



# Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

David Garwood  
James River Corporation  
Premoid Division  
Front Street  
West Springfield, Massachusetts 01089

November 13, 1990

Dear Mr. Garwood:

This letter regards the issue of minimum flow release to the reach of the Westfield River bypassed by the West Springfield Project. As part of the FERC relicensing proceedings for the project the need to establish a minimum flow release from the project dam for the protection of fish and other aquatic life in the bypass reach was identified.

Stetson - Harza performed a site specific Aquatic Base Flow (ABF) study following the methodology developed at New England Power Company's Deerfield River Project, which has been determined to be an approved methodology by the Massachusetts Division of Fisheries and Wildlife (MDFW) and the U.S. Fish and Wildlife Service (USFWS). Results of this study determined that the (ABF) for the Westfield River is equal to 0.21 cubic feet per second per square mile (CFSM) drainage area upriver of the project. Based on this factor, the ABF at the project site is 108 CFS. The James River Corporation - Premoid Division, licensee for the project, has proposed to release 108 CFS as the minimum bypass flow.

On September 5 and October 11, 1990 representatives of the Massachusetts Division of Fish and Wildlife, U.S. Fish and Wildlife Service and others witnessed demonstration flow releases of 65 and 108 CFS respectively. Based on these observations, the proposed 108 CFS bypass flow is reasonable, and is acceptable as the continuous minimum flow release for protection of resident fish and aquatic resources in the bypass reach. However, as we discussed at the October 11, 1990 meeting flow releases greater than 108 CFS may be necessary on a seasonal basis to ensure adequate passage of anadromous fish through the bypass reach.

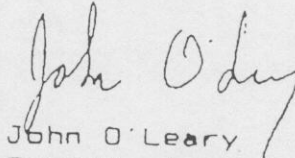
Division of Fisheries & Wildlife

Field Headquarters, One Rabbit Hill Road, Westboro, MA 01581 (508) 366-4470

An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement

If you have any questions or comments, please contact me at  
(508)792-7270.

Sincerely,

A handwritten signature in cursive script that reads "John O'Leary".

John O'Leary  
Coordinator, Anadromous  
Fish Restoration Program

JO/ch

cc: Ted Meyers, USFWS  
John Warner, USFWS



# Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

October 5, 1989

Mr. David Garwood  
Senior Project Engineer  
James River Corporation, Premoid Division  
Front Street  
West Springfield, MA 01089

Dear Mr. Garwood:

This responds to your request for written comments on James River Corporation's Initial Consultation Document (ICD) for the West Springfield Project (FERC No. 2608) within 60 days following the joint meeting held on August 16, 1989, to identify resource agency/public concerns and informational needs.

On August 15, 1988, James River Corporation (Premoid Division), the existing licensee for the West Springfield Project, filed a notice of intent to apply for a new license. The original license was issued effective May 1, 1965, and will expire December 31, 1993. The project is located on the Westfield River in Hampden County (West Springfield/Agawam), Massachusetts. The principal works of the project include a: timber crib dam (18 feet high, 450 feet long) 20-acre reservoir at pool elevation 92.85 feet m.s.l.; 2500 foot power canal; powerhouse (two generating units) with an installed capacity of 1,400 kw at operational flows of 622 c.f.s.; transmission line connection; and appurtenant facilities. The project tailrace, located approximately 0.5 miles downstream from the dam, conducts turbine discharge back into the mainstem of the Westfield River.

The Massachusetts Division of Fisheries and Wildlife has identified four major issues requiring further study during Stage II of the FERC relicensing process.

## 1. FISH PASSAGE

The Massachusetts Division of Fisheries and Wildlife, a member agency of the Connecticut River Atlantic Salmon Commission (CRASC), initiated a major fisheries project in 1989 to restore Atlantic salmon (Salmo salar) to the Westfield River. Our goal is to initiate and maintain a run of 500 adult Atlantic salmon in the Westfield River for natural production, sport fishing and aesthetic purposes by the year 2000. The Westfield River is an important

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tributary to the Connecticut River Atlantic Salmon Restoration Program because it contains a significant amount of nursery and rearing habitat for the production of Atlantic salmon smolts. To date, the Division has stocked approximately 150,000 juvenile Atlantic salmon in the Westfield River and its tributaries. In 1990 and 1991, we will be stocking approximately 300,000 and 500,000 juvenile Atlantic salmon, respectively, into the Westfield River basin. Since most of the habitat for salmon fry and parr is located in the upper Westfield River watershed, the majority of the fish will be stocked above the West Springfield Project. In addition, American shad (Alosa sapidissima) are also present in the Westfield River during their spring migration and have been reported to be numerous in the project vicinity. We would like to develop this fishery and establish an annual run of approximately 15,000 adult shad by providing access to additional spawning habitat above the project site.

In order to provide efficient upstream passage to spawning and nursery areas for Atlantic salmon and American shad, and safe downstream passage for post-spawned adults and juveniles, upstream and downstream fish-passage facilities will be required at this project. We recommend that conceptual plans and cost estimates for downstream migrant bypass facilities and an upstream fish ladder with trapping capabilities, be prepared during Stage II consultation. Functional design drawings should be submitted for Federal Energy Regulatory Commission approval within six months of issuance of a new license, and construction completed one year after approval of functional design drawings.

## 2. MINIMUM STREAM FLOWS

The project power canal bypasses approximately 1/2 mile of the Westfield River. The bypass is divided into two channels by an island that is part of Robinson State Park. With up to 700 cfs of water being utilized by James River and an unlicensed facility operated by Southworth Paper Company, there is potentially no flow in the bypass reach for up to seven months of the year except for leakage. Fishery resources in the project area include anadromous species such as American shad, herring and Atlantic salmon, and resident species such as smallmouth bass and rock bass.

In order to evaluate continuing impacts of the present mode of operation on the bypass reach, we recommend the use of the U.S. Fish and Wildlife Service's Instream Flow Incremental Methodology (IFIM) or a comparable technique. The use of IFIM would allow an evaluation to be made of how low flows affect fishery resources in the bypass reach, and to determine suitable attraction flows for the fishway. We also recommend that a means of verifying true run-of-river operations be incorporated into the project.

### 3. WATER QUALITY

Water quality sampling was conducted in the Westfield River in 1979 and 1985. Minimum dissolved oxygen (D.O.) concentrations below the 5 ppm Class B standard were not observed. However, it is not clear whether: 1) sampling occurred at sunrise when D.O. concentrations would be their lowest, 2) samples were collected in the project bypass reach, or 3) water was spilling over the dam.

Therefore, we recommend that site specific sampling be conducted for temperature and dissolved oxygen in the impoundment, bypass reach, and below the tailrace during summer low flow conditions with no spillage at the dam. This will allow an evaluation to be made of how project operation affects dissolved oxygen and temperature, and subsequently fishery resources, in the project area.

### 4. RECREATIONAL ACCESS

The ICD does not describe what, if any, recreational access exists at the project site. With anadromous fish being restored to the Westfield River, and with the provision of a minimum instantaneous flow release into the bypass reach, additional recreational opportunities will be provided at the project site. We recommend that the existing and proposed access facilities to the project waters be described.

#### General Comments on the ICD

1. On page 7 of the ICD, it reads "According to the Massachusetts standards for Class B waters, D.O. levels in warm water fisheries shall not exceed 5.0 mg/L." This statement is incorrect. It should read, "D.O. levels in warm water fisheries shall be a minimum of 5.0 mg/L."

2. The section pertaining to existing Fisheries Resources (p. 10) does not identify anadromous fish (e.g. Atlantic salmon, American shad, etc.) as being present in the Westfield River. Landlocked salmon, a non-anadromous species, is stocked annually into Littleville Reservoir on the Middle Branch.

Should you have any questions regarding these comments, please do not hesitate to contact me at (508) 366-4470.

Sincerely,

*Mark S. Tisa*

Mark S. Tisa, Ph.D.  
Coordinator, Anadromous  
Fish Restoration Program