BAKER RIVER PROJECT RELICENSE

Economics/Operations Working Group

November 8, 2000

1:30 p.m. – 4:30 p.m.

Puget Sound Energy Mount Vernon Business Office
1700 E. College Way
Mount Vernon, WA 98273

AGENDA

Review/revise minutes and agenda
Action items
Flood Control Presentation by Army Corps of Engineers (Wayne Wagner)
Hydro 101 Presentation (Bob Barnes – PSE)
Set agenda for next meeting
Evaluate meeting

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MEETING NOTES

Team Leader: Kevin Brink (Puget Sound Energy) (425) 462-3222, kbrink@puget.com

PRESENT
Kevin Brink (PSE), Stan Walsh (Skagit System Coop), Jim Sinclair (Hydro Consultant), Tom Spicher (Hydro Consultant), Kathy Anderson, (USFS), Bob Barnes (PSE), Wayne Wagner (US Army Corp of Engineers), Charles Morton (PSE, North Generation), Bob Helton (Private Citizen), Chris Hansen-Murray (USFS), Lyn Wiltse, facilitator (PDSA Consulting)

NEW ACTION ITEMS

Kevin: Check with Ed Schild regarding sharing information on present costs and value of operations.
Wayne: Email a copy of his presentation to Kevin so it can be posted on the website.
Paul: Bring Town of Concrete's Waste Water Comprehensive Plan
Kevin: Contact BPA/Western Systems Coordinating Council re: their participation on this team
Bob: Email copies of presentation overheads along with his speaking notes to working group members
Charles: To give significant outage dates to Bob.
ALL: Review interests and issues, making sure that your group is included.
Kevin: Check with Jon VanderHayden re: Wild & Scenic River 101 presentation
Kevin: Will contact County (Jackie) for presentation on Flood Plain Values
Kevin: Will contact tribes for presentation on cultural and spiritual values of resources

REPORT ON OLD ACTION ITEMS

Kevin: Checked on PSE's responsibility for road maintenance. Charles provided the following breakdown:

- Lower Baker:
  Public roads are County at Lower Baker. Private roads within the operating project (not open to Public) are maintained by PSE.
- Upper Baker:
  USFS road 1130 bisects the Upper Baker project (East-West direction) property. USFS maintains this road except over the top of the dam.
- Boat Launch Access Road:
  This road begins near the public restrooms and runs North to boat launch. It is open to public, and surfaced/PSE maintained.
- Road to Glover Mountain:
  Gravel road, open to public . PSE maintained.
- Kulshan Campground access roads:
  Gravel, open to public, PSE maintained.

Kevin distributed a plant assessment spreadsheet of costs done by Raytheon. These costs are for replacement /refurbishment of plant equipment, based on estimated remaining useful life. No fish or dam costs are included. Kevin will see what information he can pull together related to present costs and values of operations.

AGENDA
November 8, 2000 at PSE Office in Mt. Vernon, WA

1. Review/revise minutes and agenda
2. Action items
3. Finish up issues/interests?
4. Hydro 101 Presentation by Bob Barnes
5. Presentation on Flood Control?
6. Set agenda for next meeting
7. Evaluate meeting

ARMY CONTROL OF ENGINEERS FLOOD CONTROL PRESENTATION

Wayne Wagner opened by explaining the integral relationship the Corps has with PSE for providing flood control. His presentation addressed these four areas:

- Why flood control?
- How dams are managed for flood control
- Effects of flood control
- Where are we going?

His presentation will be made available on the Baker River Project Website.

A question was brought up after the presentation regarding the potentially competing interests of flood control and the Endangered Species Act (ESA). Wayne explained that the federal agencies have been able to work together to achieve this important balance. In the event that the agencies were ever unable to

come to consensus on how to achieve both objectives, it may have to be resolved by The Justice Dept. or executive level. The Corps' interest is to minimize the federal costs of flood control.

HYDRO 101 PRESENTATION BY BOB BARNES

Bob Barnes gave a "Hydrology 101" presentation covering the natural hydrology of the watershed, the physical characteristics of the reservoirs, how and why they are operated the way they are, a brief review of market factors affecting project operation, a review of historical and current reservoir operations. He closed with a discussion of some of the operational consequences of the reservoirs on other stakeholder interests.

PARKING LOT

Forest Service Watershed Analysis

- Consider who will be the number cruncher for this team:
  PSE? Other?
- GANNT chart with due dates, etc.
- Presentations:
  Wild and scenic river 101
  Flood Plain Values 101

ISSUES AND INTERESTS

The brainstormed list of issues (items for discussion) and interests (needs, fears, or concerns) for the Operations & Economics Working Group is as follows:

Issues:

- Downstream passage
- Stability/safety of West Pass
- Volcanic eruption of Mt. Baker (overtopping)
- Gate failure
- Resource protection
- Notifying people in event of emergency
- Project viability
  - Economic efficiency: Can revenues generated off set costs? (market and non-market?)
  - Financial
- Economics of operations of the project & how we compare those to the non-commodity tradeoffs (e.g., aesthetics, preservation of historic buildings)
- How resources management interacts with PSE operations

Interests:

- To protect, preserve,, and perpetuate fish and wildlife and their habitats (legislative mandate)
- To have 95-100% successful passage of fish with mitigation for anything less than 100%
- Maintaining public safety
- Fear: income might be less than cost of operations and mitigation
- Fear: We won't be able to afford all mitigation
  - 4(e) conditions and ability to fund

- Section 18, etc.
- Commercial fear:
  - Road access for removal /management of resources
  - Having to modify management practices to meet aesthetic regulations

EVALUATION OF THE MEETING:

Well-Dones:

- Timing of both presentations (same day)

Need to Improve:

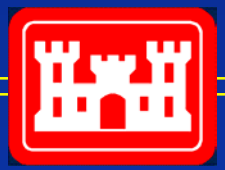
- Ran over
- Have speakers provide notes up front to facilitate note taking
- Lack of County's presence at meeting
- Room too warm and stagnant air
- Bring juice instead of soda

TENTATIVE AGENDA FOR NEXT MEETING

December 7, 2000 at PSE Office in Mt. Vernon, WA

* Next meeting will be January 10, 2001, if presentations cannot be set up.

1. Review/revise minutes and agenda
2. Action items
3. Other presentations
   - Tribal presentations on cultural and spiritual significance of resources
   - Wild and Scenic Rivers 101 (FS)
   - Flood Plain Values (County)
4. Finish issues/interest
5. Set agenda for January 10/February 14th meeting
6. Evaluate meeting



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Upper Baker Flood Control

Wayne Wagner

Hydrology and Hydraulics

November 16, 2000

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Upper Baker Flood Control

- Why flood control?
- How dams are managed for flood control
- Effects of Flood Control
- Where are we going?

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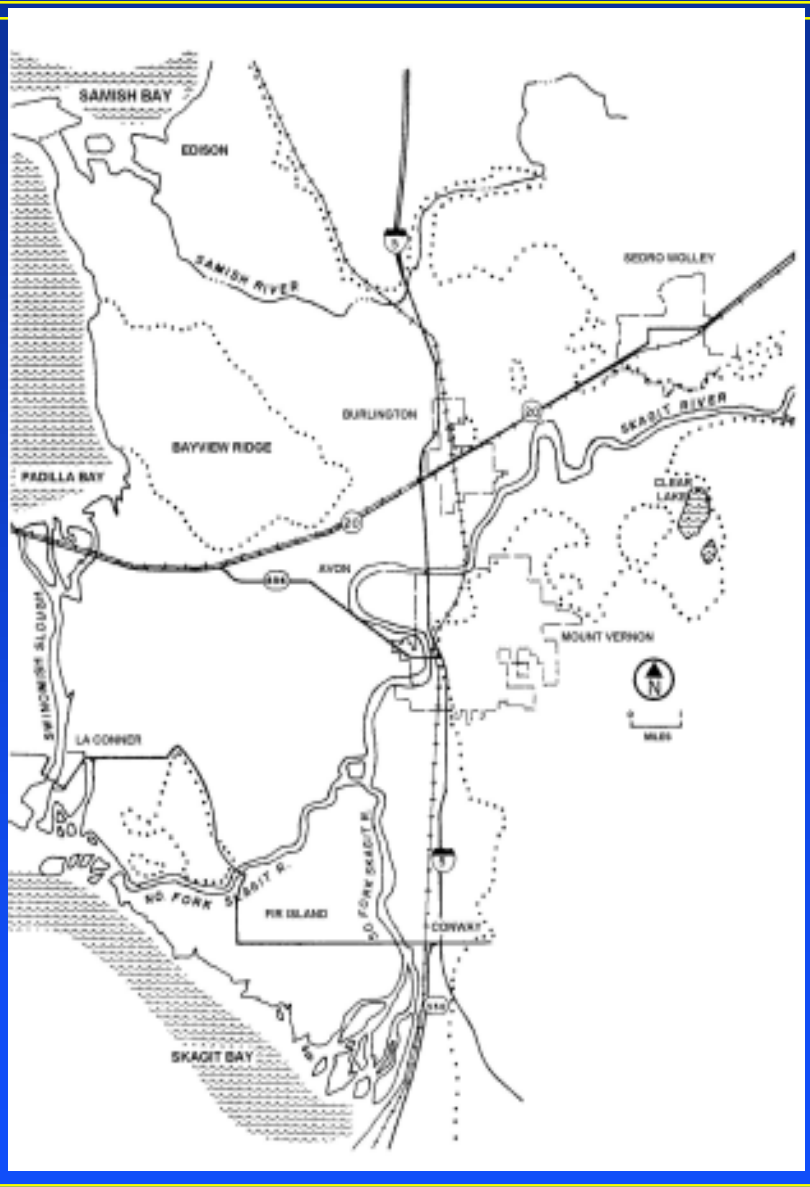

Skagit River Floodplain

- Channel Capacity about 150,000 cfs
- About 90,000 acres farmland
- Towns of Burlington, Mt. Vernon, Sedro Woolley, Conway, and LaConner

Flood of 1951 - Skagit River Valley

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Article 32 of the 1956 FERC License for Upper Baker

"The Licensee shall so operate the Upper Baker reservoir as to provide each year 16,000 AF of space for flood regulation between 1 November and 1 March as replacement valley storage eliminated by the development. Utilization of this this storage space shall be as directed by the District Engineer, Corps of Engineers, Seattle, Washington."

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Article 32 of the 1956 FERC License for Upper Baker

(cont.)

"In addition to the above-specified 16,000 AF, the Licensee shall provide in the Upper Baker reservoir space for flood control during the storage drawdown season (about 1 September to 1 April 15) up to a maximum of 84,000 AF as may be requested by the District Engineers, provided that suitable arrangements shall have been made to compensate the Licensee for reservation of flood control space other than the 16,000 AF specified herein."

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Upper Baker Flood Control Project Authorization

Seattle District report to Congress dated 10 September 1976

- **Recommended 58,000 AF additional flood control storage space in Upper Baker Reservoir**
- **Puget Sound Energy (PSE) be compensated w/ power, in kind, for resulting power losses**
- **B/C ratio of 2.2 based on 1976 price levels**

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Upper Baker Flood Control Project Authorization

- House Resolution adopted May 10, 1977
- Senate Resolution adopted May 23, 1977
- No annual appropriation

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Upper Baker Flood Control Agreements

Three party agreement w/ CORPS, BPA & PSE

- **PSE provides flood storage space (74 KAF)**

  16,000 AF on 1 November

  74,000 AF on 15 November

- **BPA reimburses PSE for power losses**

- **Corps regulates flood storage from Nov-Mar**

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Upper Baker Flood Control Agreements

20 year contract executed on 10 Oct. 1980

- Flat rate reimbursement @ 7,000 MWh/yr ($275,600 avg. annual cost over 13 yrs)
- Expired Sept. 30, 2000

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Upper Baker Flood Control Agreements

Current Flood Control Agreement

- Separate agreements with PSE and BPA
- Executed Oct 31, 2000
- Renewed annually
- No change in PSE compensation

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Upper Baker Flood Control

- Why flood control?
- How dams are managed for flood control
- Effects of Flood Control
- Where are we going?

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How dams are managed for flood control

Flood Control Objective

Reduce flood damages in the Skagit River below Sedro Woolley to the greatest extent possible

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How dams are managed for flood control

Operating Principals

- Flood control requires dams to preserve storage during flood period (i.e., Rule Curve)
- Dams hold back water during floods and release water when waters recede
- Flood control begins when natural flow in the Skagit River is forecasted to exceed 90,000 cfs

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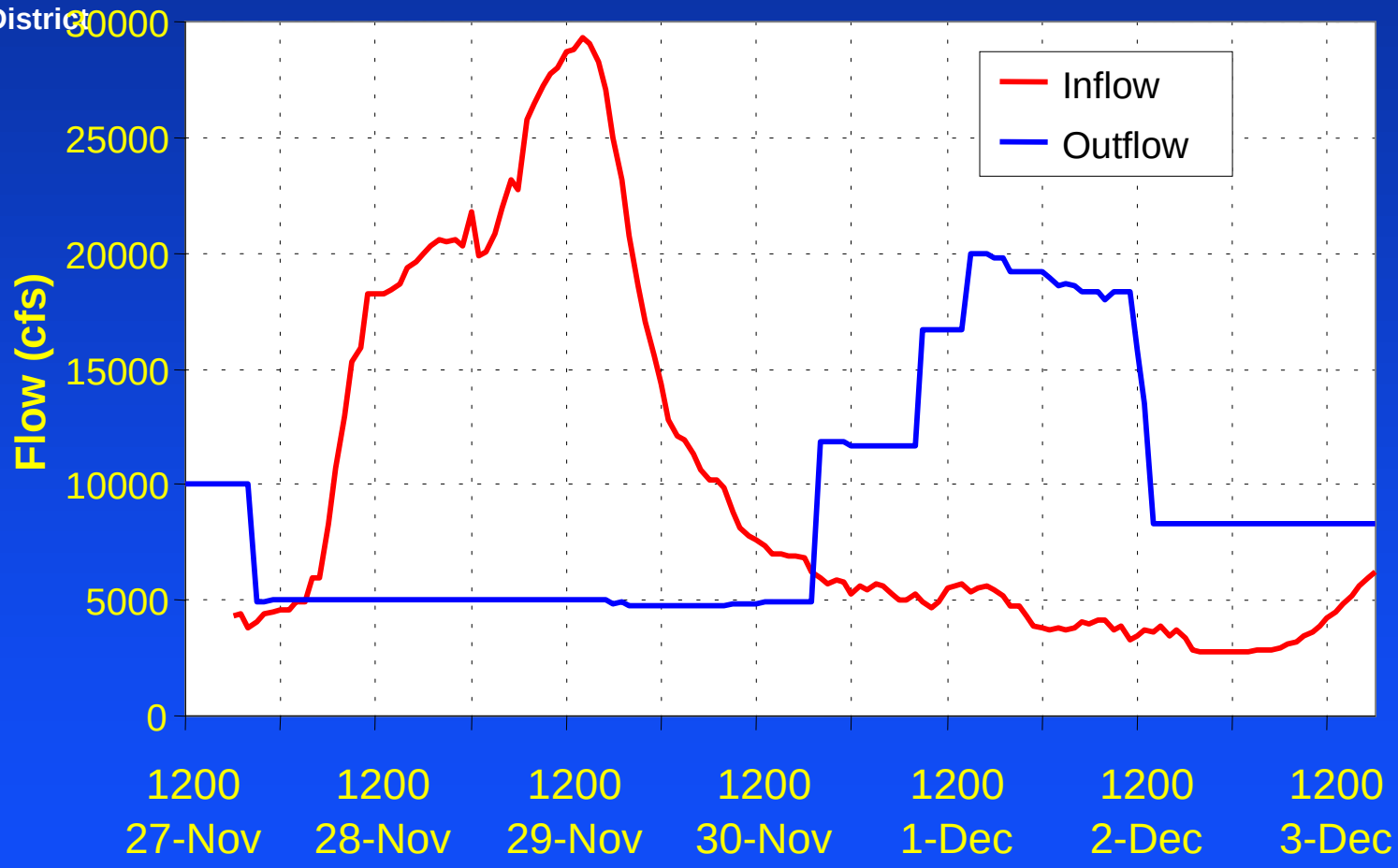
UPPER BAKER DAM
NOV-DEC 1995 FLOOD



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Upper Baker Flood Control

- Why flood control?
- How dams are managed for flood control
- **Effects of Flood Control**
- Where are we going?

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Effects of Flood Control

- Flood control reduces the magnitude and frequency of flood events, but doesn't prevent floods

- Flood control is limited by the portion of the basin above the dam and the storage space available

Upper Baker Location Map

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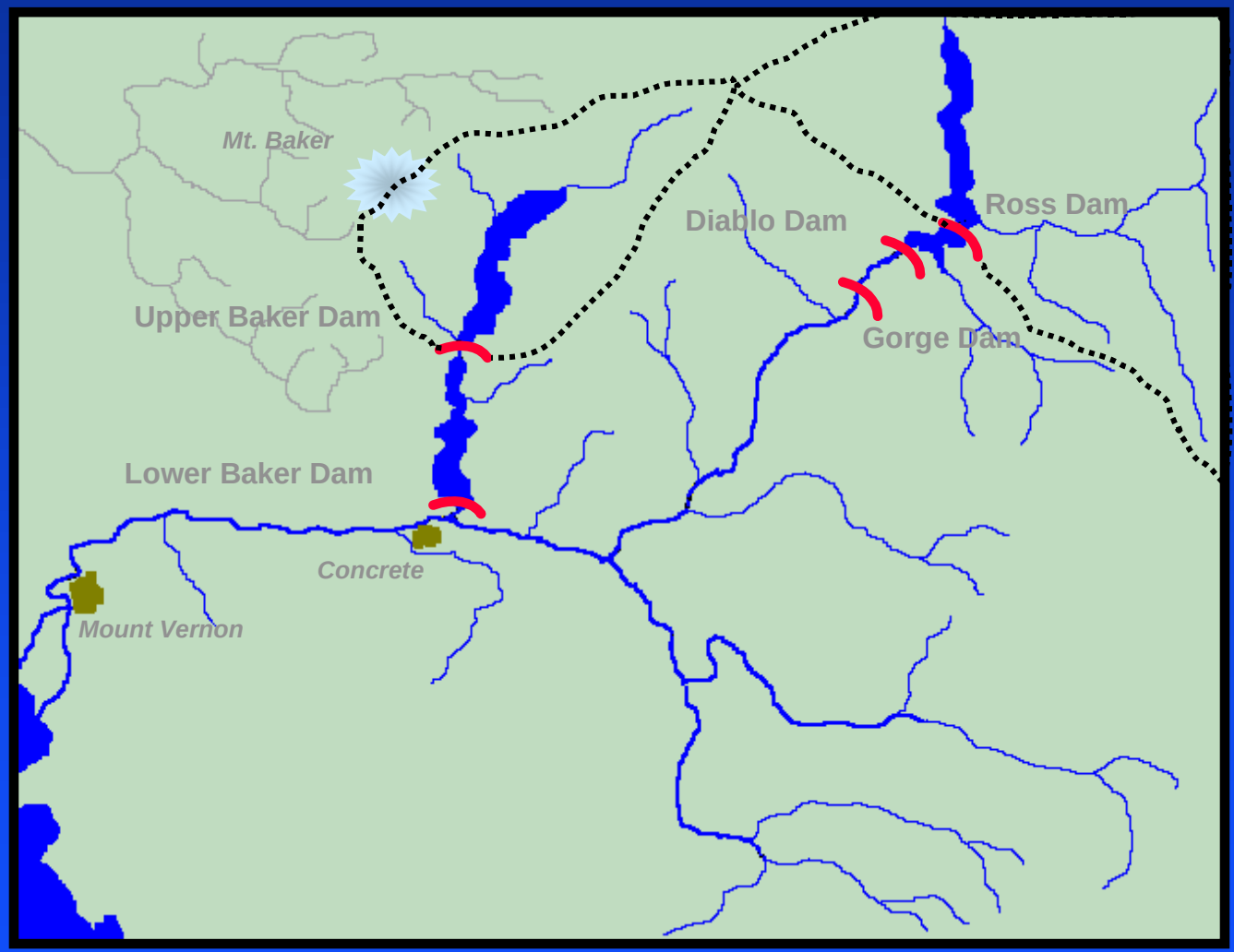

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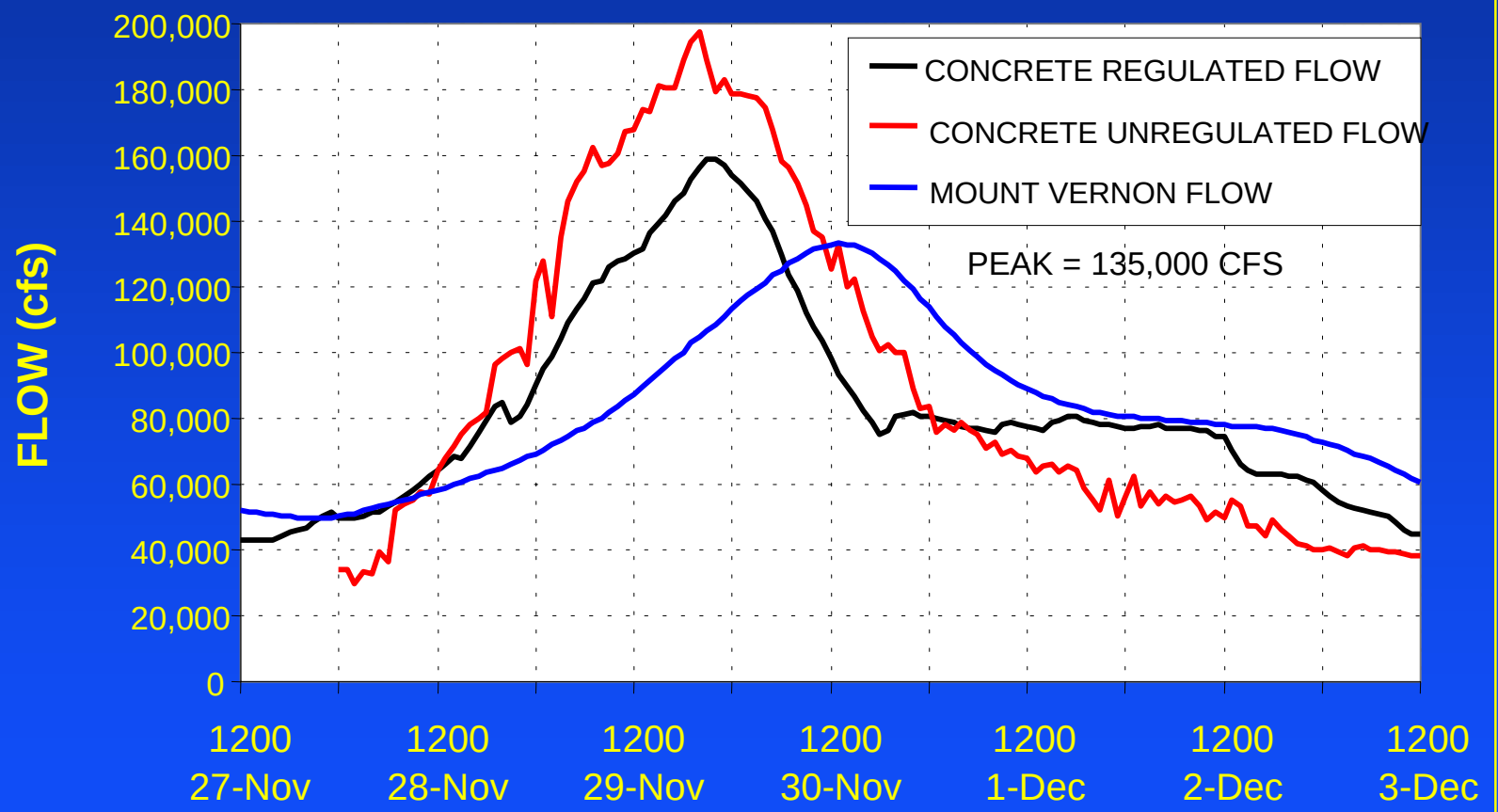
SKAGIT RIVER BASIN
NOV-DEC 1995 FLOOD



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Effects of Flood Control

Skagit River at Concrete

Flood Event	Natural	Regulated
Nov-90	208,000	149,000
Nov-95	200,000	156,000
100 Year	300,000	225,000

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Effects of Flood Control

Flood Control Benefits

- **Flood Damages prevented**
  - **$90M since 1977**
  - **$20M in November 1990**
  - **$50M in November 1995**
- **Reduces flood peak**
  - **Probability of exceeding levee capacity is about 5% with Flood Control**
  - **Probability increases to about 10% without**

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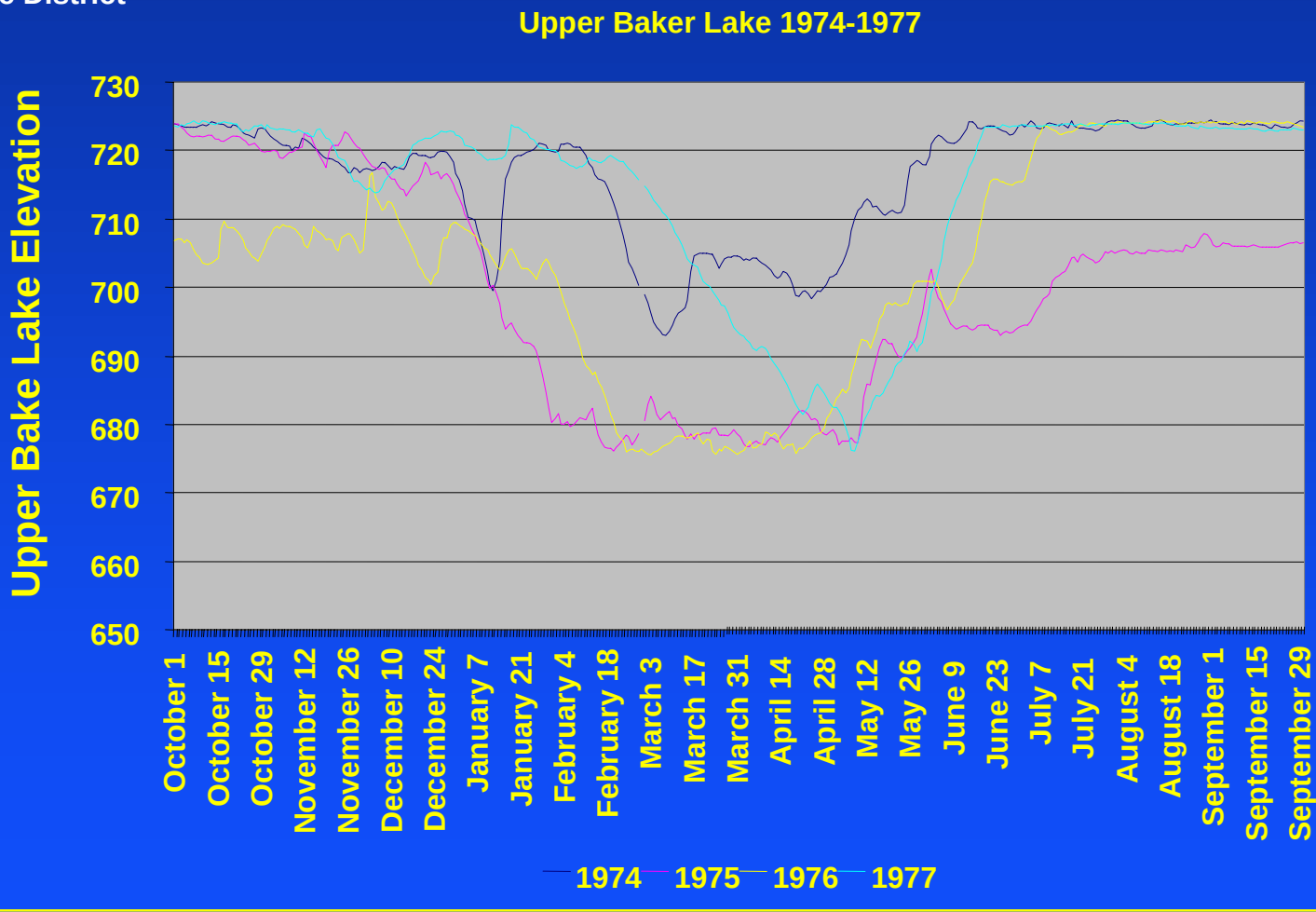
Effects of Flood Control



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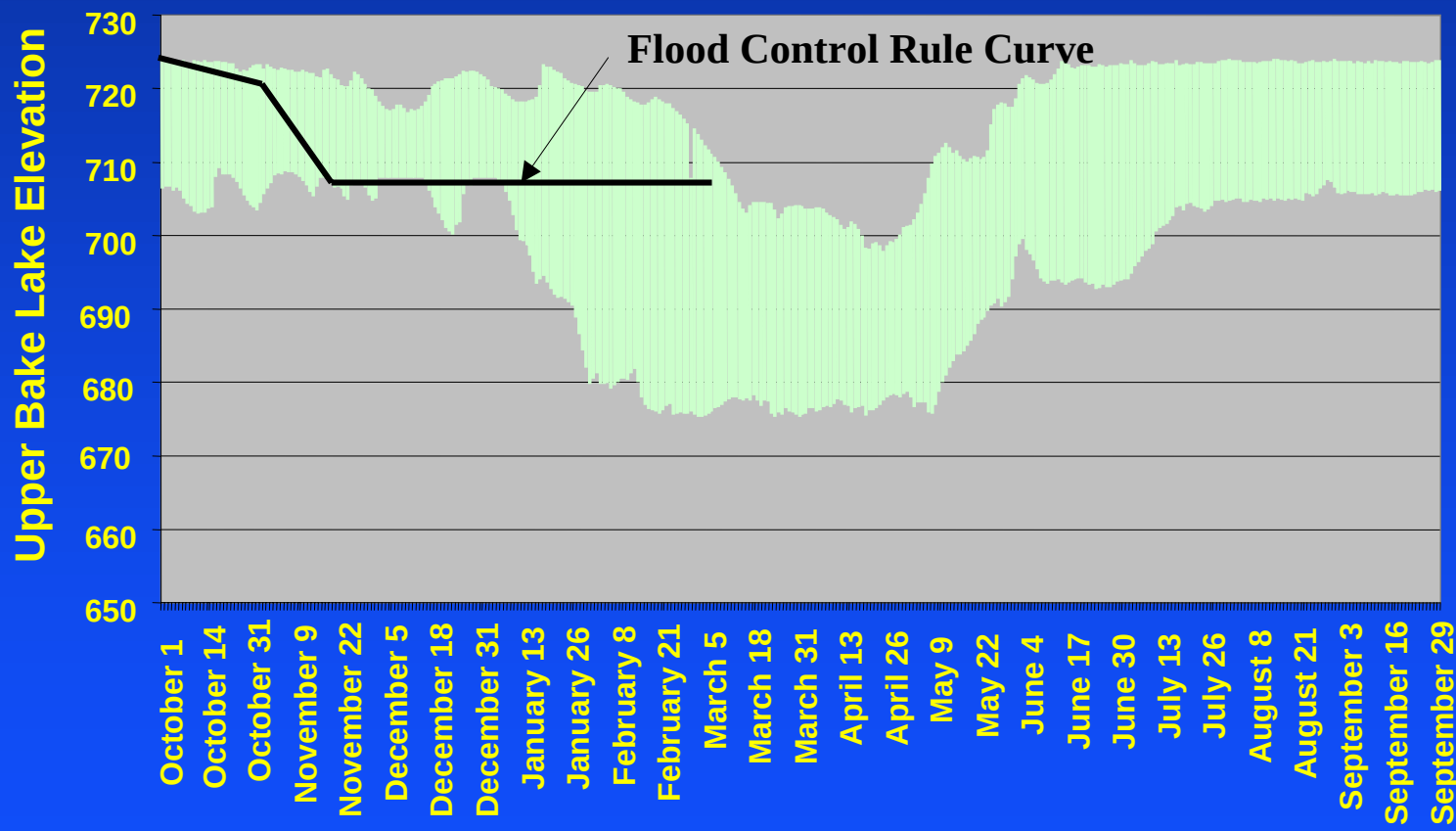
Effects of Flood Control

Upper Baker Lake 1974-1977



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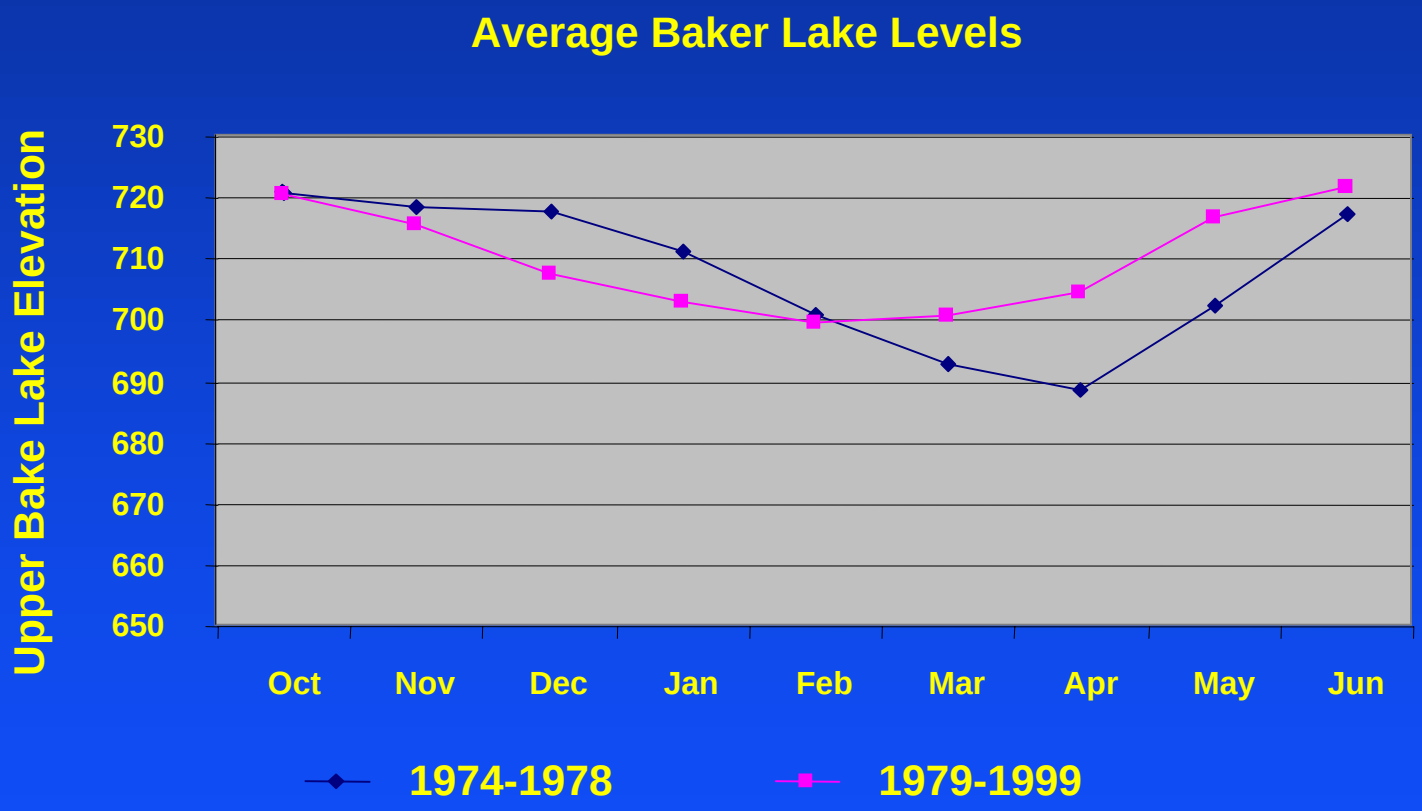
Effects of Flood Control



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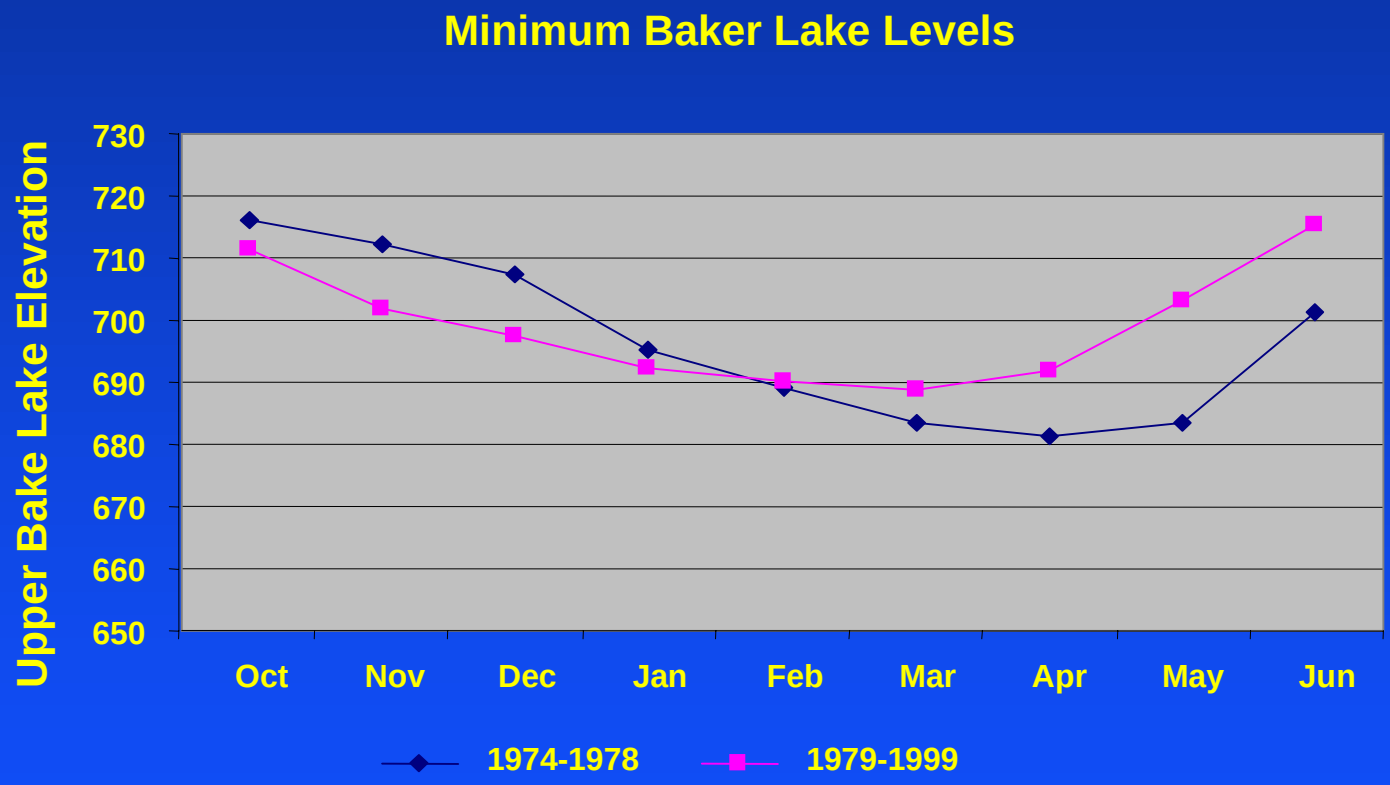
Effects of Flood Control



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Effects of Flood Control

Final Environmental Impact Statement For Additional Flood Control At Upper Baker Project, 15 September 1976 (page 38)

"Although there would be some spawning losses regardless of drawdown schedule, the proposed plan is not expected to result in greater losses, and may reduce the amount of redd losses now experienced."

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Upper Baker Flood Control

- Why flood control?
- How dams are managed for flood control
- Effects of Flood Control
- **Where are we going?**

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Where are we going?

Short term

- Annual renewal of flood control agreements
- Evaluate possible impacts to bull trout
- Seek alternative funding arrangements

Long term

- Include flood control in new FERC license
- Minimize Federal cost for flood control

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Thank You