A New Approach to Water Management Decision Making

Presented by
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Overview of Columbia River Basin and Water Management
Regional Water Management Planning
Regional Water Control Data System
Regional Interagency Water Management Forum
Summary and Questions
COLUMBIA BASIN STATISTICS

- Approximately 259,000 square mile drainage area at the mouth
- Projects control only about 25% of the basin area
- Average annual runoff at The Dalles is approximately 156 MAF
- Storage capacity in the Columbia Basin is 40 MAF total
- 60 major dams, over 100 smaller dams
AVERAGE ANNUAL RUNOFF
AND USABLE RESERVOIR STORAGE
MAJOR WESTERN RIVER BASINS

MILLIONS OF ACRE FEET

Columbia  Colorado  Missouri

RIVER BASINS

Average Annual Runoff  Usable Reservoir Storage
Major Columbia River Purposes and Benefits

HYDROPOWER: serves up to 80% of electricity in NW; approximately $2-3 billion in annual revenues.

FLOOD CONTROL: provides 40 Maf of storage; over $6 billion in cumulative damages prevented.

NAVIGATION: millions of tons of commerce; 465 mi waterways (106 mi @40’; 359 mi @ 14’); 8 locks; multi-billion dollar annual economic benefits

RECREATION: fishing, swimming, camping, water skiing, rafting, boating, sightseeing.

WATER SUPPLY/IRRIGATION: water for millions of acres of agriculture, as well as M&I water

FISH and WILDLIFE: habitat for significant populations of fish and wildlife
Endangered Species Act Operation

- Willamette River
- John Day
- Columbia River
- Hudson's Bay
- Lower Granite
- Little Goose
- Ice Harbor
- McNary
- The Dalles
- Chief Joseph
- Grand Coulee
- Rocky Reach
- Wells
- Wanapum
- Priest Rapids
- Bonneville
- Rocky Reach
- Rock Island
- Wanapum
- Priest Rapids
- McNary
- The Dalles
- Chief Joseph
- Grand Coulee

Pacific Ocean

Washington

Oregon

Idaho

Montana

Idaho

Montana

Washington

Oregon

Endangered Species:
- Chum Salmon
- Chinook Salmon
- Steelhead
- Sockeye Salmon
- White Sturgeon
- Bull Trout

Salmon Species:
- Chum Salmon
- Chinook Salmon
- Steelhead
- Sockeye Salmon
- White Sturgeon
- Bull Trout
CONFLICTING REGIONAL PERSPECTIVES

- **Action Agencies**
  - Corps, Reclamation, BPA: Project operators, power marketers. Responsible for system operation

- **Federal Fishery Agencies**
  - NOAA: Salmon and Steelhead BiOps, anadromous fish responsibilities
  - USFW: Sturgeon BiOp, resident fish responsibilities, also a salmon manager
CONFLICTING REGIONAL PERSPECTIVES (cont.)

- **States**
  - MT, ID: Upstream, interests to keep water.
  - OR, WA: Flow Advocates

- **Thirteen Tribes**
  - Participants: Advocate more flow, more spill - natural river

- **Canada**
  - Operates for power and flood control and mutually beneficial operations
Regional Water Management Planning

- Interagency regional forums established for collaboration
- Annual, spring, and fall water management plans developed to guide system operation
- Document plans for compliance with Endangered Species Act (ESA) and other requirements
Regional Water Management Planning

- Annual fish passage plans developed to guide fish passage
- Provide detailed operating plans for fish passage at specific projects
Regional Water Control Data System

- Regional Water Control Data System (WCDS) and database implemented to improve interagency effectiveness and efficiency (~$500,00 annual savings)

- System provides “one door” to real-time & historic data in a consistent format for use by decision makers throughout the region
Regional Water Control Data System (cont.)

- Data collected and stored for approximately 1,000 locations
- Processing approximately 25,000 data values per hour
- Regional website established for readily exchanging key information
Regional Interagency Water Management Forum

- Interagency regional forum established for better collaboration
- Forum utilizes data from regional database/system and water management plans to formulate real time operation
- Forum has various teams focused on technical, policy, and strategic aspects
Regional Water Management Forum
Endangered Species Act, Clean Water Act, and others require strong regional interagency collaboration for compliance

Tighter controls on operations at individual dams for ESA and other requirements limit flexibility to meet all the multiple purposes

Use of interagency regional approach is only workable solution in this environment

Regional WCDS provides easy access to all data in a consistent format for decision-makers
FUTURE CHALLENGES

- Conflicts between upstream & downstream interests, resident & non-resident fish, etc.
- Tighter controls and accounting for operations at individual dams
- Less flexibility to meet all the multi-purposes
- More competition for limited water resources
- Budget limitations
QUESTIONS?
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