

OWEB
Restoration Grant Review Team
775 Summer St Ste 360
Salem, Or 97301

April 15, 2006

Dear Grant Review Team:

I am a member of the Brownsville Canal Company and I'd like to state my position regarding the removal of the Brownsville Dam and my support for the Calapooia Watershed Council's grant application to remove the Brownsville Dam and restore the Calapooia River. I consider removal of the dam such an important issue for the river, the habitat, the fish, and the community that I feel compelled to write you a letter.

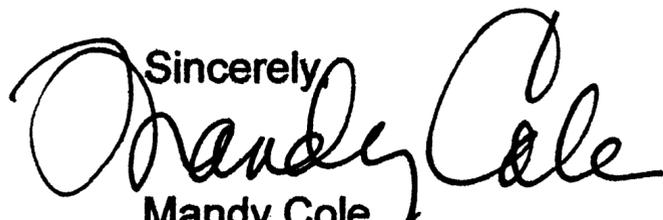
Although one of the primary reasons I live in Brownsville is because of its historicity and the historical nature of landmarks such as the Brownsville Dam and millrace, I have come to believe that removal of the dam is absolutely necessary. The dam was constructed in an era that was less well-informed about habitat and environmental issues, including fish passage.

The Canal Co. supports the removal of the dam and its obstructive effect on fish passage. The safe migration of anadromous species is critical and far more important than an atavistic structure. We need to remove the dam and create a river bed topography that will ensure easy fish passage and expansion of native fish populations.

At the same time, I support the continued and sustained flow of the canal or the "millrace", as we call it. During Brownsville's formative years, the millrace powered the Brownsville Woolen Mill, a sash and door mill, and a grist mill. Now, it is an important attraction that adds to Brownsville's unique charm. The historical character of our community has economic value, drawing visitors, new residents, and businesses. I support maintaining the flow of the millrace through pumping from the Calapooia or any other feasible and environmentally-sustainable method.

I applaud the work the CWC has done to assess the river and to work with citizens to raise our awareness of these critical long range environmental issues. I urge OWEB to fund the Calapooia Watershed Council's application to remove the Brownsville Dam and restore the Calapooia River.

Sincerely,



Mandy Cole
PO Box 98
Brownsville, OR 97327



Oregon

Theodore R. Kulongoski, Governor

R3

Department of Fish and Wildlife
South Willamette Watershed District Office
7118 NE Vandenberg Ave.
Corvallis, OR 97330-9446
(541) 757-4186
FAX (541) 757-4252

April 19, 2006

APR 20 2006



OWEB
Restoration Grant Review Team
775 Summer Street NE, Suite 360
Salem OR 97301

To Whom It May Concern:

Please accept this letter in support of the Calapooia River Watershed Council's request to OWEB for funding to remove a significant fish passage impediment - "Brownsville dam" - on the Calapooia River.

The Calapooia River and its tributaries support a variety of native anadromous fish species including winter steelhead and spring chinook salmon - both ESA "Threatened" - and Pacific lamprey. Implementation of the proposed project will benefit these and other fish species native to the basin by removing an artificial structure that has compromised fish passage for decades.

In recent years the Oregon Department of Fish & Wildlife (ODFW) has worked cooperatively with the Calapooia Watershed Council on a variety of inventory, habitat, and educational efforts in the Calapooia basin. The Council has been instrumental in working with the Brownsville Canal Company and City of Brownsville to find solutions to the fish passage problems associated with the historic Brownsville Dam. In many ways, the subject application represents the successful culmination of these efforts.

ODFW is committed to providing support for the proposed project in the form of staff participation in the development and review of the final design. The estimated dollar-equivalent value of this support is expected to approximate \$3,000.

Sincerely,

Steve Mamoyac
District Fish Biologist





Oregon

Theodore R. Kulongoski, Governor

April 14, 2006

OWEB
Restoration Grant Review Team
775 Summer St NE, Suite 360
Salem, Oregon 97301

Water Resources Department

Watermaster District 2
Central Lane Justice Court
220 North 5th
Springfield, OR 97477
Ph: 541-682-3620
Fax: 541-746-1861
www.wrd.state.or.us

Greetings OWEB,

This is a letter in support of funding the grant request to remove the Brownsville Dam on the Calapooia River in Linn County Oregon. The grant request is being submitted by the Calapooia Watershed Council.

As part of the Oregon Plan for Salmon and Watersheds, all state agencies evaluate their programs and activities, looking for opportunities to protect and recover salmon fisheries. The Calapooia Basin is a High Priority Basin under the WRD portion of the recovery plan.

As the Watermaster for this area of the state, I have been involved since 1998 with efforts to resolve water right and fish passage issues on the Calapooia River, including those associated with the Brownsville Dam. The Dam was originally constructed to provide power to a woolen mill around the beginning of the 20th century. The dam was reconstructed in the 1960s to maintain flows in the canal for aesthetics and about 20 acres of irrigation. During dry years, I require that the canal be closed to protect a senior instream water right. After dam removal, water will be pumped into the canal to serve the existing water rights. This may ease regulation as the canal operator has had problems with "vandals" opening the gate after it has been closed. An electrical pump may be more secure.

I anticipate spending about 2 days of plan review and meetings and site visits related to this project with an expected cost of \$650.

The Calapooia Watershed Council has been instrumental in moving the basin residents and natural resource agencies forward to resolve fish issues on the Calapooia River. They are taking a holistic approach and working to make progress on multiple fronts.

As the Watermaster whose district includes this basin, I support the Calapooia Watershed Council's grant request.

Sincerely,

Michael J. Mattick
District 2 Watermaster

cc: Denise Hoffert-Hay, CWC; Bill Ferber, WRD



United States
Department of
Agriculture

Forest
Service

Willamette National Forest
Sweet Home Ranger District

3225 Highway 20
Sweet Home, OR 97386
Tel (541) 367-5168
FAX (541) 367-9221

File Code: 1500/2500/2630

Date: 11 April 2006

Oregon Watershed Enhancement Board
Restoration Grant Review Team
775 Summer Street NE, Suite 360
Salem, OR 97301

Dear Ms Oman:

I am writing to you on behalf of the USDA Forest Service, Sweet Home Ranger District, to express our support for the Calapooia Watershed Council's efforts to improve fish passage and habitat within the Calapooia River Basin. The Brownsville Dam is a fish passage barrier during certain low flows. I believe the best solution for fish passage is to remove the dam. This dam has impaired the passage of salmon and steelhead up the Calapooia River for decades. These spring Chinook salmon and winter steelhead were listed in 1999 as threatened by the National Marine Fisheries Service under the Endangered Species Act.

The Forest Service administers about 1.5 miles of critical habitat for spring Chinook salmon and winter steelhead in the upper portion of the Calapooia River. The improvement of passage at the Brownsville Dam would most likely increase the anadromous fish production from the Forest Service administered habitat.

Given the importance of protecting ESA-listed fish species, improving habitat and providing adequate passage are high priorities for the Willamette National Forest. Removal of the Brownsville Dam is critical for the long term management of winter steelhead and spring Chinook salmon.

I support the Calapooia Watershed Council's proposal to improve fish passage on the Calapooia River by removing the Brownsville Dam. The Sweet Home Ranger District will be contributing at least \$3,300.00 in personnel time in support of this project.

MICHAEL L. RASSBACH
Sweet Home District Ranger





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
PORTLAND OFFICE
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232-1274

F/NWRS

April 19, 2006

Denise Hoffert-Hay
Coordinator, Calapooia Watershed Council
PO Box 844
Brownsville, OR 97327

Oregon Watershed Enhancement Board
Restoration Grant Review Team
775 Summer Street NE, Suite 360
Salem, OR 97301

RE: The Calapooia Watershed Council's Oregon Watershed Enhancement Board Restoration Grant for the Removal of Brownsville Dam

Dear Ms. Hoffert-Hay and OWEB Restoration Grant Review Team:

By email dated March 28, 2006¹, the Calapooia Watershed Council (the Council) informed the National Marine Fisheries Service (NMFS) of its intent to apply for an Oregon Watershed Enhancement Board Technical Assistance Grant. NMFS is in support of the Council's effort to find a solution to the fish passage impediment at Brownsville Dam on the Calapooia River. The Calapooia River contains populations of Upper Willamette River (UWR) Chinook salmon and UWR steelhead which are listed as "threatened" under the Endangered Species Act of 1973 (ESA), 16 USC 1531 et seq. Brownsville Dam inhibits, and at times prevents, passage of UWR salmon and UWR steelhead to important spawning and rearing habitat in the Upper Calapooia River Basin. Thus, NMFS supports the Council's efforts to explore a full range of passage alternatives at the Brownsville Dam site that would allow unimpeded access of UWR Chinook salmon and UWR steelhead to the upper Calapooia River.

Section 7(a)(2) of the ESA requires Federal agencies to consult with NMFS to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any ESA-listed species or result in the destruction or adverse modification of designated listed habitat. NMFS expects that construction of any significant passage improvements at Brownsville Dam would require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (Corps), and that the Corps would likely participate in a Section 7(a)(2) consultation with NMFS, prior to issuing the permit. NMFS appreciates this opportunity to provide input into the planning phases of the project, which should facilitate a collaborative and productive ESA consultation process. In the March 28, 2006 email, the Council asked that

¹ From Denise Hoffert-Hay, Calapooia Watershed Council to Melissa Jundt, NMFS.

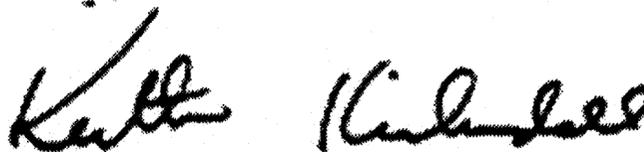


NMFS describe the extent and nature of staff time it would allocate to this process that could be considered as in-kind services. During these pre-consultation discussions, NMFS expects to contribute the following resources:

- Two staff persons attending two half-day field investigations/visits to Brownsville Dam with the technical assistance provider (14 hours, including travel time²).
- Two staff persons reviewing and providing comments on final design (16 hours).
- Two staff persons attending two 6-hour design meetings (16 hours, including travel time).

NMFS looks forward to participating in this process to correct poor passage conditions at Brownsville Dam and restore safe passage to important UWR Chinook salmon and UWR steelhead habitat in the Upper Calapooia River Basin. If you have any questions, please contact Melissa Jundt at 503-231-2187 or Susan Novak at 503-872-2854.

Sincerely,



Keith Kirkendall, Chief
FERC & Water Diversions Branch
Hydropower Division

² Round-trip travel time from Portland to Brownsville is approximately 3 hours.

Restoration of the Calapooya River: Brownsville Dam Removal

Attachment 1. Supporting maps and photos

Figure 1. The star marks the location of Brownsville Oregon in relationship to major land marks.

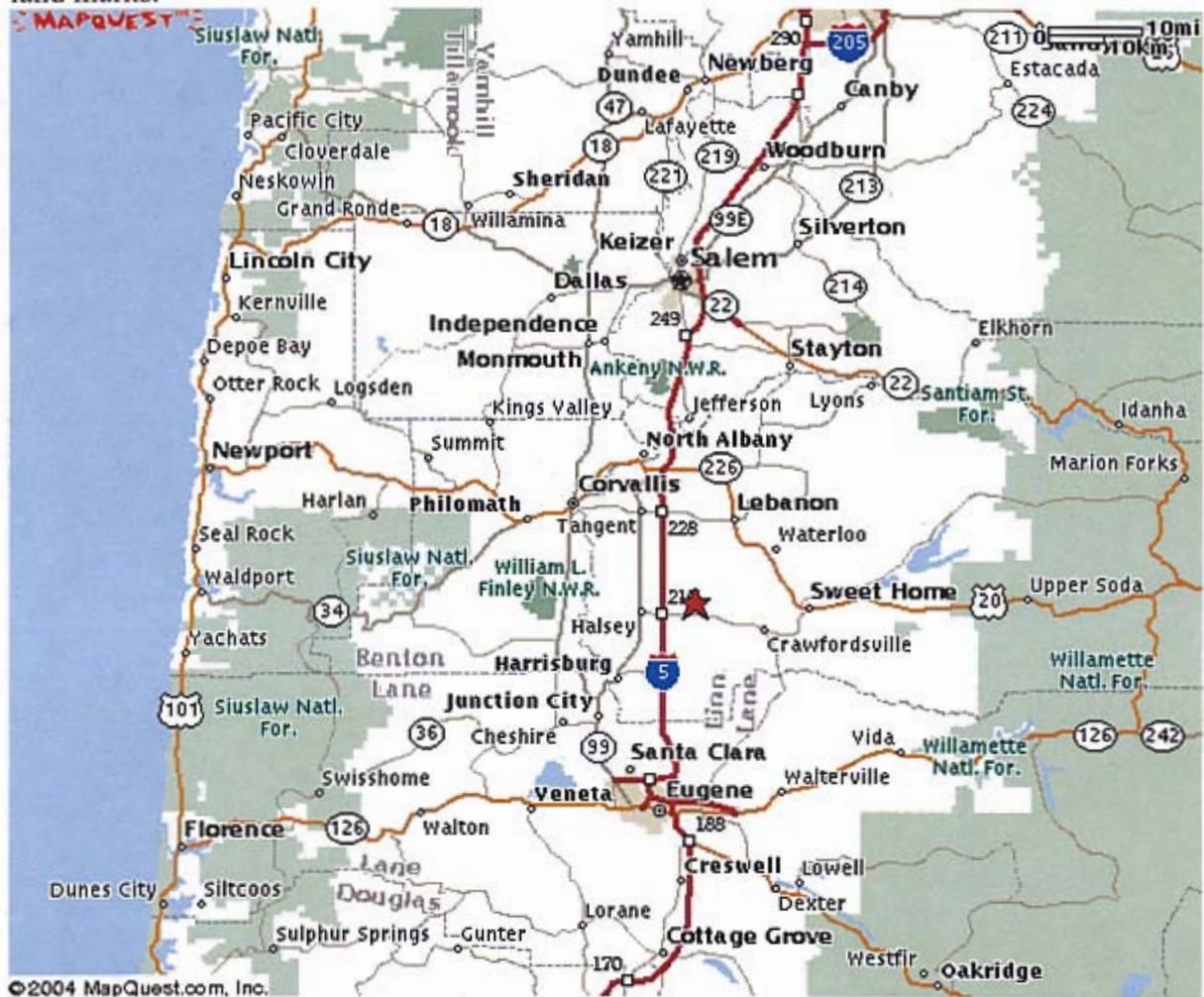


Figure 2 Location of dam and canal (highlighted in blue) in relationship to Brownsville Oregon.

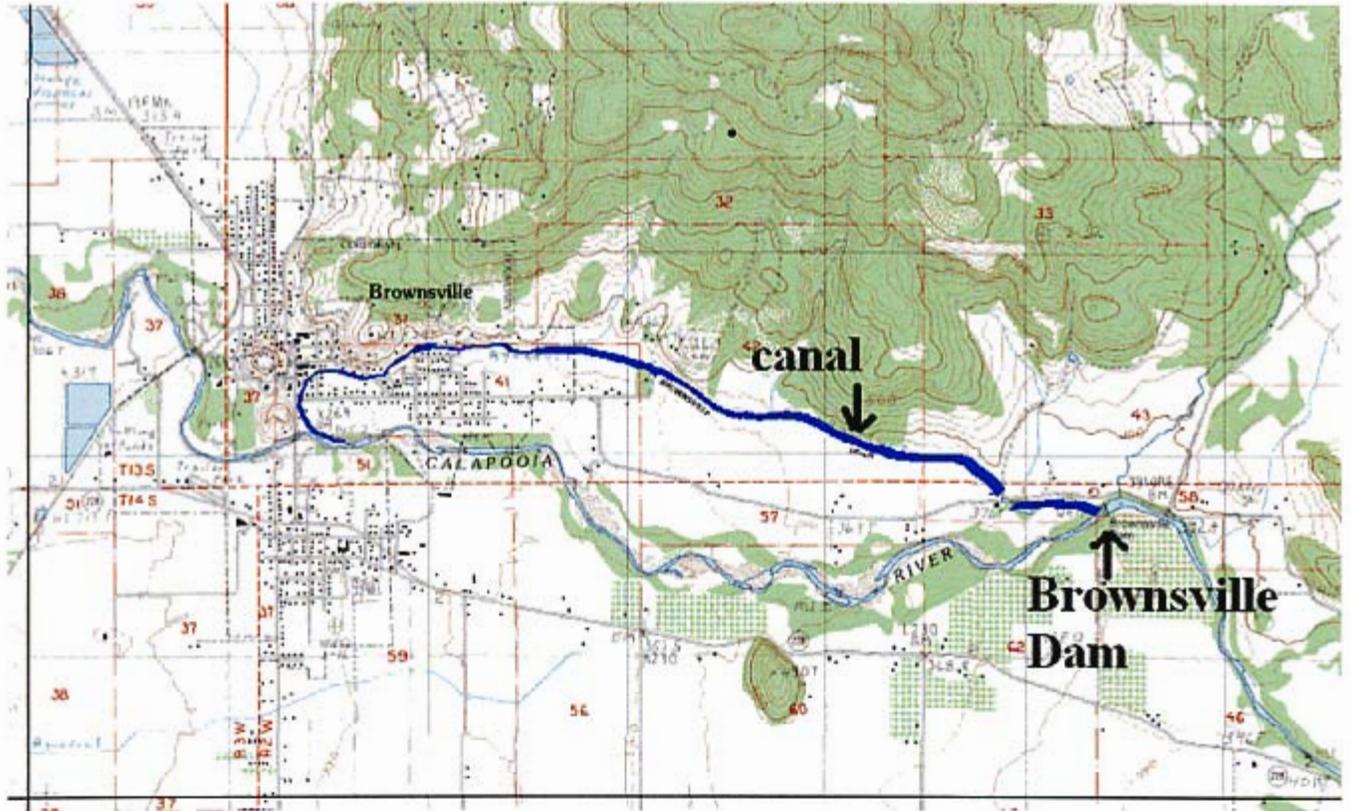


Figure 3. Chinook and Steelhead distribution in the Calapooia basin.

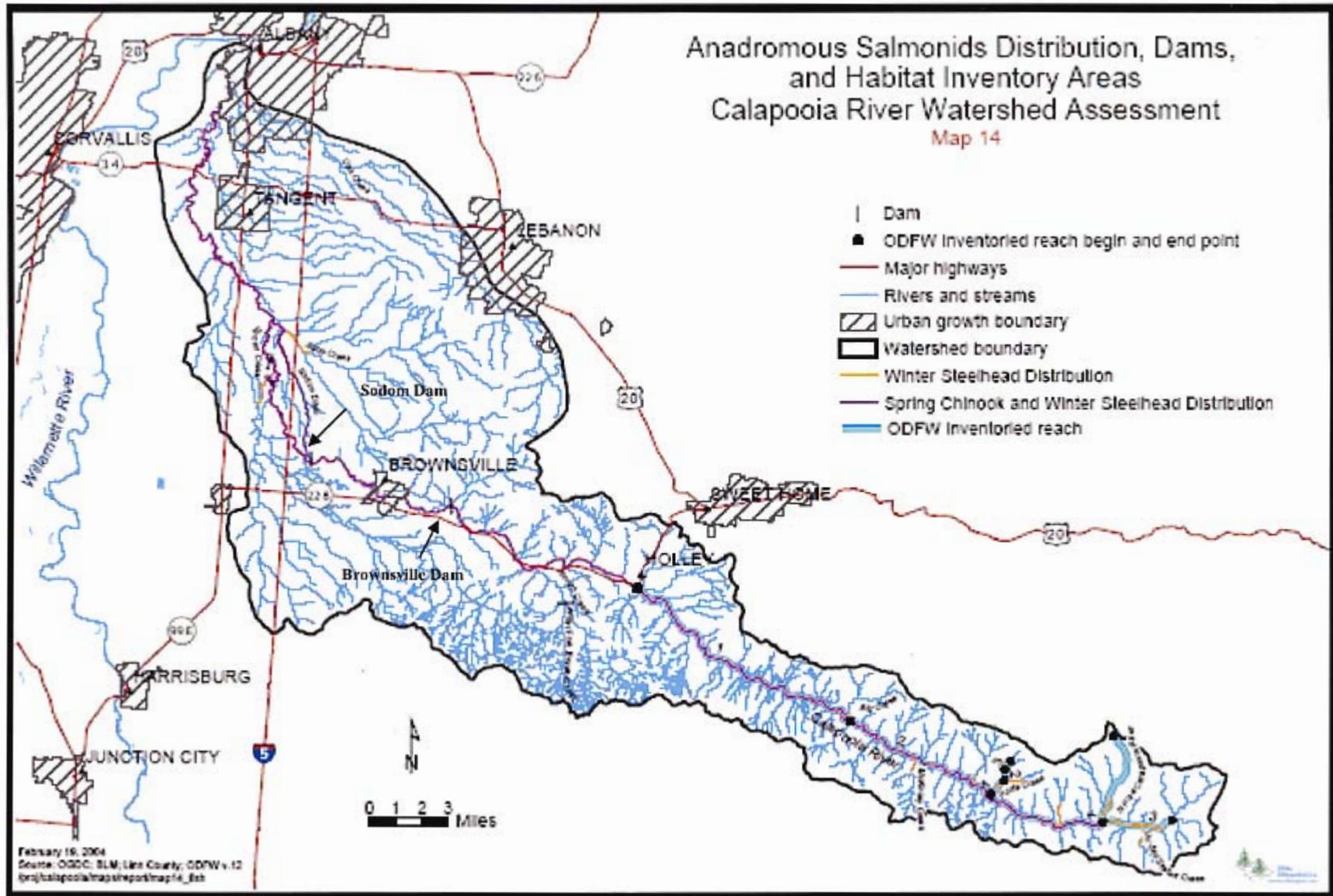


Figure 4. Photograph of the Brownsville Dam during summer. The boards are used to raise the water level so water can enter the canal. The foreground is the area with the bedrock chute that serves as the fish passage structure.



Figure 5. Brownsville Dam with the flashboards removed.

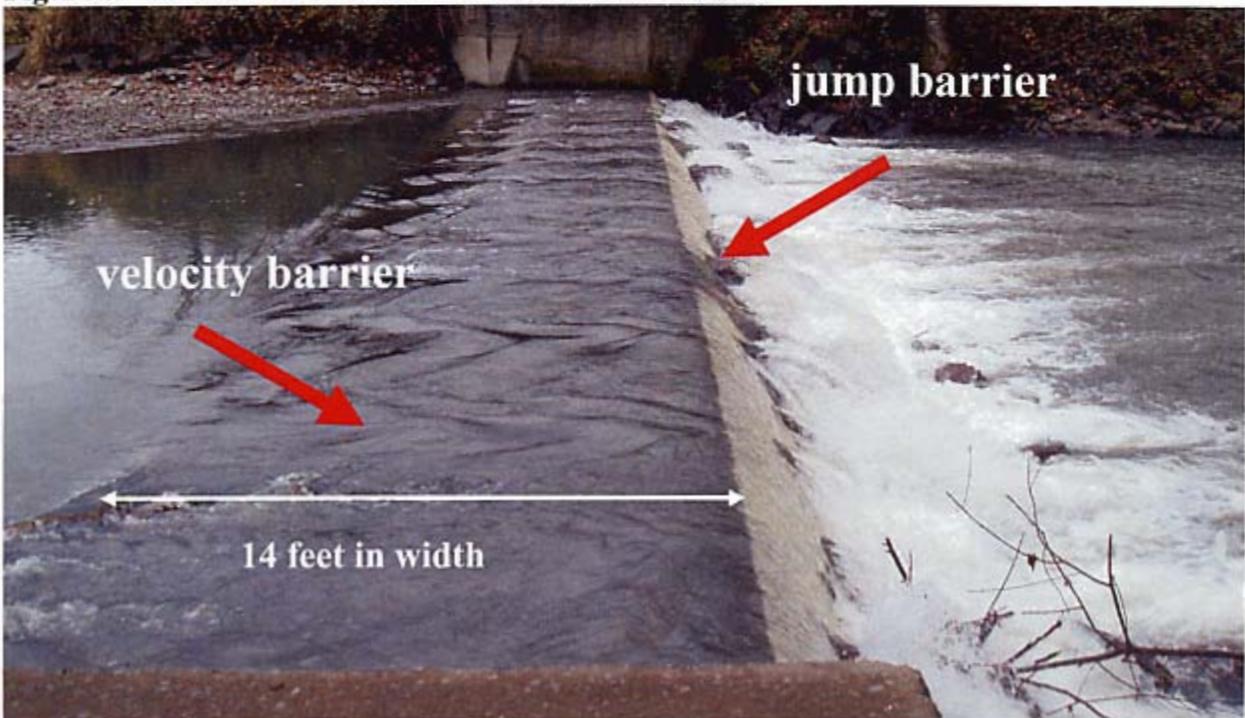


Figure 6. Left abutment. Brownsville Dam with flashboards installed.



Figure 7. Rock chute which serves as the fish passage structure for the Brownsville dam.



Figure 8. View of the rock chute during low flows. This is the view of the chute for the 9 months of the year when the flashboards are not in place.



Figure 9. Brownsville Canal 2.5 cfs diversion supplied by the Brownsville Dam.



Figure 10. Calapooia River tributary, Potts Creek, habitat for winter steelhead. Logs visible in the channel are a large wood installation completed by Weyerhaeuser in 1999.



Figure 11. Removal of the flashboards at Brownsville Dam. *(October 2005)*



Figure 12. Brownsville Dam, first layer of flashboards removed. *(October 2005)*

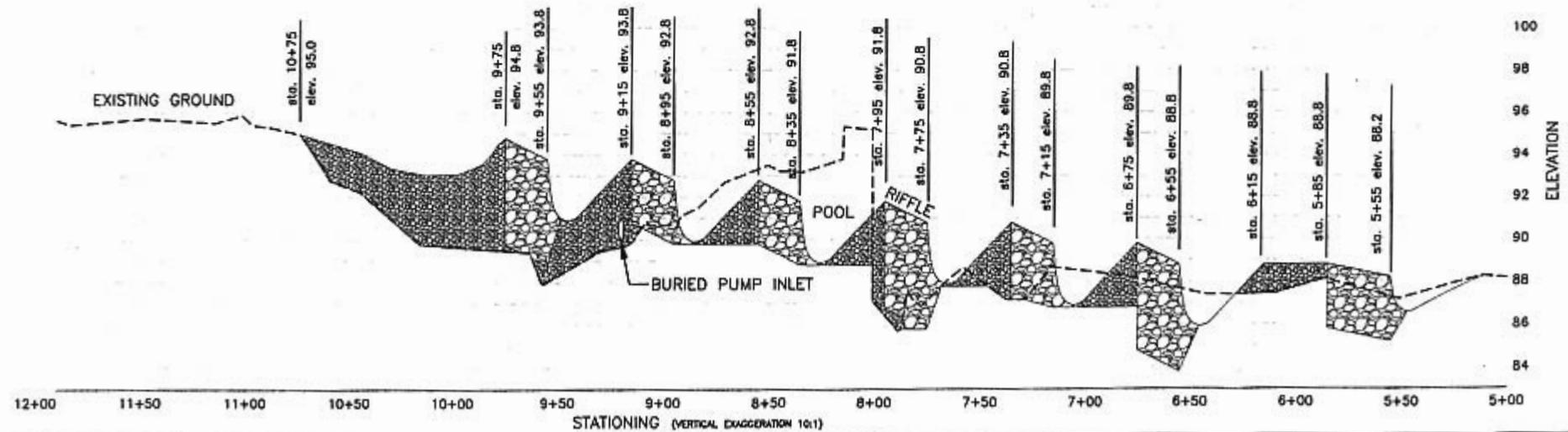
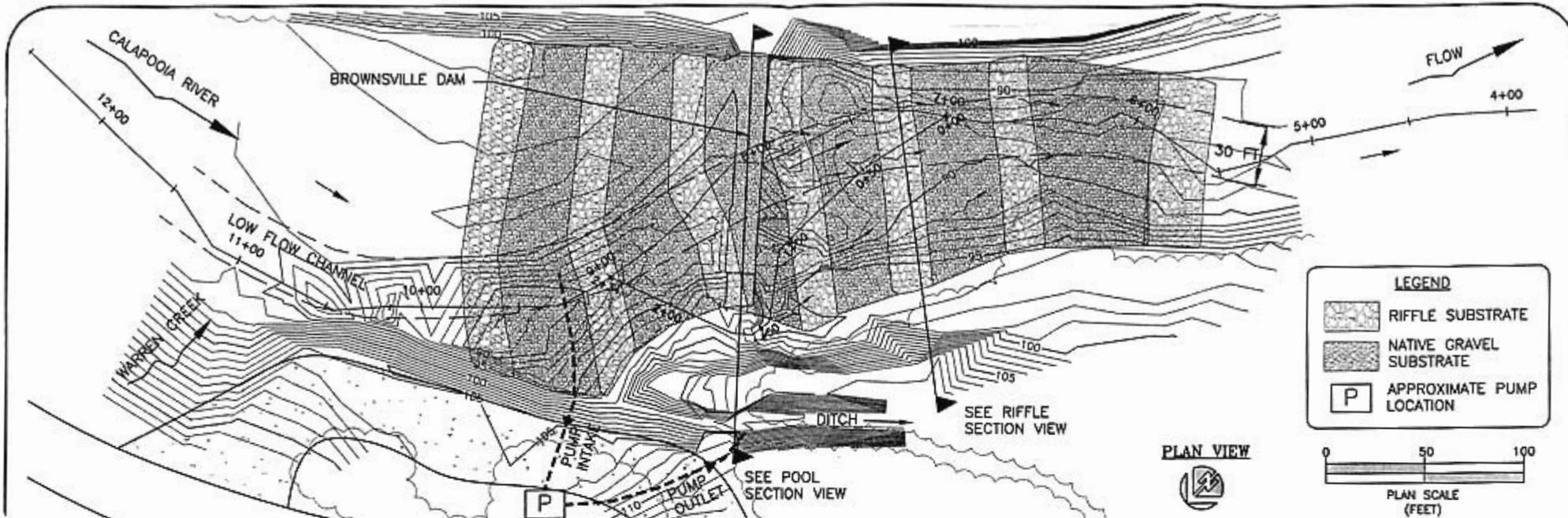


Figure 13. Brownsville Dam before flashboards removed, looking downstream. *(October 2005)*



Figure 14. Brownsville Dam just after all boards removed. *(October 2005)*





DESIGNED BY	JC
CHECKED BY	JC
DRAWN BY	DH
DATE	APRIL 02

BROWNSVILLE DAM
Calapooia Watershed Council

Option 1. Dam Removal & Channel Reconstruction
Plan and Profile

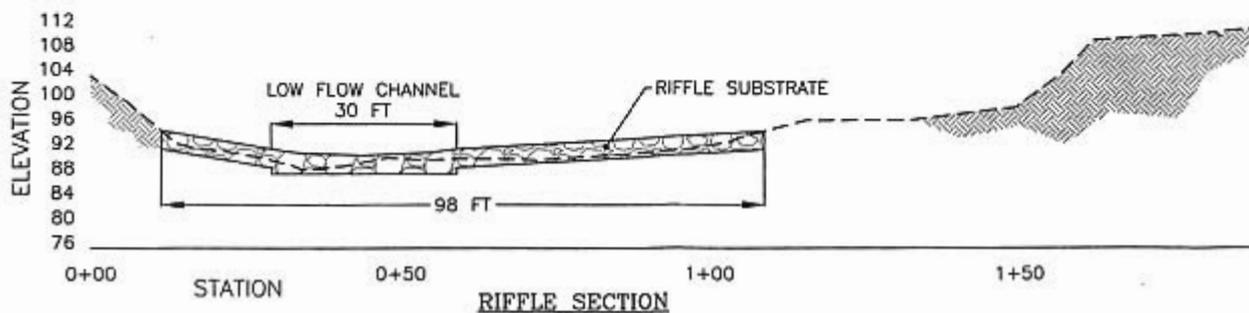
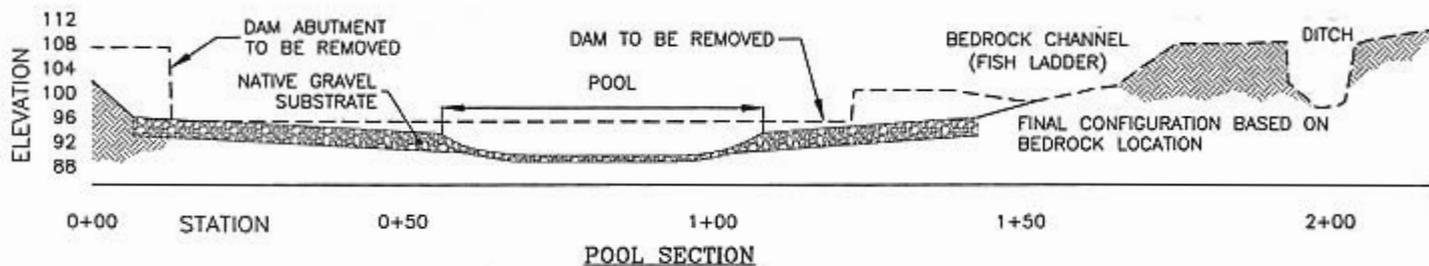


FRANKLIN DAM, WI

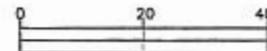


FRANKLIN DAM, WI, AFTER DAM REMOVAL AND CHANNEL RECONSTRUCTION

SECTION VIEWS



PLAN SCALE
(FEET)





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
PORTLAND OFFICE
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OREGON 97232-1274

F/NWR5

R3

April 19, 2006

APR 21 2006

Denise Hoffert-Hay
Coordinator, Calapooia Watershed Council
PO Box 844
Brownsville, OR 97327

Oregon Watershed Enhancement Board
Restoration Grant Review Team
775 Summer Street NE, Suite 360
Salem, OR 97301

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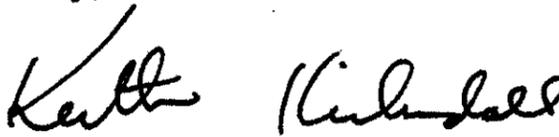


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Sincerely,



Keith Kirkendall, Chief
FERC & Water Diversions Branch
Hydropower Division

² Round-trip travel time from Portland to Brownsville is approximately 3 hours.

Brownsville Dam

THE HISTORY

- Brownsville Dam was originally constructed as a wooden crib dam to divert water into a canal to supply woolen and lumber mills in Brownsville.
- The wooden dam blew out in the 1940s and was replaced with the current concrete structure in the 1960s.



Brownsville Dam without flashboards.
The dam consists of two 8 inch thick 110 foot long concrete vertical walls placed across the river channel, parallel to each other 14 feet apart. The dam was back-filled with sand and topped with a concrete slab.

HOW THE DAM FUNCTIONS AND WHY CHANGES TO THE DAM ARE IMPORTANT

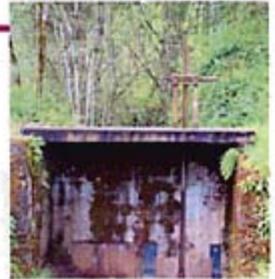
NATIVE FISH

The Calapooia River supports a diversity of fish including native populations of:

winter steelhead
Pacific lamprey

spring chinook
cutthroat trout

Winter steelhead and spring chinook in the Calapooia Watershed are currently listed as "Threatened" under the federal Endangered Species Act.



Brownsville Dam Headgate

FISH PASSAGE PROBLEMS AT THE DAM

When the boards are removed, the river flows between the retaining walls and across the dam. Because the concrete surface is smooth, velocities across the dam are a problem for adult and juvenile fish migrating upstream. During moderate or low flows, the challenge to passage is posed by the drop at the downstream end of the dam.

With the boards in place, partial passage is provided to chinook via a channel cut into the bedrock alongside the dam. Except for during the higher winter flows, this channel does not carry water unless the boards are in place.

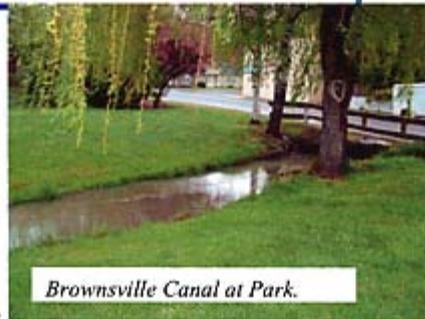
- The upstream end of the rockcut channel as it re-joins the river above the dam is extremely shallow and exposed. During this time of year, there is a great deal of human activity at the site and the chinook are vulnerable to harassment or even poaching.

FLASHBOARDS AND MAINTENANCE



Brownsville Dam with flashboards.
These boards are installed by the Brownsville community in May and removed by October.

Attached to the upper surface of the dam are steel guides, used to support flashboards that control the water level behind the dam. The boards



Brownsville Canal at Park.

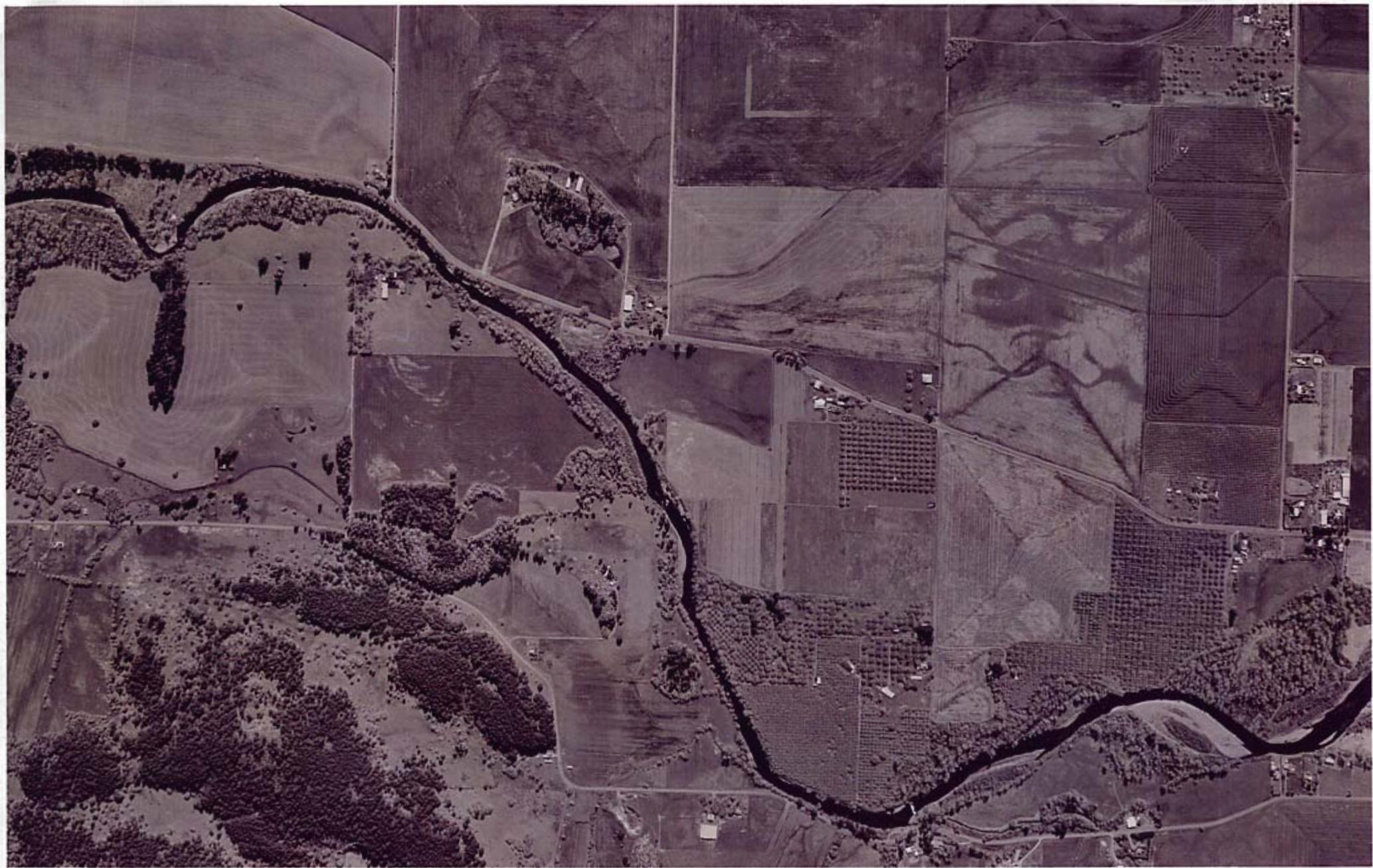
raise the height of the dam nearly 5 feet so water can flow into the canal.

With the boards removed, the river flows across the dam's width of 14 ft before falling over 5 ft into a pool below. Streambed erosion on the downstream side of the dam has caused this height to increase over time. Erosion is also occurring back under the dam itself. Boulders have been added to halt the erosion, which if left unchecked, would ultimately threaten the dam by eroding the underlying streambed.



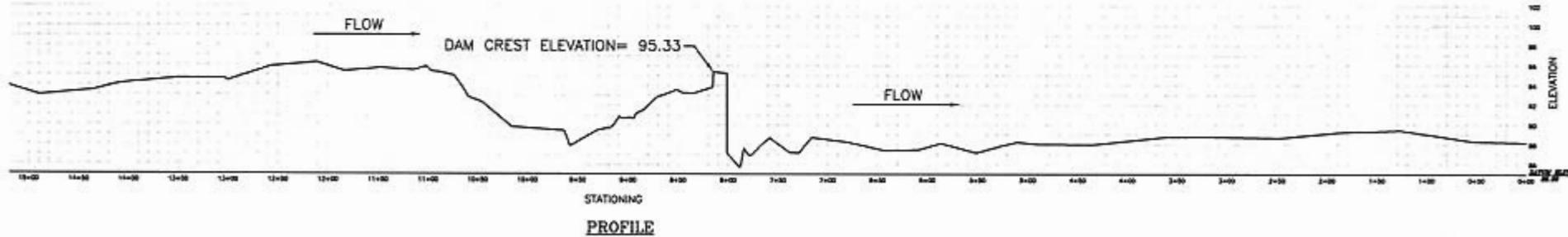
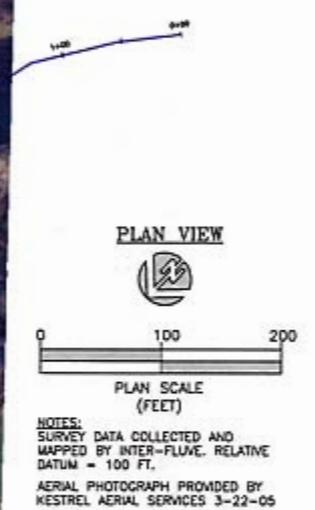
Rockcut fish ladder at Brownsville Dam.

There are depressions in the bedrock channel that pass some chinook under certain flow conditions, but they do not meet accepted standards for adult passage.









DESIGNED BY	JULIENNE JR.
JC	JC
DRAWN BY	DATE: APRIL
NS	JULY 05

BROWNSVILLE DAM
Calapooia Watershed Council

Existing Conditions
Plan View

PROJECT #
00-00-00
SHEET NO.

Brownsville Dam Monitoring

- Establish at least three permanent benchmark channel cross sections at selected locations across upstream sediment wedge. (1 year pre-implementation, annually for 5 years post-implementation)
- Complete longitudinal profile survey from upstream end of sediment wedge downstream to the eighth meander pool tailout. (Annually for 5 years post-implementation)
- Establish three permanent benchmark channel cross sections at each of the eight downstream meander lengths, one at the head of each meander, one at the apex of each meander and one at the tailout of each meander. (1 year pre-implementation, annually for 5 years post implementation)
- Conduct particle size distribution data collection at the three upstream channel cross section transects and at each of the eight downstream meander pool tailout cross section transect locations. (1 year pre-implementation, annually for 5 years post-implementation)
- Collect macro invertebrate samples at the three upstream benchmark channel cross section transects and at each of the eight downstream meander pool tailout cross section channel transect locations. (1 year pre-implementation, annually for 5 years post-implementation)
- Using longitudinal survey and channel cross section survey data, calculate residual pool volumes for all eight of the downstream meander pools. (1 year pre-implementation, annually for 5 years post-implementation)
- Conduct habitat quality survey data, using ODFW protocols from upstream end of sediment wedge downstream to the eighth meander pool tailout. (1 year pre-implementation, years 1, 3 and 5 post-implementation)