

LOWER KENNEBEC RIVER

INLAND FISHERIES MANAGEMENT OVERVIEW

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During the mid 1960's, studies were undertaken by biologists of the Maine Department of Inland Fisheries and Game, (now the Maine Department of Inland Fisheries and Wildlife) to provide the Department with information on the river's inland and anadromous fishery resources. These studies led to the publication of Fish Management in the Kennebec River. This publication addressed potentials within the drainage for a variety of sport and commercial species, taking into account problems facing the Department in developing and realizing the full potentials for fish management in the drainage.

Fortunately, water quality in the main stem of the river and many of its tributaries has noticeably improved through the efforts of the Maine Department of Environmental Protection with cooperation from industries and municipalities. Water degradation from wood bark deposits associated with log driving has also been greatly reduced with the termination of log driving in the Kennebec. Water quality in the Kennebec River above the Edwards Dam in Augusta is presently suitable for the management of several species of inland and anadromous fish. Dissolved oxygen levels in the main stem and its principal tributaries are now adequate to support fish life. Oxygen levels of 5 p.p.m. or higher now occur during periods of warm weather and low flow, a noticeable improvement since the 1960's.

Restoration of anadromous fish in the drainage will require fish passage facilities at the Edwards Dam in Augusta. If not properly controlled, passage of undesirable fish, such as the carp and lamprey eel would be allowed through these facilities into the upper sections of the drainage. Since the extension of the range of these and other undesirable species such as the northern pike, calico bass, and largemouth bass into upper section of the drainage would

adversely affect ongoing inland fisheries management programs, trapping and sorting facilities should be required at strategic fish passage facilities developed on the main stem of the Kennebec River. As a temporary measure, it will be necessary to capture anadromous fish at the Edwards Dam in Augusta and truck them to selected sections of the drainage, pending construction of additional fish passage and sorting facilities at upstream dams. The current upriver limits of several species of fish which could adversely impact ongoing inland fisheries management programs are shown in Figure 1.

Certain of the lakes and ponds of the Kennebec River that lie within the area proposed for restoration of anadromous fishes support a wide variety of gamefish species including landlocked salmon, brook trout, brown trout, and lake trout, among others. Introductions of anadromous alewives into the waters listed in Table 1 should be postponed until the impact of such introductions on existing inland fisheries is better understood. The interaction of anadromous alewives with salmonids, smelts, and other inland fish will be assessed through a cooperative research project sponsored by the Maine Department of Marine Resources and the Maine Inland Fisheries and Wildlife Department. Based upon the results of these studies a cooperative decision will be made regarding future alewife introductions into the listed waters.

Alewives may also interact with freshwater gamefish to the advantage of the latter. For example, in riverine situations, where smelts usually are not a significant part of the diet of coldwater gamefish, young alewives might provide forage for river dwelling salmonids. For instance, the Department of Inland Fisheries and Wildlife has recently initiated an experimental brown trout program in the lower reaches of the Kennebec River between Augusta and Skowhegan (see Appendix I). The initial phase of the project, which began with the first stocking of browns in the spring of 1983, is designed to determine

if browns can survive in the river and provide fishing for a minimum of two angling seasons. Since the long term goal of this project is to provide a brown trout sport fishery with a catch rate of 0.20 trout per angler day and an average size of 1.5 pounds per fish, it is obvious that a good growth rate is essential to the program's success. Young alewives, migrating from upriver lake systems, will be available as forage for browns that occupy the river. In fact, juvenile alewives might be the most abundant forage in the lower Kennebec from late July into October and it is hoped that they will enhance brown trout growth.

If the precautions noted above are carefully followed, the restoration of anadromous fishes to the Kennebec River should play an important role in maximizing the river's sport fishery potential.

TABLE 1.

## WATERS IN WHICH PLANTINGS OF ANADROMOUS ALEWIVES ARE TO BE POSTPONED

WATER	LOCATION
NORCROSS POND	CHESTERVILLE
WILSON LAKE	WILTON
VARNUM POND	WILTON, TEMPLE
CLEARWATER LAKE	INDUSTRY, FARMINGTON
PORTER LAKE	STRONG, NEW VINEYARD
SPECTACLE POND	VASSALBORO, AUGUSTA
CHINA LAKE	CHINA, VASSALBORO
GREAT MOOSE POND	HARTLAND, HARMONY
WASSOOKEAG LAKE	DEXTER
BELGRADE CHAIN OF LAKES	BELGRADE, OAKLAND, ROME
(ABOVE DAM IN OAKLAND)	SMITHFIELD, SIDNEY, ETC.
LAKES OF COBBOSSEE STREAM DRAINAGE	LITCHFIELD, MONMOUTH, MANCHESTER,
(ABOVE PLEASANT POND IN LITCHFIELD)	WINTHROP, ETC.
BIG INDIAN POND	ST. ALBANS

Figure 1. Barriers to fish migration which restrict the range of Northern pike, calico bass (black crappie), largemouth bass, carp, and lamprey eels in the Kennebec River and its tributaries.

