

Project Number 31016

Calapooia River Flow Acquisition and Fish Passage Assessment

Response by Steve Mamoyac, Oregon Department of Fish and Wildlife

Steven.r.mamoyac@state.or.us

Response Summary:

All ISRP questions and comments are addressed in the following responses.

ISRP Comment:

The ISRP's central concern is the uncertain nature of the acquisition of Thompsons Mill. Unless the Mill or its water right is acquired, the money invested in the project would appear to have little long-term benefit to fish.

Response:

The Thompsons Mills Working Group consists of representatives from 5 state and 2 federal resource agencies, agricultural organizations, water conservation groups, historical societies, the Oregon legislature and Governor's Office (*note: a detailed list of cooperators is provided in attachment 1*). The Group's charge is to seek and facilitate implementation of short term (2-3 years) and permanent solutions to the resource issues (i.e. fish passage and survival) associated with the facilities.

The Oregon Parks and Recreation Department has recently initiated development of a *Cooperative Partnership Agreement* (attachment 1) to serve as a basis for establishing a more formal working relationship to accomplish the goals of the Thompsons Mills Working Group. The *Cooperative Partnership Agreement* is intended to accomplish several Group objectives and to serve as an "umbrella" over specific sub-agreements for the conveyance of funds between organizations as needed. While still in draft form, the Agreement establishes organizational relationships to facilitate development of a planning document: ***Thompson's Mills Acquisition, Development, Management and Operational Plan***. An intended outcome of this process is the "*transition in ownership, in whole or part, through equitable compensation for the Thompsons Mills Property to a public/private partnership collaborative for future benefit of the general public within the next (5) years or by the end of the calendar year 2006*".

We believe that implementation of the of the proposal is crucial to the short and *long term* success of any passage "fixes" at the site. Presently, our understanding of how the existing facilities should be manipulated to optimize upstream passage under various conditions is limited. The assessment, as proposed, presents us with the unique opportunity to increase our understanding of precisely how ESA-listed fish species interact with facilities that will have been purposefully altered in configuration and function to accommodate fish passage. Never before have we had the opportunity to evaluate the site-specific physical and/or functional processes associated with fish passage under certain (e.g. low flow) conditions that will exist if this project is implemented. In the past, under status quo operations, the issue has been moot since routine flashboard installation in the spring precluded both upstream passage and the associated evaluation opportunities. The information acquired via the proposed assessment will be directly applicable to the site regardless of how the ultimate long term "fix" turns out. Dam modification/removal, in and of itself, does not automatically constitute a solution to this complex problem as their presence may actually prove

beneficial to fish passage under certain conditions. In order to realize the full potential of having total discretion to manage the facilities for fish (as opposed to the industrial status quo) we must first acquire a thorough understanding of how fish interact with the system. The assessment will enable us to develop this understanding. The information generated by the project should prove invaluable in enabling the resource agencies to determine the best long term conservation strategy relative to management/manipulation of existing facilities and flows under a variety of possible scenarios (e.g. dam removal/modification/retention, etc.).

It is hoped that the successful implementation of these collaborative efforts will establish a model example by which other entities confronted with comparable challenges can benefit.

ISRP Comment:

What is the risk to native fishes if the passage improvement and water diversion is postponed until the Mill or its water right is acquired?

Response:

Status quo operations at the Mill complex directly impact 2 federally listed (Threatened) fish species (Upper Willamette winter steelhead and spring chinook) and 1 State "Sensitive" fish species (Pacific lamprey). Information collected in 2001, while limited, indicates that modified flow management associated with non-generation will increase survival prospects for these and other native fish and wildlife species inhabiting the basin.

As indicated previously, it could be several years before the Mill and its associated water rights are acquired. Unless funding is obtained from an alternate source it is probable that normal Mill operations will occur during this interim period. Under this scenario, upstream migrating winter steelhead, spring chinook, and Pacific lamprey will be delayed and/or perish due to status quo flow management. Survival of juvenile winter steelhead and Pacific lamprey inhabiting Sodom Ditch will be rendered nil as a result of seasonal flow diversions which effectively dewater the ditch. While it is acknowledged that the Mill has been problematic from a fish passage/survival standpoint for many years, it seems reasonable to argue that every year/fish counts, particularly when listed species are involved.

ISRP Comment:

Much of the documentation of the fish passage and survival problems presented in the proposal is anecdotal. Has there been some attempt to quantify the passage problems, status of the populations in the basin, the availability of high quality spawning and rearing habitat above Thompsons Mills, and utilization of the Sodom Ditch by migrating fishes?

Response:

In June of 1999, spring chinook adults were observed stranded below Sodom dam after flashboards were installed to divert more water toward the mill, and the fish ladder was blocked off. ODFW mounted several rescue efforts, which produced a total of 25 adult spring chinook that were transported upstream. Subsequent resting hole surveys conducted by ODFW staff in the upper basin over the summer revealed relatively

unimpressive results as far as the number of adults observed (n=25). These observations indicate that the blocking off of fishways at the Mill and Sodom Dam have the potential to impact a significant portion of the annual spring chinook run in a given year.

Figure 1 depicts annual counts of adult spring chinook made during resting hole surveys conducted on the upper Calapooia during the period 1996-2001. Relatively speaking, escapement of adult spring chinook into the upper watershed was excellent in 2001. In early August, ODFW snorkel crews documented the presence of 67 adults in a 6-mile reach of the upper mainstem Calapooia. Escapement was by far the highest observed in recent years and may be attributable, at least in part, to the fact that a non-generation arrangement (implemented in 2001) insured the provision of significantly improved passage conditions for these fish. ODFW observations of the bypass channels during the time adult chinook should have been migrating upstream supports this hypothesis; passage conditions in the channels and their respective fishways appeared excellent.

Figure 1. Calapooia River Snorkel Survey Counts of Adult Spring Chinook (*note: observations in 1998 and 1999 may include surplus hatchery adults that were released into the survey area prior to the survey being conducted*)

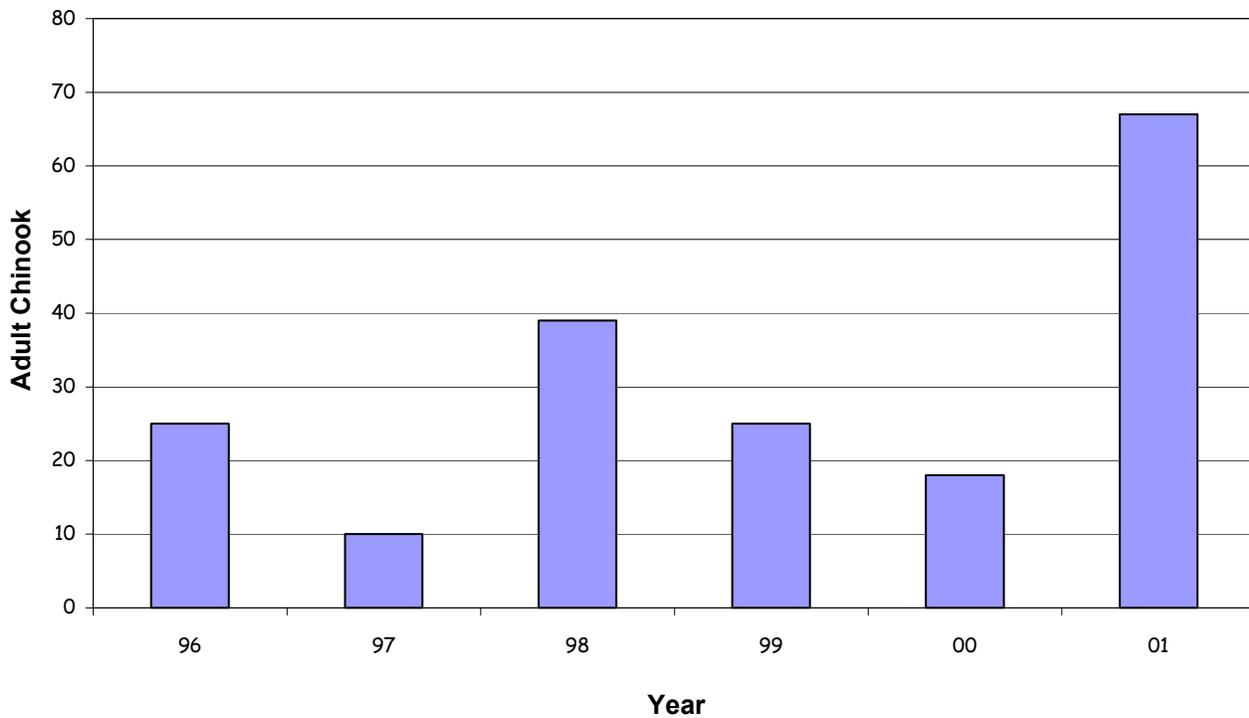
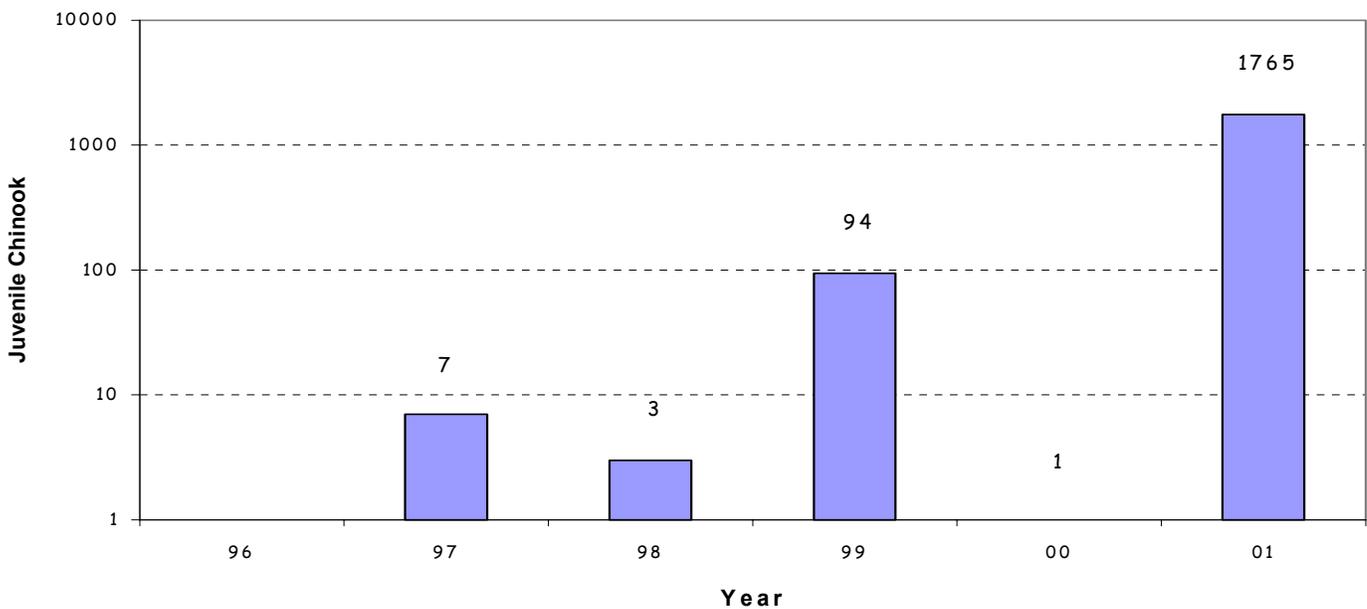


Figure 2 depicts counts of juvenile spring chinook made during resting hole surveys conducted on the upper Calapooia during the period 1996-2001. Past and ongoing attempts to resolve fish passage deficiencies at Thompsons Mills have been predicated on the belief that the upper basin was capable of sustaining significant natural production of spring chinook. Observations made in 2001 reaffirmed assumptions that the habitat in the upper basin is indeed capable of this. It is likely that the mild winter of 2000-01 contributed to increased over-winter survival of juveniles.

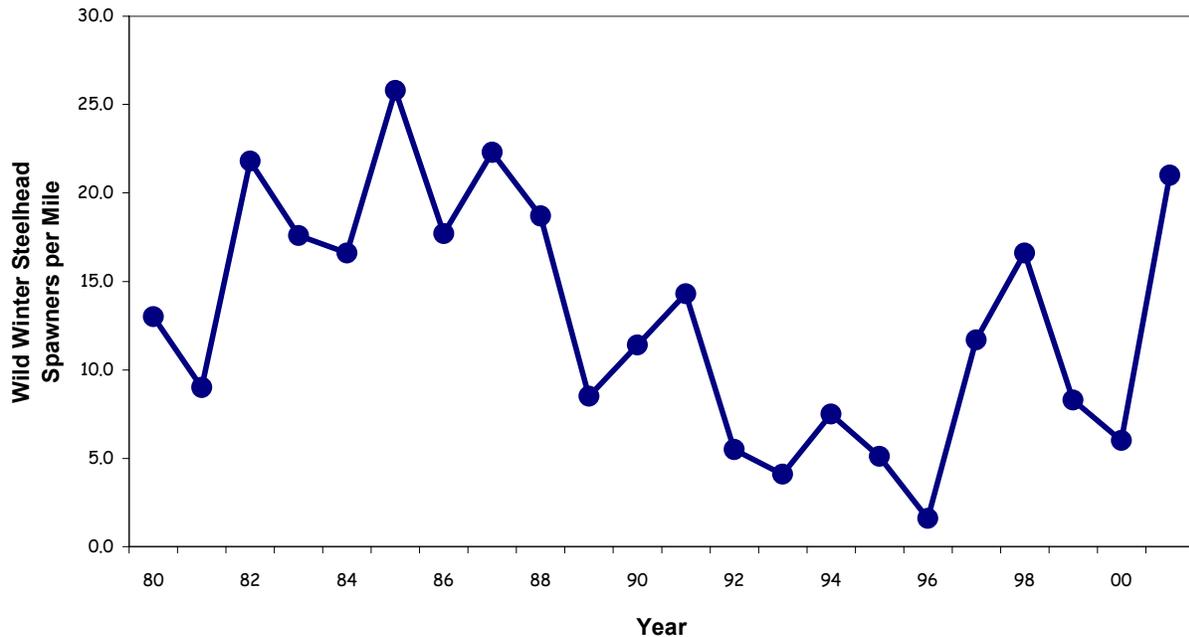
Figure 2. Calapooia River Snorkel Survey Counts of Juvenile Spring Chinook



Winter steelhead escapement in the Calapooia River, as measured via annual spawning surveys in the upper basin, showed dramatic improvement in 2001 (Figure 3). Winter steelhead migration is normally complete by the time fishways are blocked at the subject locations. However, status quo flow management may nevertheless result in increased

delay through the Mill complex due, for example, to false attraction associated with the Mill tailrace. Additionally, false attraction has been observed involving adult winter steelhead at Sodom Dam. ODFW engineering staff are currently engaged in a design assessment of the subject fishways. Recommendations for remedial measures are likely to be forthcoming from this effort

Figure 3. Returns of Adult Winter Steelhead to the Calapooia River



Surveys conducted by ODFW staff in 2001 documented spawning by winter steelhead and pacific lamprey occurred in Sodom Ditch. Provision of flows to the Ditch past the normal shutdown date (approximately mid-June) as a result of the aforementioned non-generation agreement is believed to have benefited both species. Small numbers of steelhead fry were sampled throughout the Ditch in early summer but were absent later in the season suggesting, not surprisingly, that high temperatures (and likely predation by abundant pike minnow and bass) ultimately result in their demise and/or forced relocation to other, more suitable habitats. Interestingly, steelhead parr were documented in the Sodom dam fishway throughout the summer. This is believed to constitute an anomaly resulting from improved conditions (i.e. high levels of aeration) that exist only in the fishway-proper and not elsewhere in the Ditch during the summer. Nonetheless, these parr, however few in number, are ESA-listed and would almost certainly have perished under “normal” flow management of the system.

As a result of limited investigations conducted in 2001 our understanding of what is possible and appropriate biologically relative to flow management within the Thompsons Mills channel complex is now much more complete. The combination of physical (e.g. temperature and flow) and biological (fish distribution and abundance) data thus far collected and preliminarily analyzed has significantly clarified the issues. For instance, temp/flow data gathered last summer strongly indicates that a major shift in available flow from the Calapooia channel to Sodom Ditch would further degrade overall water quality in the system by increasing overall river temperature.

Unfortunately, we were unable in 2001 to collect information on the migration timing of winter steelhead and spring chinook past the project. We need to characterize run timing, especially as it relates to spring chinook, relative to normal Mill operations (and bypass channel shutdown periods). Trapping would also provide important data on run size and stock status. Additional physical and biological surveys need to be conducted throughout the system.

ISRP Comment:

The applicants also need a more thorough description of how the success of the project will be evaluated.

Response:

The success of the project is contingent on: 1) acquisition of data resulting from implementation of the various tasks/investigations described in the project application 2) application of appropriate analytical techniques designed to clarify relationships between various operational (i.e. flow management) scenarios and fish response and 3) implementation of operational strategies derived from the knowledge developed from items 1 and 2 above.

Appendix 1.

DRAFT

Cooperative Partnership Agreement
(ISRP reviewers note: page 1 of 9 only)

Between

DAVID AND MERLENE BABITS
PACIFICORP

And

OREGON DEPARTMENT OF FISH & WILDLIFE
OREGON WATER RESOURCES DEPARTMENT
OREGON PARKS AND RECREATION DEPARTMENT
DIVISION OF STATE LANDS
OREGON DEPARTMENT OF AGRICULTURE

And

U.S. BUREAU OF RECLAMATION
NATIONAL MARINE FISHERIES SERVICE

And

OREGON FARM BUREAU
CALAPOOIA IRRIGATION DISTRICT

And

BOSTON MILL SOCIETY
OREGON WATER TRUST

And Concurring Organizations;

Oregon Watershed Enhancement Board, Willamette Restoration Initiative, Federal Energy Regulatory Commission, Bonneville Power Administration, National Park Service, U.S. Fish & Wildlife Service, Northwest Power Planning Council, State Historic Preservation Office, Oregon Governor's Office, House and Senate Leadership Office, Linn County Commissioner's and, Benton County Commissioner's

For

COLLABORATIVE RESEARCH, DEVELOPMENT AND IMPLEMENTATION OF A PARTNERSHIP TO COOPERATIVELY PLAN FOR THE **ACQUISITION**, MANAGEMENT AND OPERATION OF THE HISTORIC THOMPSON'S MILLS PROPERTY AND RELATED WATERWORKS AND TO RECOGNIZE AND PRESERVE THEIR IMPORTANCE IN THE NATURAL, CULTURAL AND ECONOMIC LANDSCAPE OF THE CALAPOOIA WATERSHED AND THE COMMUNITIES OF THE MIDDLE WILLAMETTE RIVER BASIN

ARTICLE I: BACKGROUND AND OBJECTIVES

WHEREAS, The Governor's Office has established a roundtable discussion group of federal agency and State agency Director's Offices' to implement the broad policy goals of the Oregon Plan for Salmon and Watersheds as the Plan's policy goals relate to resource management within the Calapooia Watershed in general and the Thompson's Mills property in particular and;

WHEREAS, The Thompson's Mills property is listed on the National Register of Historic Places under the U.S. Department of Interior and the Thompson's Mills continued operation in its historic and cultural context may pose a threat to endangered species in the Calapooia River under the federal Endangered Species Act and;

WHEREAS, the Babits (Owners), PacifiCorp (PC), Oregon Department of Fish & Wildlife (ODF&W), Oregon Water Resources Department (WRD), Oregon Parks and Recreation Department (OPRD), Division of State Lands (DSL), Oregon Department of Agriculture (DOA), United States Department of the Interior, Bureau of Reclamation (BOR), National Marine Fisheries Service (NMFS), Oregon Farm Bureau (OFB), Calapooia Irrigation District (CID), Boston Mill Society (BMS) and, Oregon Water Trust (OWT), have a mutual interest in the implementation of the federal Endangered Species Act (ESA), the National Historic Preservation Act (NHPA) and The Oregon Plan for Salmon and Watersheds as it relates to the creative opportunities presented in the resolution of conflicting natural and cultural resource values and objectives in the management of the Thompson's Mills property and the economic sustainability of the communities in the Calapooia Watershed and Middle Willamette River Basin and;