DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

FISH AND WILDLIFE SERVICE

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MIGRANT STRIPED BASS
CAUSE BIG MAINE RUNS

Seasonal migrations of Maryland-bred striped bass, moving north from the Chesapeake Bay region -- not schools spawned in home streams -- are now known to account for the recent impressive catch increases of that species in Maine waters.

"It appears very probable," runs a story released today by the Fish and Wildlife Service, United States Department of the Interior, "that the increase in the catch of striped bass in Maine waters, beginning in 1938, was the result of fish migrating to those waters, rather than from local reproduction. Furthermore, there is evidence that the increase in the catch of striped bass beginning in 1938 in Maine waters, resulted from the same dominant year class which has been largely responsible for the phenomenal increase in the catch of striped bass since 1936 at other points along the coast extending as far south as Virginia.

"This increase in recent years resulted principally from an unusual successful spawning and survival of striped bass in 1934 in the Chesapeake Bay region. Some of these fish migrated out of that bay in the spring of 1936 and thus became available that year and thereafter to date at many northern points, apparently as far north as Maine and possibly in some of the Canadian waters."

The story is based upon the report of a cooperative survey of certain Maine rivers just completed by Sumner A. Towne, detailed to the study by the States Development Commission and Department of Sea and Shore Fisheries, and William C. Neville, in charge of the Service's striped bass investigations. Purpose of the survey was to determine whether successful spawning of striped bass occurs in Maine waters and to what extent this may contribute to maintaining local catches.

Many of the important striped bass fishing areas, extending from the St. Croix River at the Canadian border to the Saco River in the southern part of the state, were visited. The survey involved the collection of data in those areas of suitable environment comparable to regions in other parts of the coast where spawning and nursery grounds for striped bass are known to exist.

The results of the Maine survey revealed no indication, however, that important successful reproduction of striped bass has occurred during the past several summers in its waters, despite the fact that since 1938 there has been present there a considerable supply of striped bass of spawning sizes and ages as compared with a long period of previous years.

"The lack of evidence of successful spawning and reproduction in Maine waters", according to the report, "is in accord with the same results obtained from surveys made during this summer or during the past two years in other New England states, namely, New Hampshire, Massachusetts, Rhode Island, and Connecticut."

From interviews made by the investigators with commercial fishermen and salt water anglers for striped bass, it was made clear that an impressive increase in the catch occurred in Maine waters in recent years, beginning in 1938, with good catches continued in 1939, but with a relatively lower catch in 1940 and still lower catch in 1941. The fish during the past two years, however, have been much

larger, it would seem, although less in number than the fish caught in 1938 and 1939.

Although it is not definitely known why striped bass have not reproduced successfully in Maine waters since 1938, even though an adult stock has been present there, the results of this recent survey has suggested a possible explanation. It is believed that the tremendous tide changes or elevations of 10 to 22 feet which are common in Maine waters, prevent reasonably stable conditions suitable to successful spawning and survival of striped bass.

In many of the rivers during flood tide, for example, the upstream portions are deeply and widely flooded, but following this on the ebb-tide, these areas are almost completely drained, leaving bare areas with practically no water left over them. These high tide elevations also push the salt water well up over the upstream regions of the river, and in many cases, right up to the dams over which fresh water falls.

Since it is known that striped bass spawned in fresh or brackish water and that the young fish (fish up to 5 inches) are generally found in brackish water rather than in waters of high salinity, there appears but relatively little area in which suitable conditions for spawning or survival can be found.

These tide elevations also have the effect of producing currents of high velocity which have the effect of scouring rivers during the ebb-tide. These fast moving currents would have the tendency to sweep eggs and larvae (newly hatched fish) down stream to unsuitable areas, thus possibly resulting in high mortality of the eggs and young fish.

"The present conditions in some of the Maine rivers", the report continues, "are quite different from those of earlier years. Information obtained from old-time fishermen reveals that some of the Maine rivers were important fishing areas,

particularly during the winter, for striped bass. For example, the Dyer River produced large winter catches of bass, particularly in early years, even up to 1912. Captain H. B. Marsh, an old-time fisherman on this river revealed the fact that a so-called tidal dam helped to maintain suitable conditions for wintering bass in the upstream portions of this river during the early years. This tidal dam was so constructed that it prevented a great deal of the water from draining the upstream portions of the river, leaving these areas well covered, even at dead low water. On flood tide, the water was permitted to pass over the dam and raise the tide level several feet in this region."

This tidal dam apparently had the effect of maintaining, more or less, suitable conditions in the upper part of the river and probably helped considerably in making it possible for striped bass to winter there. There is also evidence that it improved fishing for other species of fish and some oysters. This dam went out about 1912 and since that time, there has been a marked decline in the productivity of this river, to the extent that little if any bass are caught there during the winter and the formerly productive beds of oysters have long disappeared.

Other rivers in Maine offer some obstructions toward possible production centers from local spawning as a result of dams being placed across these rivers close to their mouths. Some of these dams have no fishways and it is doubted whether striped bass would use fish passages over the dams even if they were available, since, as far as it is known, no striped bass have been caught above some of the dams which do have well constructed fishways.

"It appears, therefore", the investigators conclude, "that the supply of bass in Maine waters includes a summer stock of fish which appears as result of the general seasonal migration up the coast; these bass remain in Maine waters

during the summer, and undoubtedly leave in the fall on a migration to southern regions in accord with the general movement which occurs in other New England waters. It is possible that a very limited number of this summer stock of bass may winter in some of the Maine rivers."