BAKER RIVER PROJECT RELICENSE

Recreational & Aesthetic Resources Working Group

January 22, 2001

9:30 a.m. – 1:30 p.m.

PSE Mt. Vernon Business Office
1700 East College Way
Mt. Vernon, WA

AGENDA

1. Review/revise minutes/agenda

2. Review action items

3 Flood Control presentation – Wayne Wagner, COE

4. Continue defining studies
   - near-term 2001 studies
   - subsequent study needs

5. Set agenda for next meeting (February 26)

6. Evaluate meeting

7.

8.

Study Request Index - Recreational/Aesthetic Resources Working Group				PSE Baker Project Relicensing, FERC #2150				
2/9/2001								
				Latest				
Reference		Submitted	Submittal	Revision	Work Group	Final Scope	Notes	
Number	Title	By	Date	Date	Approval Date	Date	(Disposition)	
R-R1	Recreation Site Inventory	USFS	01/19/01				Overlap with R6 on developed sites	
R-R2	Visitor Use Survey and Market Analysis	USFS	01/19/01				Some overlap with R10	
R-R3	Lake Level Study	USFS	01/19/01				May not be needed as an independent study	
R-R4	Recreational Fishing Study	USFS	01/19/01				May not be needed as an independent study; tie to aquatics	
R-R5	Visuals and Aesthetics Study	USFS	01/18/01				Not a fast-track 2001 study	
R-R6	Recreation Resource & Facility Inventory	PSE	01/30/01				Overlaps with R1	
R-R7	Recreation Use Survey-Literature Review	PSE	02/05/01				Could be combined with R8	
R-R8	Recreation Use Survey-Agency Contacts	PSE	02/05/01				Could be combined with R7	
R-R9	Recreation Use Survey-Electronic Monitoring	PSE	02/05/01					
R-R10	Recreation Use Survey-Field User Surveys	PSE	02/05/01				Some overlap with R1- R5	
R-R11	Recreation Capacity and Suitability Analysis	WDFW	02/05/01				Some overlap with R1- R2, R5-R8; timing issues	

BAKER RIVER PROJECT RELICENSING STUDY REQUEST

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The steps involved in development of a study are:
1. Proponent completes the study request form and submits it to the working group.
2. The working group(s) or the Solution Team approves the study.
3. The technical working group(s) and/or consultant develops the study design.
4. Review and approval of the study design is conducted by the working group(s).
5. Final approval and funding will be decided based on methods described in the Process Document.

BAKER RIVER PROJECT RELICENSING STUDY REQUEST		
Name and Affiliation Ann Dunphy, Forest Service	**Working Group** Recreation	**Date** 1/19/01
Study Title Recreation Site Inventory		
Brief Description A developed and dispersed site inventory which addresses the current facilities, facility needs, and locates, maps and describes project related dispersed sites in the watershed.		
Purpose Complete baseline data for facilities and dispersed sites.		
Related Interests and Issues (bulleted list) Affects on other public and private developed and dispersed use, lake levels, water quality, fisheries, riparian function, volcanic hazard, law enforcement, weed dispersal, shoreline erosion, road access, scenery and aesthetics.		

STEP ONE - How is this study linked to relicensing? Briefly answer the following questions. All proposals must address at least one of the next four questions for further consideration.

A. Does the study eliminate a critical uncertainty that is essential to address a range of alternatives and/or Project impacts? Briefly describe the uncertainty.

1.

B. What information does the study provide that is needed to support protection, mitigation, and enhancement discussions?

Questions to be addressed:

1. What recreational developments are associated with the Baker River Project?
2. What is the condition of existing recreational facilities? What are their short and long term management and maintenance needs?
3. What types of recreation opportunities could be provided for and how can they be facilitated and who should provide them?
4. Where and how much additional development can take place within the basin. When will it be needed?
5. Where is dispersed recreation occurring in the basin? How is it characterized? What alternatives are there for managing dispersed recreation?
6. Are there currently recreation facilities or uses that produce unacceptable impacts on resources and to LSR? What is needed to reduce or eliminate unacceptable impacts?
7. What methodology should be used to evaluate and monitor recreation sites and uses for resource impacts.
8. What sites, trails, and facilities need restoration or rehabilitation or decommissioning?
9. Determine the social, physical, and ecological carrying capacity of various uses and ecosystems types.
10. Determine if ROS standards are being met or should be modified.
11. How can communications, visitor information, and law enforcement assistance be improved?
12. What alternatives are there for the Trillium property?
13. Where should road, trail and boat access be provided?
14. Are there opportunities to connect to adjacent lands and facilities?
15. What are the vegetation management needs associated with recreation and recreation facilities?

C. How will the results of the study help us to develop, evaluate or choose between proposed strategies and/or alternatives?

Study would provide basic data to formulate and evaluate alternatives for recreation PME's.

D. What information does the study provide that addresses one or more statutory requirements (e.g., Endangered Species Act (ESA), Clean Water Act (CWA), Northwest Forest Plan (NWFP), Federal Power Act (FPA))?

Base line for NEPA, FERC recreation requirements, 4e terms and conditions. Effects on ESA species and NWFP, CWA issues.

STEP TWO - Your response to these questions will be used by the working group(s) when setting study priorities. Please provide brief answers.

A. Does the study provide information that will allow the working group to achieve multipurpose goals that may be considered during the relicensing process (e.g., recreation and wildlife)? Describe how the information would achieve these goals. Is the study related to other studies in the basin?

Recreation affects all other resource areas including wildlife, fisheries and water quality. Basic data is needed to assess impacts on the other resources and to develop PME's.

B. What existing data are relevant? Why aren't these data sufficient?

Existing data is incomplete or weak statistically. Complete data is needed to develop and evaluate PME's.

C. Are there established methods for this study? Cite references.

D. When are the study results needed? Will the results be available when needed in the relicensing process?

2001 continuing to fill gaps in 2002.

STEP THREE - Complete a brief description of the study. This description is not the design, rather information that can be used to complete a draft of a detailed design. This section may be completed prior to or after preliminary evaluation by the working group, but must be completed prior to final approval for study design. If necessary, the working group can designate a technical working group and/or request a consultant to assist with the completion of step 3.

A. What questions will the study answer (specific objectives, hypothesis being tested or parameters being estimated)? (bulleted list)

B. What information needs to be obtained to meet the objectives or test the hypothesis? (bulleted list)

C. Will there be a statistical analysis in this study? If yes, what method and to what level of reliability? If no, why?

D. What are the assumptions of the study? (bulleted list)

E. Proposed study schedule. Estimated timeframe of study before results are available to make management decisions?

F. Preliminary cost estimate or range, if available.

G. Briefly describe the study methods and provide background literature, if available.

H. How will the results be used to develop or implement protection, mitigation and enhancements measures?

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BAKER RIVER PROJECT RELICENSING STUDY REQUEST		
Name and Affiliation Ann Dunphy, Forest Service	**Working Group** Recreation	**Date** 1/17/01
Study Title Visitor Use Survey and Market Analysis		
Brief Description A visitor use survey addressing both developed and dispersed recreation use and pattern of use, visitor demographics, visitor preferences and needs, visitor satisfaction, market place and influence, and recreation use trends and out year use projections. Uses include developed and dispersed camping, fishing, boating, water sports, trail use and other day use activities by lake related visitors, sightseeing and other dispersed uses, etc.		
Purpose To develop an accurate visitor profile for all project related recreation uses with visitor preferences and needs, and out year projections of use and trends.		
Related Interests and Issues (bulleted list) Special places and aesthetics analysis, lake level study, water use study and site inventory, wild life and aquatic management alternatives which could limit recreation use.		

STEP ONE - How is this study linked to relicensing? Briefly answer the following questions. All proposals must address at least one of the next four questions for further consideration.

A. Does the study eliminate a critical uncertainty that is essential to address a range of alternatives and/or Project impacts? Briefly describe the uncertainty.

Basic data is needed to determine project related recreation relationships, to characterize existing uses and visitor needs, preferences and trends which will help to develop and evaluate mitigation and enhancement alternatives.

B. What information does the study provide that is needed to support protection, mitigation, and enhancement discussions?

Questions to address:

1) What is the make up of recreation users in the Basin? Use types, levels, locations, patterns of use, demographics, and use conflicts.
2) What is the current recreation experience for users?
3) What is desired recreation experience within the Baker Lake Basin now and in the future?
4) What is the relationship between various types of recreation users?
5) What is the value of recreation use within the Basin and its relationship to private facilities within the basin and the market area?
6) What are the current and future use trends for the various recreation users groups? What will influence this trend?
7) What types of recreation use are related to the Baker River Project (camping, hunting, trail, wilderness, winter, orv, misc. forest products, other)? To what extent?
8) What is the users sensitivity to wildlife, fisheries and other resource issues/limitations that may affect them?

C. How will the results of the study help us to develop, evaluate or choose between proposed strategies and/or alternatives?

D. What information does the study provide that addresses one or more statutory requirements (e.g., Endangered Species Act (ESA), Clean Water Act (CWA), Northwest Forest Plan (NWFP), Federal Power Act (FPA))?

Base line for NEPA, FERC recreation requirements, 4e terms and conditions. Effects on ESA species and NWFP issues.

STEP TWO - Your response to these questions will be used by the working group(s) when setting study priorities. Please provide brief answers.

A. Does the study provide information that will allow the working group to achieve multipurpose goals that may be considered during the relicensing process (e.g., recreation and wildlife)? Describe how the information would achieve these goals. Is the study related to other studies in the basin?

Recreation affects all other resource areas including wildlife, fisheries and water quality. Basic data is needed to assess impacts on the other resources and to develop PME's.

B. What existing data are relevant? Why aren't these data sufficient?

Sources: Baker River Watershed Analysis (Trail register data, campground concessionaire data, Baker Lake Resort data, etc.), 93-94 Forest Visitor Survey, 2000 Univ. of Missouri Road Survey, local comp plans, SCORP, National Recreation Survey, market survey data.

Existing data needs to be statistically verified, updated, or expanded to cover specific questions.

C Are there established methods for this study? Cite references.

D. When are the study results needed? Will the results be available when needed in the relicensing process?

Surveys needed in 2001 thru 2003 to minimize seasonal variations.

STEP THREE - Complete a brief description of the study. This description is not the design, rather information that can be used to complete a draft of a detailed design. This section may be completed prior to or after preliminary evaluation by the working group, but must be completed prior to final approval for study design. If necessary, the working group can designate a technical working group and/or request a consultant to assist with the completion of step 3.

A. What questions will the study answer (specific objectives, hypothesis being tested or parameters being estimated)? (bulleted list)

B. What information needs to be obtained to meet the objectives or test the hypothesis? (bulleted list)

C. Will there be a statistical analysis in this study? If yes, what method and to what level of reliability? If no, why?

D. What are the assumptions of the study? (bulleted list)

E. Proposed study schedule. Estimated timeframe of study before results are available to make management decisions?

F. Preliminary cost estimate or range, if available.

G. Briefly describe the study methods and provide background literature, if available.

H. How will the results be used to develop or implement protection, mitigation and enhancements measures?

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BAKER RIVER PROJECT RELICENSING STUDY REQUEST		
Name and Affiliation Ann Dunphy, Forest Service	**Working Group** Recreation	**Date** 1/19/01
Study Title Lake Level Study for recreation (with other resources)		
Brief Description Aerial photos, user surveys, photo points, visitor surveys could be used to determine the affect of various lake levels and lake fluctuations on recreation users and related resources.		
Purpose Determine the affect of differing lake levels on recreation uses and users; use patterns (season patterns, user type patterns, locations of use), use types (boating, fishing, swimming, developed camping, dispersed camping), user preferences (experience quality) aesthetic issues (bathtub ring, distance to water, stumps, views), access issues (dispersed sites, boat ramps, swim beaches, lake bed access, access through elbow at low water), use capacities, facility and infrastructure impacts and needs, safety issues (stumps and unstable banks), and use interactions with Lake Shannon.		
Related Interests and Issues (bulleted list) Affects on public and private developed use, water quality, fish habitat access and fishery management, riparian function, volcanic hazard, law enforcement, weed dispersal, shoreline erosion. Refer to attached chart.		

STEP ONE - How is this study linked to relicensing? Briefly answer the following questions. All proposals must address at least one of the next four questions for further consideration.

A. Does the study eliminate a critical uncertainty that is essential to address a range of alternatives and/or Project impacts? Briefly describe the uncertainty.

The operation of the reservoir has an affect on recreation use, aesthetics, scenery and recreation O&M as well a multiple other resources. The relationship between lake elevations and water surface area and lake bed exposure and its effect on recreation and other resources is unknown. The effect of fluctuating water levels and its timing on recreation and other resources is unknown. **Re**fer to attached chart.

B. What information does the study provide that is needed to support protection, mitigation, and enhancement discussions?
The study is needed to develop and analyze proposals to modify hydro operations to benefit recreation in balance with the effect on other resources and resource issues.

C. How will the results of the study help us to develop, evaluate or choose between proposed strategies and/or alternatives?
The study must demonstrate the effects on multiple resources so that trade offs and relationships are evident. This information will help formulate PME alternatives for related issues in recreation, scenery management, fisheries, terrestrial, and water quality.

D. What information does the study provide that addresses one or more statutory requirements (e.g., Endangered Species Act (ESA), Clean Water Act (CWA), Northwest Forest Plan (NWFP), Federal Power Act (FPA))?
Base line for NEPA, FERC recreation requirements, 4e terms and conditions. Effects on ESA species and NWFP, CWA, issues.

STEP TWO - Your response to these questions will be used by the working group(s) when setting study priorities. Please provide brief answers.

A. Does the study provide information that will allow the working group to achieve multipurpose goals that may be considered during the relicensing process (e.g., recreation and wildlife)? Describe how the information would achieve these goals. Is the study related to other studies in the basin?

This study would provide basic information to develop and evaluate lake level alternatives and the relationships between affected resources.

B. What existing data are relevant? Why aren't these data sufficient?

Sources: original Baker Lake topography, aerial photos, historic water level data , recreation use data.

Existing data does not show the extent of water surface area at the various lake levels at the various time of year or the relationship of the water levels to facility availability, aesthetic appeal, water hazards, or pattern of use.

C. Are there established methods for this study? Cite references.

D. When are the study results needed? Will the results be available when needed in the relicensing process?
2001 because of complexity of issues

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B. What information needs to be obtained to meet the objectives or test the hypothesis? (bulleted list)
C. Will there be a statistical analysis in this study? If yes, what method and to what level of reliability? If no, why?
D. What are the assumptions of the study? (bulleted list)
E. Proposed study schedule. Estimated timeframe of study before results are available to make management decisions?
F. Preliminary cost estimate or range, if available.
G. Briefly describe the study methods and provide background literature, if available.
H. How will the results be used to develop or implement protection, mitigation and enhancements measures?

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BAKER RIVER PROJECT RELICENSING STUDY REQUEST		
Name and Affiliation Ann Dunphy, Forest Service	**Working Group** Recreation	**Date** 1/19/01
Study Title Recreational Fishing Study		
Brief Description Develop a use profile for recreation fishing associated with the Baker River Project		
Purpose Study would identify extent and impact of recreational fishing associated with the Baker River Project.		
Related Interests and Issues Lake levels, developed and dispersed recreation use, ACS objectives, project operations, ESA objectives.		

STEP ONE - How is this study linked to relicensing? Briefly answer the following questions. All proposals must address at least one of the next four questions for further consideration.

A. Does the study eliminate a critical uncertainty that is essential to address a range of alternatives and/or Project impacts? Briefly describe the uncertainty.

Fishing is one of the major recreation uses associated with the Baker River Project. Basic data is lacking on what types of fishing occurs, where, to what extent, what time of year, what species, trends and needs, etc. This recreation use is likely affecting ESA species to some extent. This information is needed to characterize this use and to evaluate and formulate PME's for fishing.

B. What information does the study provide that is needed to support protection, mitigation, and enhancement discussions?

Questions to address:

1. What types of fishing and fishing locations are related to the Baker River Project?
2. What types of fishing occurs, where, to what extent, what time of year, what species are caught?
3. How is fishing in this basin related to other recreation uses? How is it related to fishing opportunities within the users travel zone.
4. How is fishing affecting ESA fish species and other resources?
5. What are the opportunities to minimize unacceptable impacts to other resources?
6. Are there opportunities to improve fishing within the basin?
7. How is fishing impacted by project operations (lake levels, recreation facilities, fisheries management, etc.)?
8. What facilities are used and needed by fisherman. What are the future needs?
9. What is quality of the fishing experience? What is the carry capacity of the lakes and streams?.

C. How will the results of the study help us to develop, evaluate or choose between proposed strategies and/or alternatives?

This study would provide basic information for the formulation and evaluation of PME's.

D. What information does the study provide that addresses one or more statutory requirements (e.g., Endangered Species Act (ESA), Clean Water Act (CWA), Northwest Forest Plan (NWFP), Federal Power Act (FPA))?

Base line for NEPA, FERC recreation requirements, 4e terms and conditions. Effects on ESA species and NWFP, CWA issues.

STEP TWO - Your response to these questions will be used by the working group(s) when setting study priorities. Please provide brief answers.

A. Does the study provide information that will allow the working group to achieve multipurpose goals that may be considered during the relicensing process (e.g., recreation and wildlife)? Describe how the information would achieve these goals. Is the study related to other studies in the basin?

This study would characterize the important relationship between recreation use, fisheries management and project operations.

B. What existing data are relevant? Why aren't these data sufficient?

Creel censuses form 80 estimates, campground use data, aerial photos, (refer to aquatics working group).
Data is generally lacking, outdated or insufficient to make reasonable determinations.

C. Are there established methods for this study? Cite references.

D. When are the study results needed? Will the results be available when needed in the relicensing process?

2001 through 2003 to minimize seasonal variation.

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A. What questions will the study answer (specific objectives, hypothesis being tested or parameters being estimated)? (bulleted list)

B. What information needs to be obtained to meet the objectives or test the hypothesis? (bulleted list)

C. Will there be a statistical analysis in this study? If yes, what method and to what level of reliability? If no, why?

D. What are the assumptions of the study? (bulleted list)

E. Proposed study schedule. Estimated timeframe of study before results are available to make management decisions?

F. Preliminary cost estimate or range, if available.

G. Briefly describe the study methods and provide background literature, if available.

H. How will the results be used to develop or implement protection, mitigation and enhancements measures?

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Name and Affiliation Ann Dunphy, Forest Service	**Working Group** Recreation	**Date** 1/19/01
Study Title Visuals and Aesthetics Study		
Brief Description A scenery, aesthetics and sense of place analysis using the Scenery Management System.		
Purpose Evaluate the effects to the Baker River project on scenery, aesthetics and sense of place.		
Related Interests and Issues Visitor use, preferences and trends, lake level operations, wildlife and aquatic management, vegetation management, access management.		

STEP ONE - How is this study linked to relicensing? Briefly answer the following questions. All proposals must address at least one of the next four questions for further consideration.

A. Does the study eliminate a critical uncertainty that is essential to address a range of alternatives and/or Project impacts? Briefly describe the uncertainty.

The Baker River project and its operations affect the scenic quality of the area. Knowledge of the projects effect on recreation users and how users are affected by project operations is needed to formulate and evaluate PME's.

B. What information does the study provide that is needed to support protection, mitigation, and enhancement discussions?

Questions to address:

1. What is the existing landscape character and what are the projects affects on the landscape and the users experience (5 senses).
2. Are there unacceptable views and experiences created by the project or its associated developments?
3. What is the viewshed related to the project, including foreground middle ground and background?
4. Where are existing and potential viewpoints?
5. What defines the sense of place of the area? How is this affected by the project?
6. Where are "special places"? What is their character? How are they defined? Will they be impacted by other resource PME alternatives
7. Is vegetation management needed to produce high quality landscapes that are ecologically appropriate and sustainable within the vegetation types natural range of variability?
8. Are there important cultural, visual, and historic connections and experiences that should be maintained or restored within the project area?

C. How will the results of the study help us to develop, evaluate or choose between proposed strategies and/or alternatives?

Study provides basic information about project effects, and identifies specific places of interest of concern for users which may be impacted by other resource proposals. Study also helps to identify areas which could be mitigated

D. What information does the study provide that addresses one or more statutory requirements (e.g., Endangered Species Act (ESA), Clean Water Act (CWA), Northwest Forest Plan (NWFP), Federal Power Act (FPA))?

Base line for NEPA, FERC recreation requirements, 4e terms and conditions. Effects on ESA species and NWFP, CWA issues.

STEP TWO - Your response to these questions will be used by the working group(s) when setting study priorities. Please provide brief answers.

A. Does the study provide information that will allow the working group to achieve multipurpose goals that may be considered during the relicensing process (e.g., recreation and wildlife)? Describe how the information would achieve these goals. Is the study related to other studies in the basin?

Study results will help to direct land management and land use activities.

B. What existing data are relevant? Why aren't these data sufficient?

MBS Forest plan data, existing GIS mapping, aerial photos. Information is lacking, is outdated, or insufficient to formulate and evaluate PME's.

C. Are there established methods for this study? Cite references.
Forest Service SMS methodology.

D. When are the study results needed? Will the results be available when needed in the relicensing process?

Special places questions should be incorporated into the visitor survey for 2001. Visual management analysis in 2002.

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B. What information needs to be obtained to meet the objectives or test the hypothesis? (bulleted list)

C. Will there be a statistical analysis in this study? If yes, what method and to what level of reliability? If no, why?

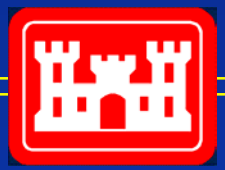
D. What are the assumptions of the study? (bulleted list)

E. Proposed study schedule. Estimated timeframe of study before results are available to make management decisions?

F. Preliminary cost estimate or range, if available.

G. Briefly describe the study methods and provide background literature, if available.

H. How will the results be used to develop or implement protection, mitigation and enhancements measures?



U.S.Army Corps
of Engineers
Seattle District

Upper Baker Flood Control

Wayne Wagner

Hydrology and Hydraulics

November 16, 2000

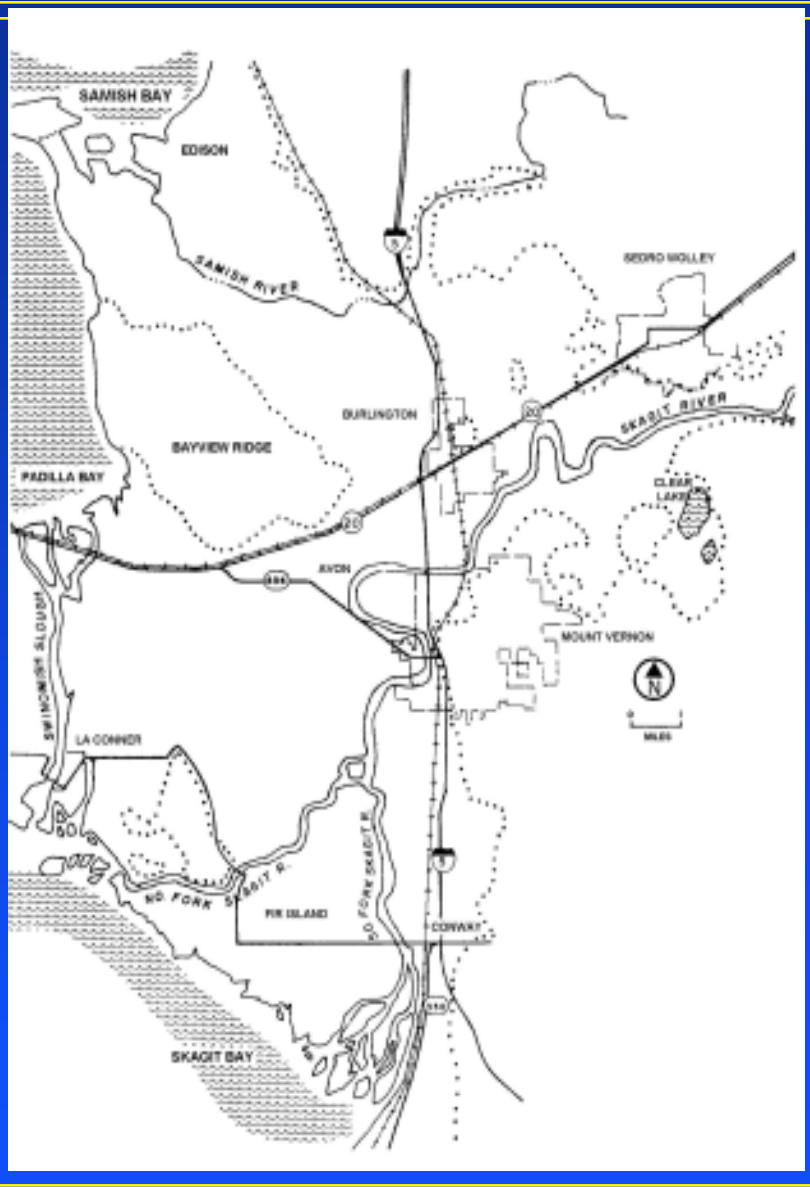
U.S.Army Co
of Engineers
Seattle Distri

U.S.Army Corps
of Engineers
Seattle District

Upper Baker Flood Control

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

U.S.Army Corps
of Engineers
Seattle District



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

U.S.Army Corps
of Engineers
Seattle District

U.S.Army Corps
of Engineers
Seattle District

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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Seattle District

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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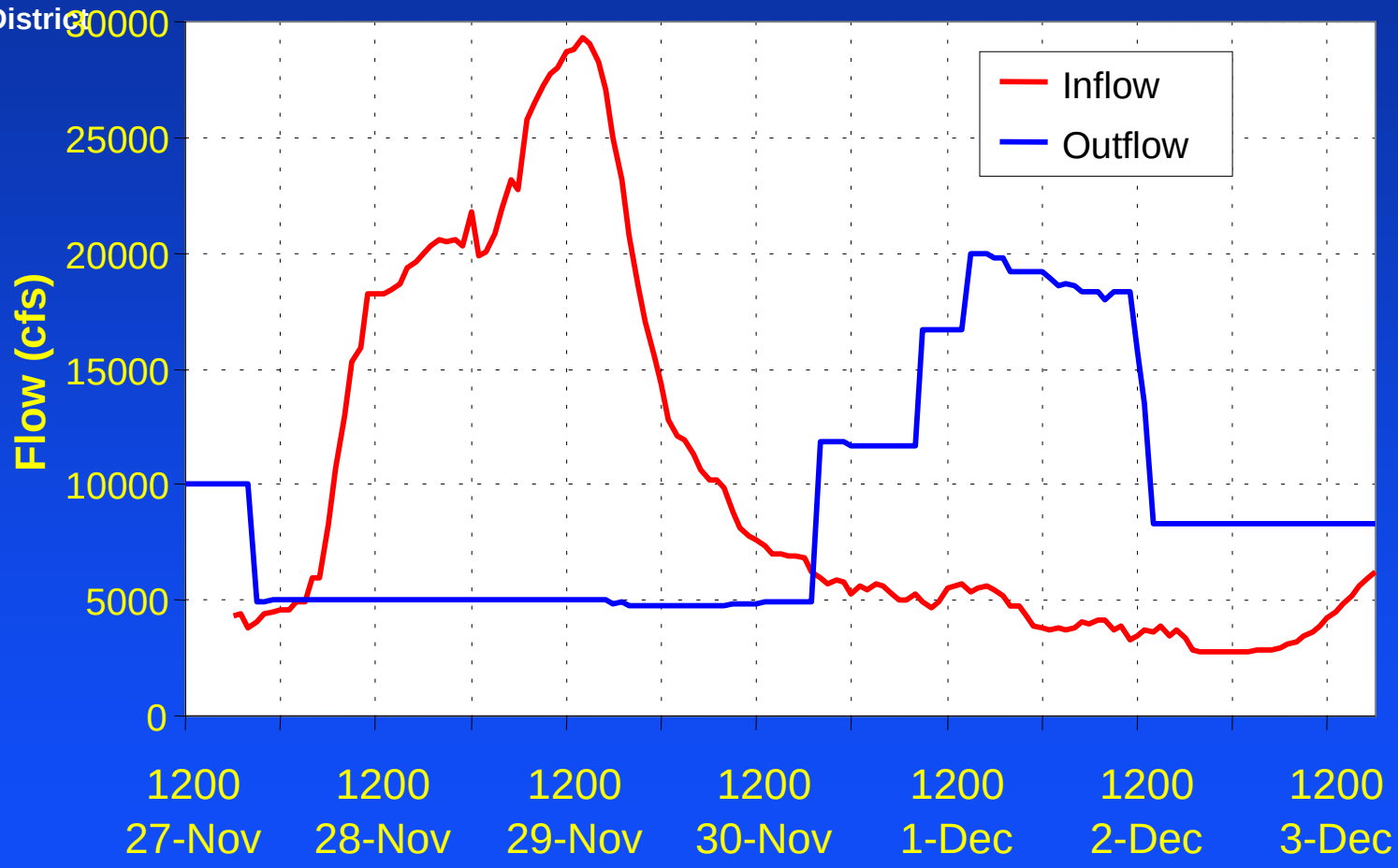
UPPER BAKER DAM
NOV-DEC 1995 FLOOD



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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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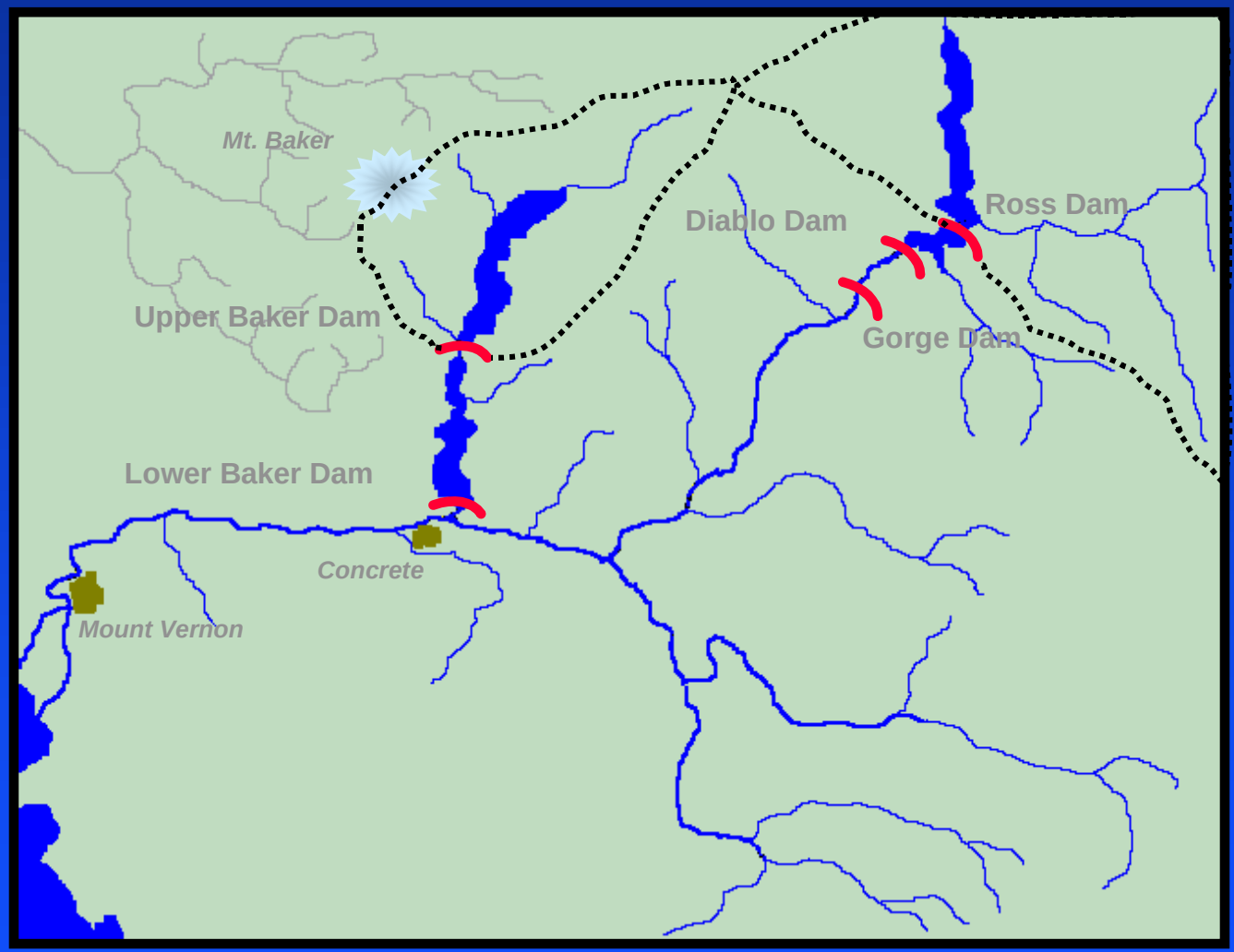
Seattle District



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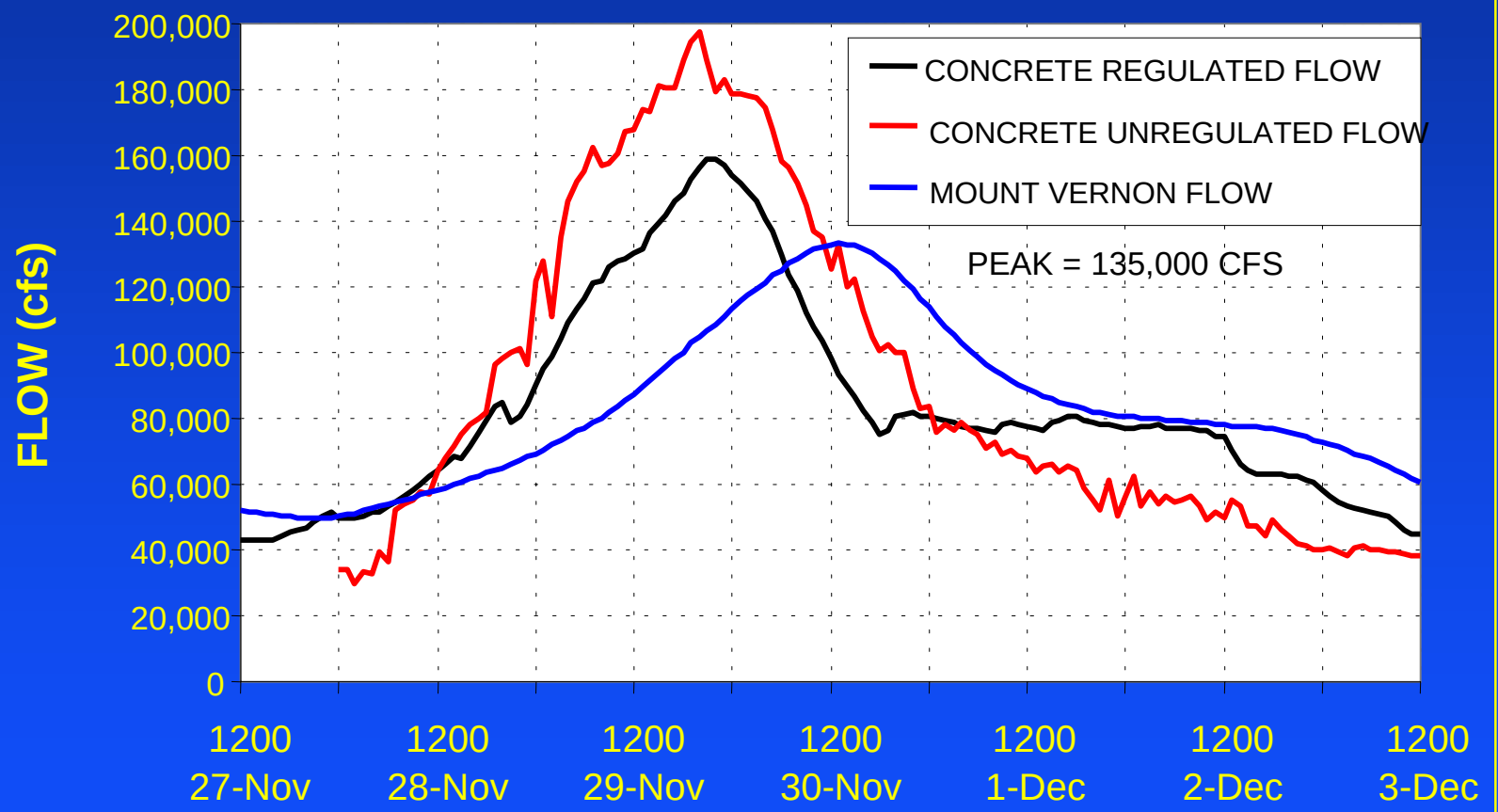
SKAGIT RIVER BASIN
NOV-DEC 1995 FLOOD



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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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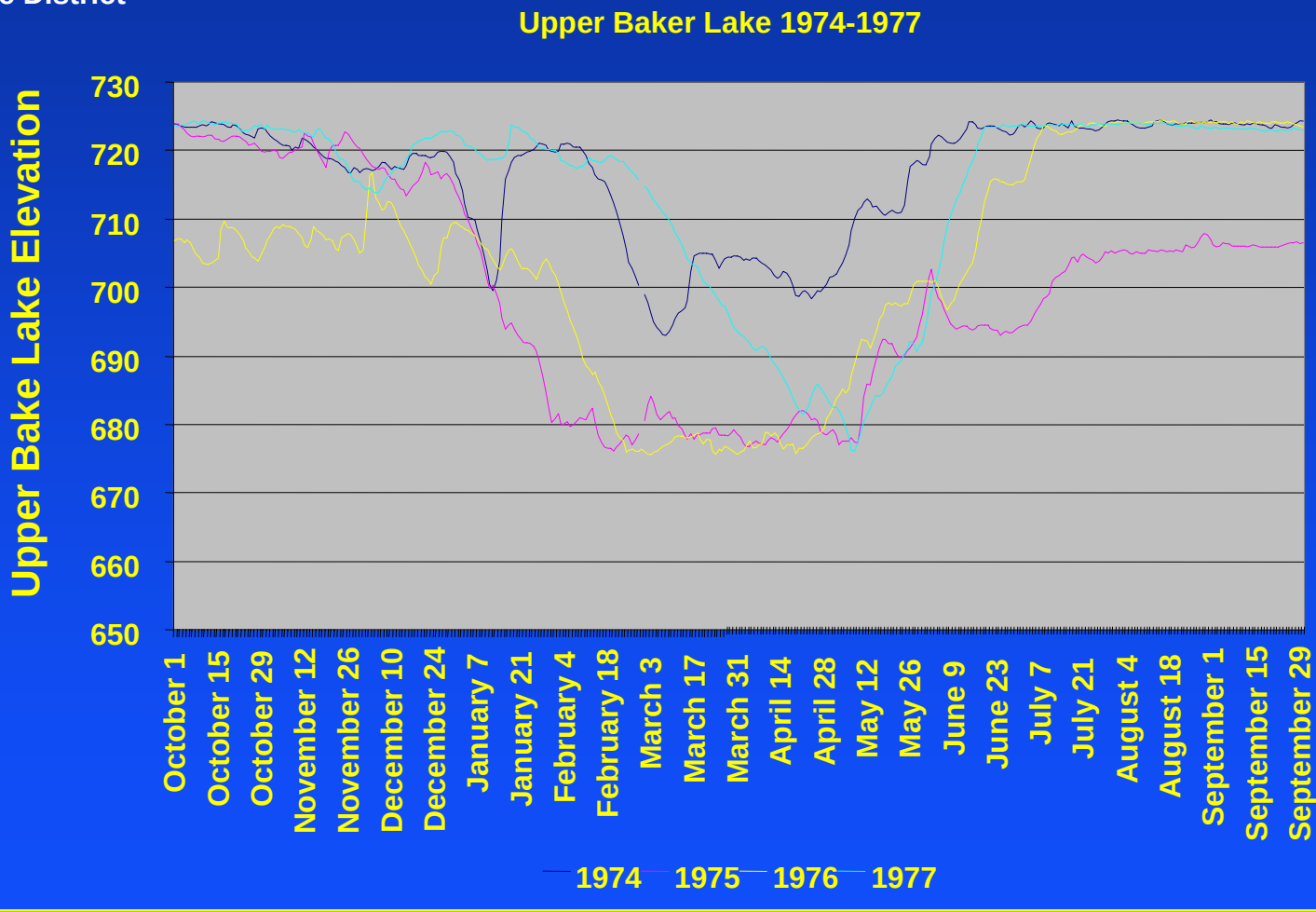
Effects of Flood Control



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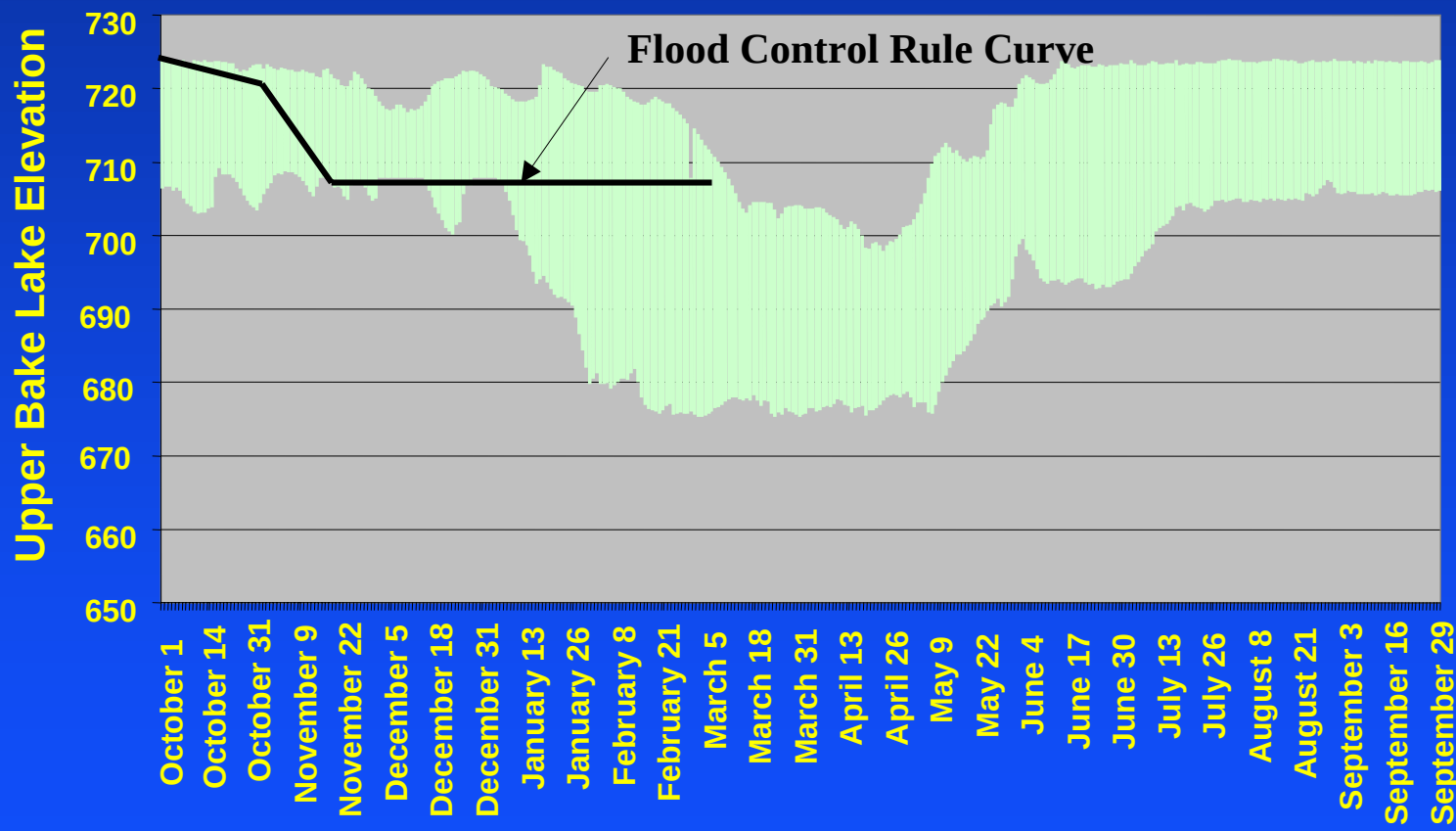
Effects of Flood Control

Upper Baker Lake 1974-1977



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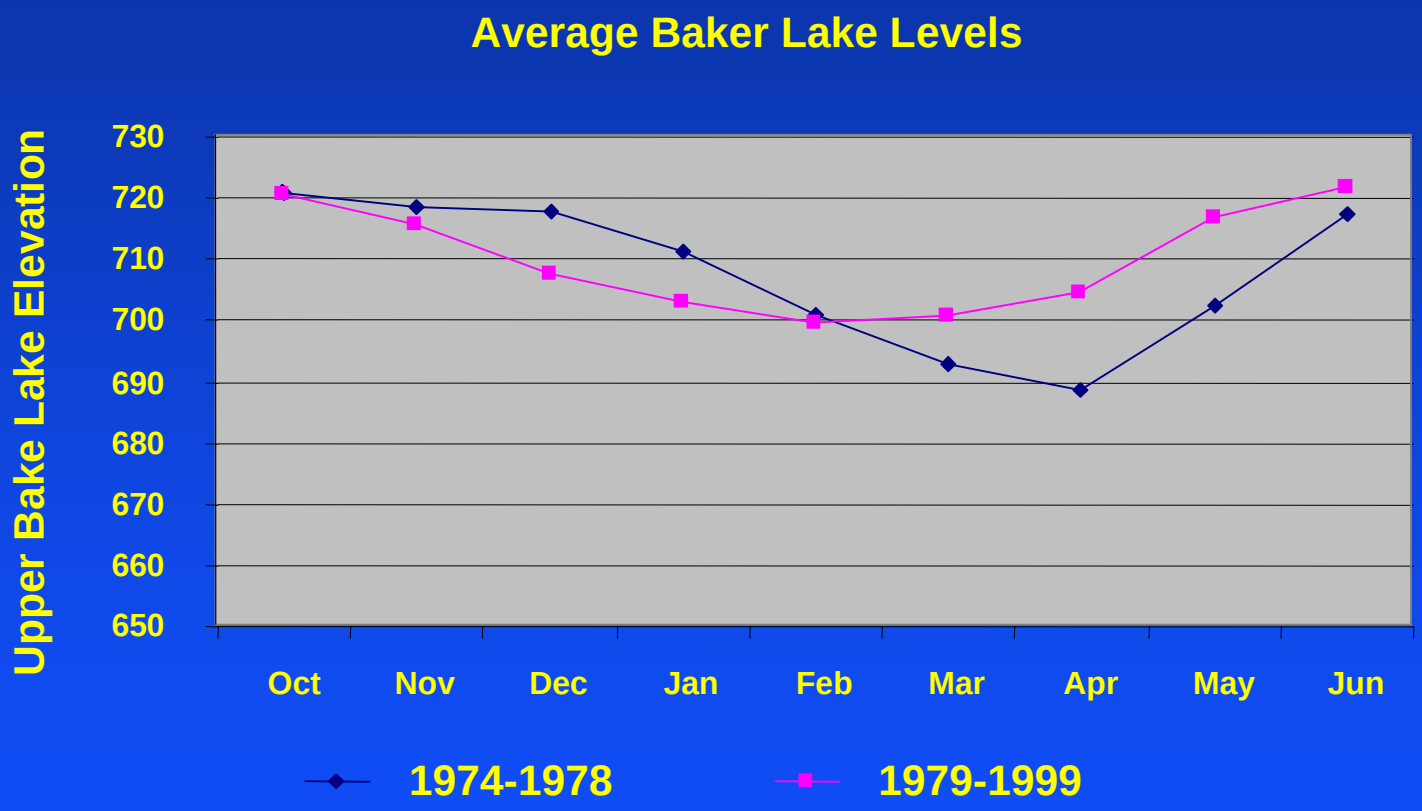
Effects of Flood Control



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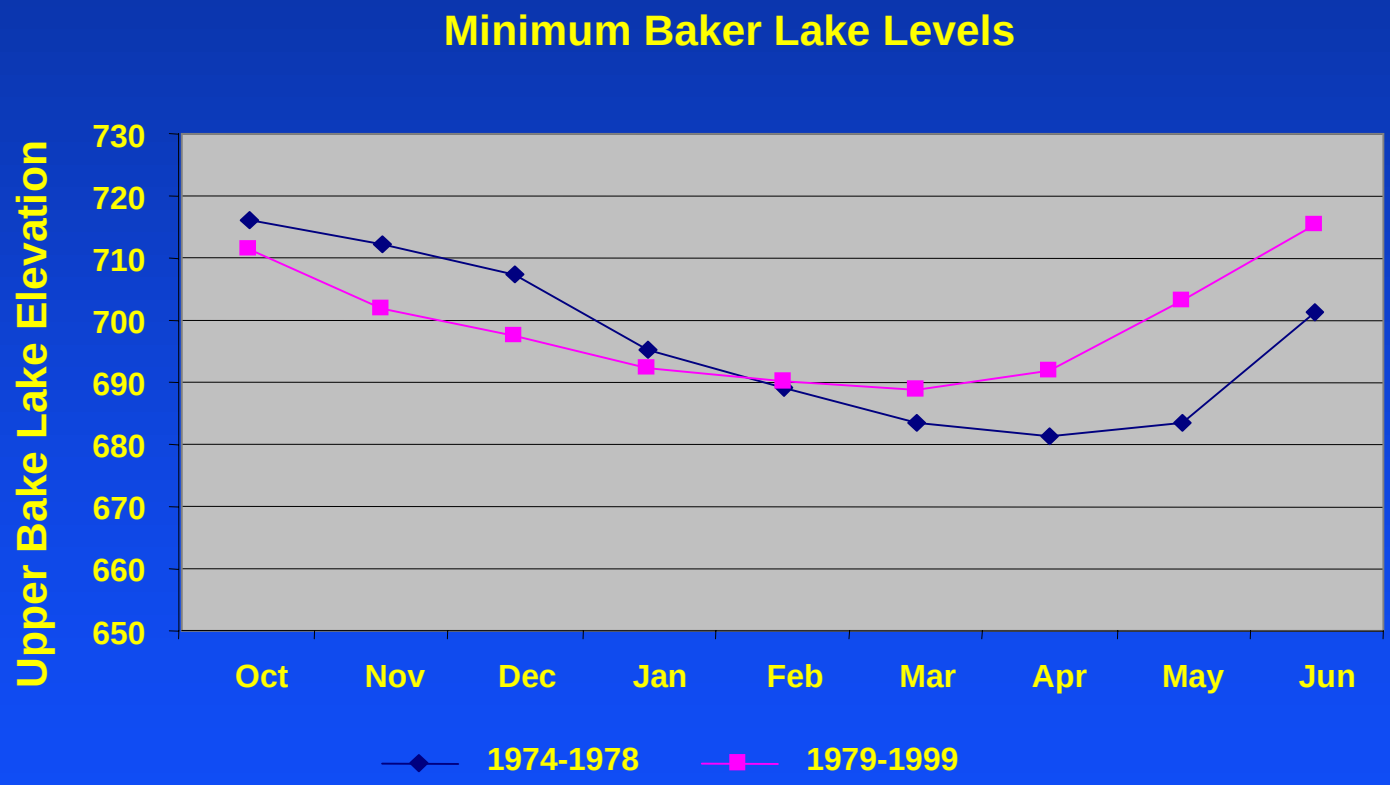
Effects of Flood Control



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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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Seattle District

Thank You

BAKER RIVER PROJECT RELICENSE

Recreational & Aesthetic Resources Working Group

January 22, 2001

9:30 a.m. – 1:30 p.m.

PSE Office, Mt. Vernon, WA

MEETING NOTES

Mission: *"To develop alternative solutions and recommendations addressing recreation, education and aesthetic resources related to the Baker River Project and its operations leading to a settlement agreement."*

Team Leader: Chris Lawson (Huckell/Weinman Associates) (425) 828-4463, clawson@huckellweinman.com
PSE Contact: Tony Fuchs: (425) 462-3553, tfuchs@puget.com

PRESENT
Chris Lawson (Huckell/Weinman Associates, Inc.), Ann Dunphy (US Forest Service), Lauri Vigue (Dept. Fish & Wildllife) Jim Eychaner (IAC), Ken Wilcox (Osprey Environmental Services, Inc.) Wayne Wagner (U.S. Army Corps of Engineers), Andy Hatfield (PSE), Tony Fuchs (PSE), Lyn Wiltse, facilitator (PDSA Consulting)

NOTE: The next few 2001 meeting dates are as follows: 2/26, 3/26, 4/23, and 5/21 (to avoid Memorial Day). ***Times will be 9:30 a.m. - 1:30 p.m***. The location will remain, for the most part, at the PSE office in Mount Vernon, WA. We will also be meeting occasionally at the Forest Service office in Mountlake Terrace.

In the event of ***adverse weather***, call Chris and he will have a message announcing any meeting cancellations due to weather. To call the conference room where we meet at the PSE office in Mt. Vernon, call: 1-888-225-5773. Dial '4' at the menu of options. Then dial extension 84-2941 and Gretchen will transfer you to the conference room.

NEW ACTION ITEMS

- ALL: Email study requests to Chris by February 9th using 1/11/01 version of request form.
- ALL: Review study requests that you receive and come to the February 26th meeting ready to discuss.
- ALL: Consider contractors to recommend for studies.
- ALL: Send comments on Ann's study requests to Chris to distribute.
- Come to Feb 26 meeting ready to discuss and prioritize study requests for the 2001 field season.
- Chris: Email 1/11/01 version of study request form to all team members as soon as possible
- Chris: Collate and distribute study requests to all team members by February 13th.
- Wayne: Look into making the 1976(?) Corps EIS on the Upper Baker flood storage proposal available to this group
- Tony: Check availability of digital aerial photos and digital terrain map
- Saul: Contact Nature Conservancy, NCCC, Park Service, City of Concrete, Forest Service re: their interests in outreach and education.
- Chris: Bring starting definition of "project-induced" recreation
- Tony and Lauri: Look into what processes we can put in place to assure we maximize limited study resources over all resource areas
- Ann: Check out the possibility of meeting at the Forest Service Building at Mountlake Terrace, WA for the March 26th meeting

REPORT ON OLD ACTION ITEMS

- Tony: Talked with PSE Real Estate people re: dam access. Tony stated that the current license has two articles relating to dam access. Article 31 says PSE is to build a road across the dam. Article 35 grants the Forest Service public access to all project roads that the Forest Service deems to be of public interest. PSE has no requirement for a road across the river at the upper end of the lake.
- ALL: Gave preferred method of being contacted on "SNOW DAYS" (i.e., regarding any weather-based changes in meeting plans) to Tony.

January 22, 2000 Agenda
9:30 a.m. to 1:30 p.m. at PSE Office in Mt. Vernon

1. Review/revise minutes/agenda
2. Review Action Items
3. Flood Control Presentation---Wayne Wagner
4. Continue defining studies
    - Review study request form
    - Define near term 2001 studies
    - Address subsequent study needs
5. Set agenda for Feb. 26 meeting
6. Evaluate meeting

STUDY REQUEST FORM

Tony distributed the 1/11/01 working draft of the study request form. This form is the result of a combined effort of PSE and the agencies. The study request form addresses only the high-level concept of the study. It does not cover the actual study design, which would likely be developed by a consultant.

When citing references attach them if possible. Team leaders will be responsible for coding and tracking studies from their Working Groups. The group reviewed the form. In order to request studies, participants are asked to fill in at least the first two steps of the form.

Participants were asked to submit study requests for the 2001 field season to Chris by Feb.9th. This is a suggested date, but not a "drop dead" date, as it is likely that unanticipated needs for studies will arise throughout the process. Chris will collate all the study requests and send them out for participants to review approximately one week prior to our February meeting. We hope that at our February 26th meeting, we can approve studies for the 2001 field season. Chris will be submitting requests for studies oriented to the FERC regulation requirements for the team to review at that meeting. Studies for the 2002 field season should be submitted by our September meeting.

ARMY CORPS OF ENGINEERS FLOOD CONTROL PRESENTATION

Wayne Wagner opened by explaining the integral relationship the Corps has with PSE for providing flood control. He emphasized that flood storage at Upper Baker and Ross (on the Skagit) reduces the magnitude and frequency of flood events, but doesn't actually prevent floods. His very informative presentation addressed these four areas:

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

He will look into making available an EIS to this working group. His presentation is available on the Baker River Project Website.

STUDY REQUESTS

Lauri emailed suggestions for two studies to Chris and he emailed them out to all members at the end of last week. They are:

1. Recreation Capacity and Suitability Analysis
2. Recreation Needs Analysis

Ann distributed and briefly explained five draft study requests from the Forest Service using the study request form. They are:

1. Recreation Site Inventory (draft)
2. Visitor Use Survey and Market Analysis (draft)
3. Lake Level Study for recreation (with other resources) (draft)
4. Recreational Fishing Study (draft)
5. Visuals and Aesthetics Study (draft)

The team clarified the following definitions:
"Dispersed"---scattered; takes place around the landscape. These sites can be managed, but not to the extent that developed sites are. Usually no capital investments; always exceptions
"Displaced"---can happen for a number of reasons; change in usage/availability/access/temporal

A question was raised re: the inclusion of the Upper South Fork of the Nooksack in the study area. This will be considered on a study-by-study basis, if it can be shown to be project related, or if there is a reasonable case that a study will demonstrate that it is project related.

PARKING LOT

- Visioning exercise
- Organizational/agency goals
- Bounce around with meeting locations
- Operationally define "vicinity", "watershed", "project induced", "dispersed", or "displaced"
- List authorities that this team must be aware of
- Be sure someone from Recreational Resources area sits on the Solution Team.
- Look at dispersed recreation with the Project as a whole.
- Look into getting guest speaker from Seattle City Light
- Tie education piece to ALL Working Groups
- Hold periodic "outreach" meetings for feedback from other groups (hiking, horseback riding, etc.)
- Land Management
- Get a National Park Service rep
- Forest Service presentation of SMS
- Need good maps of the project area

EVALUATION OF MEETING

Things Done Well

- Wayne's informative presentation

Need for Improvement

- Need more time
- May need to use Technical Working Groups to flesh out studies

TENTATIVE AGENDA FOR FEBRUARY MEETING

February 26, 2000 Agenda

9:30 a.m. to 1:30 p.m. at PSE Office in Mt. Vernon

1. Review/revise minutes/agenda
2. Review Action Items
3. Define "project induced"
4. Studies: Prioritize 2001 studies an assign responsibilities for study plans, determine approach, how to allocate coverages, etc.
5. Set agenda and location for Mar. 26 meeting (Consider meeting in Mountlake Terrace)
6. Evaluate meeting