this system to give a record of individual production for each area on a yearly basis. This has been done for the Canadian fleet for four sample years (1957, 1960, 1963, and 1966) in Fig. 2, covering the main period of growth of the Canadian offshore scalloping operation. A progressive expansion of the area of operation is obvious from 1960 to 1963: this coincides with the period of decreasing scallop abundance and increasing fleet and crew size. Total landings and area of fishing operations have remained more or less constant since 1963, although still covering a smaller percentage of the Bank than the U.S. fleet at this date (Fig. 2). The reduced effort of the

U.S. fleet on Georges Bank in recent years is quite evident however when the number of unit areas fished in 1963 and 1966 are compared.

Landings during the last 10 years by the combined U.S. and Canadian fleets have been reported from 147 unit areas but only 40 of these have produced 80% of the total landings. The most consistently productive areas of the Bank have been the Great South Channel, the Northern edge, the Northeastern Peak, and less consistently, the Southeastern part (Bourne, 1964).

Future trends

The spectacular rise in Canadian offshore scallop landings between 1958 and 1962 could not have been expected to have continued indefinitely. An eventual drop in landings was predicted by Bourne (1960) when catches were still rising. Although accurate predictions of scallop landings are impossible with our present knowledge of the biology of the scallop, earlier work on the long established Digby fishery (Dickie, 1955) suggests that scallop populations in the Bay of Fundy pass through cyclic fluctuations with peaks at approximately 10-year intervals. Further studies will be needed to establish whether Georges Bank scallops show similar fluctuations. The present trend toward a fleet of multi-purpose boats capable of exploiting more than one fishery seems encouraging. A more flexible response to changes in scallop abundance and market price will result, as well as the ability to change rapidly to a fishery for other species during their peaks of abundance.

Acknowledgments

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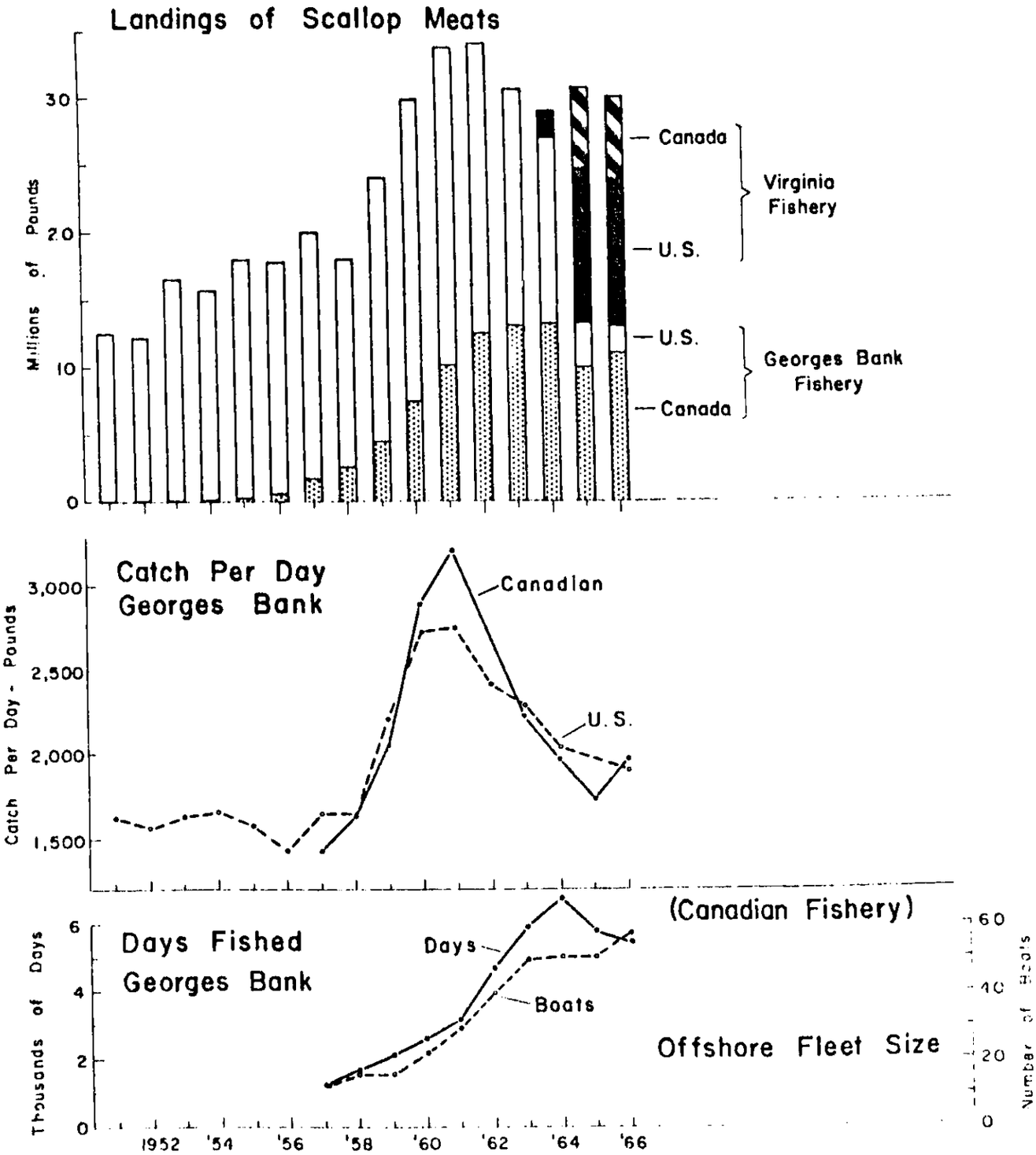

Fig. 1. Georges Bank and Virginia landings by the Canadian and U.S. scallop fleets, 1951-66; with data on catch/day for Georges Bank (Canada and U.S.), days fished on Georges Bank (Canada) and offshore fleet size (Canada).

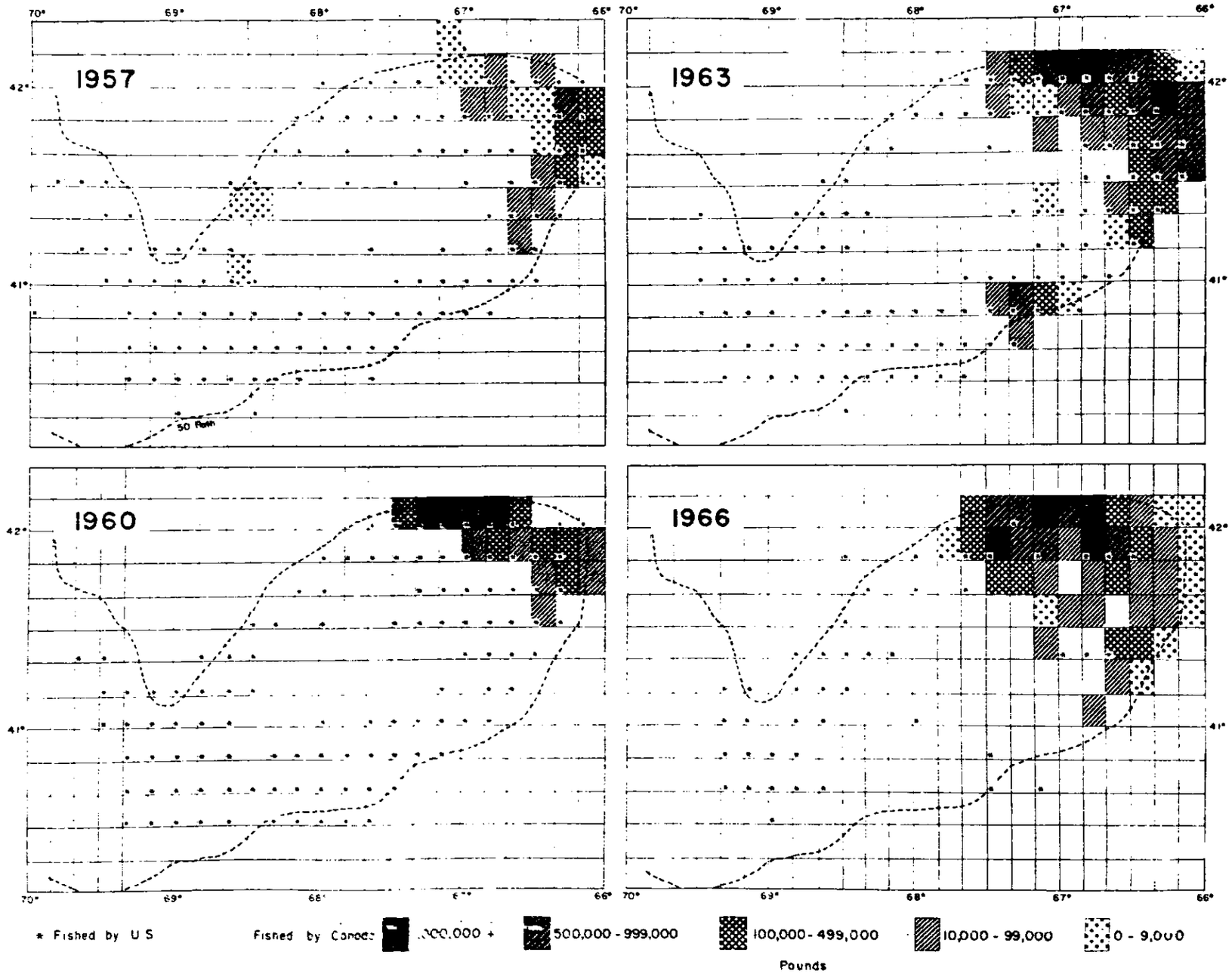

Fig. 2. Canadian scallop landings from Georges Bank for the sample years 1957, 1960, 1963 and 1966, showing numbers of 10-min unit areas fished and production of scallop meats. (Unit areas fished by the US fleet indicated by *)