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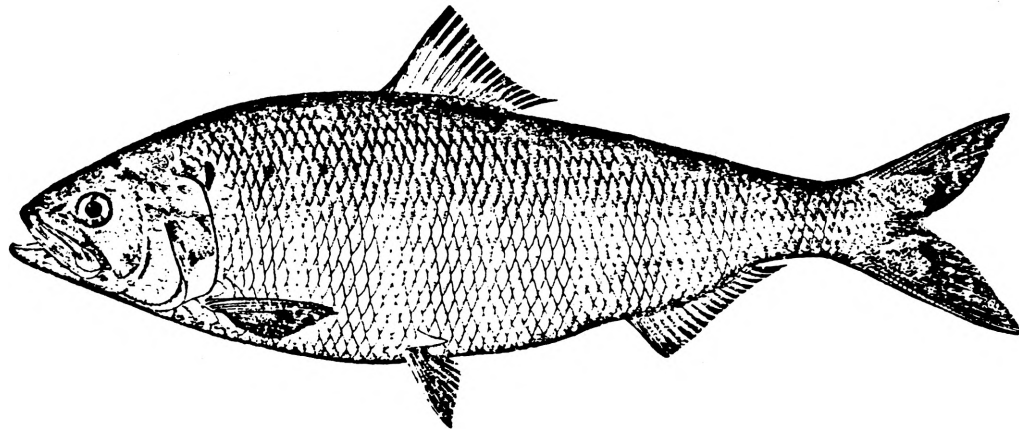
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OVERVIEW OF THE AMERICAN SHAD RESOURCES
OF
THE KENNEBEC RIVER



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Shad (Alosa sapidissima)

The American shad is the largest member of the true Herring family. It is a sea-run (anadromous) species which makes its growth in the sea but returns to freshwater to spawn. American shad spawn in Maine streams from mid May through June in flowing water. The majority of adults are four to six years old and average three to four pounds when they return to spawn. Older fish (repeat spawners) may exceed 9 lbs. in weight and 30 inches in length.

History

Shad historically ascended the Kennebec River as far as Norridgewock Falls (89 miles from the sea), the Sandy River as far as Farmington, and the Sebasticook River to Newport (Atkins, 1887).

Prior to the construction of the Augusta dam, fisheries for shad took place at Ticonic Falls (Waterville), at the falls at Skowhegan on the mainstem and in the lower Sandy River, in addition to the tidal fisheries. It was documented in the historical records that the shad fisheries declined by approximately fifty percent after the construction of the Augusta dam which had less impact on shad than it did on the alewife and the Atlantic salmon because the majority of spawning and nursery habitat for the latter two species was above Augusta. The twenty miles of tidal freshwater below Augusta provided fifty percent of the spawning and nursery habitat for shad. From the time the Augusta dam was constructed up until the mid 1930's, the shad and

smelt fisheries were the dominant fisheries on the tidal portion of the Kennebec River. Over fifty years after access to upriver spawning areas was blocked, the shad resource continued to support a commercial fishery of over 800,000 lbs. in the tidal waters of the Kennebec River. By the mid 1930's though, the shad resource was severely decimated by increased pollution from the Androscoggin and the Kennebec Rivers.

Present

The water quality in the Kennebec River has improved dramatically since the era of gross pollution (the 1930's through the early 1970's). Since 1976, the Kennebec River has had adequate dissolved oxygen levels to support shad and other anadromous fish species in the lower river. The Department of Marine Resources has been monitoring the shad resource in the Kennebec River. Experimental drift gill nets are used to obtain an index of abundance for spawning adult shad and experimental seines to obtain an index of abundance for juvenile shad. The present surveys indicate there is limited reproduction below the Augusta dam and major areas of shad reproduction in the tributaries of Merrymeeting Bay; the Eastern, Cathance, and Abagassett Rivers. Thus the shad resource at the present time below Augusta is in a state of dynamic change. Because shad have a 5 year life cycle and the stocks are reduced to extremely low levels it is difficult to predict the rate of expansion. Based on experiences in other rivers, it is likely that significant recovery will occur within 2 to 4 life cycles.

Management

Currently shad are under consideration for restoration to their historical habitat in the Kennebec River. A "Strategic Plan and Operational Plan for the Restoration of Shad and Alewives To The Kennebec River Above Augusta" has been prepared by the Department of Marine Resources. This document outlines the amount and location of spawning and nursery areas and the means for achieving the restoration goals. Achievement of the shad restoration goal would result in a run of over 700,000 adult shad annually above Augusta. The shad is both an important recreational and commercial fish species. Based on fishing success rates in other large river systems, it is predicted a fully restored run would provide for a catch of 72,500 adult shad and would generate 72,500 to 145,000 angler days of fishing effort. An economic assessment prepared for the Susquehanna River estimated an angler day has a value of \$70 for shore fisherman and \$139 for boat fisherman.

A fully restored run would be capable of supporting a commercial fishery of 500,000 to 725,000 lbs. annually with a landed value of \$250,000 to \$362,500.

An Interstate Fisheries Management Plan for American Shad and River Herring is being prepared under the auspices of the Atlantic States Marine Fisheries Commission of which the State of Maine is a member. The major emphasis of the Plan for the New England area is the restoration of shad to their historical habitat.

