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# **A New Approach to Water Management Decision Making**

**Presented by  
James D. Barton  
Chief, Columbia Basin Water  
Management Division**



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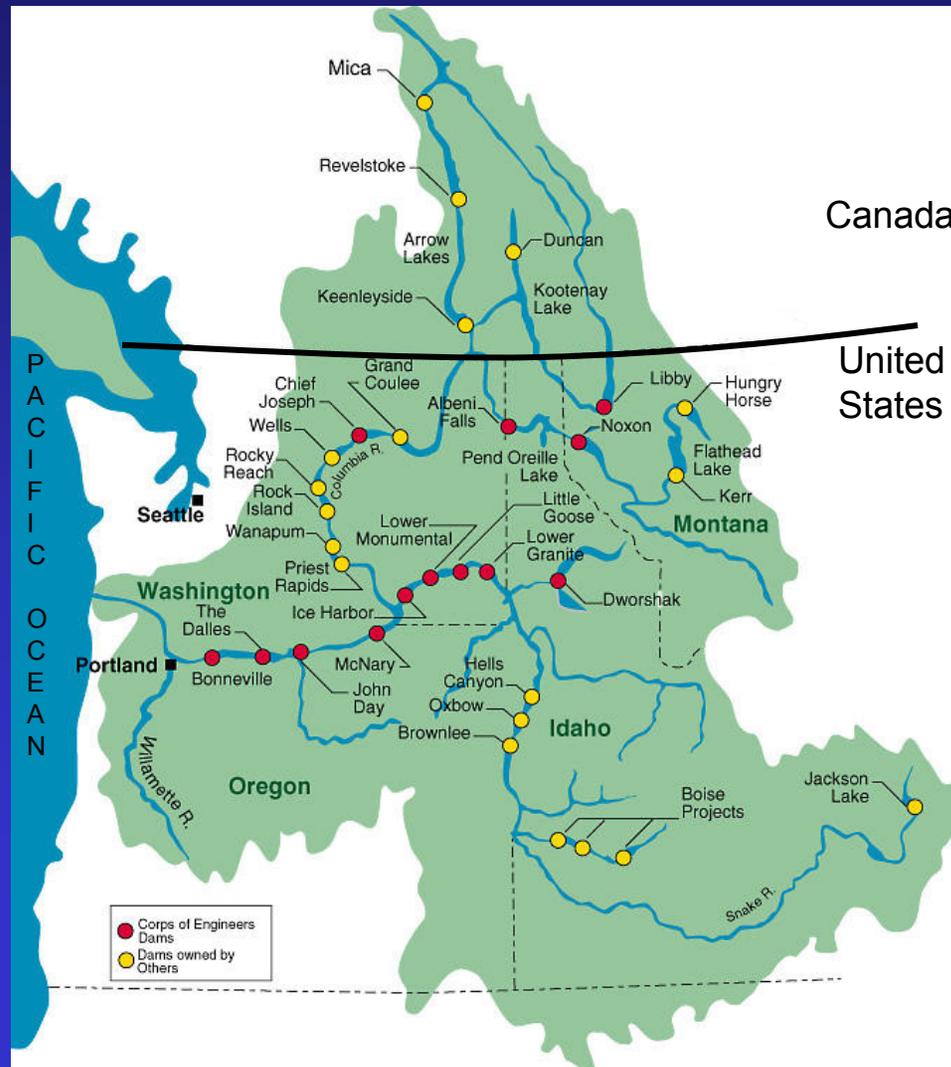
# PRESENTATION OUTLINE

- **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**



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# COLUMBIA RIVER BASIN





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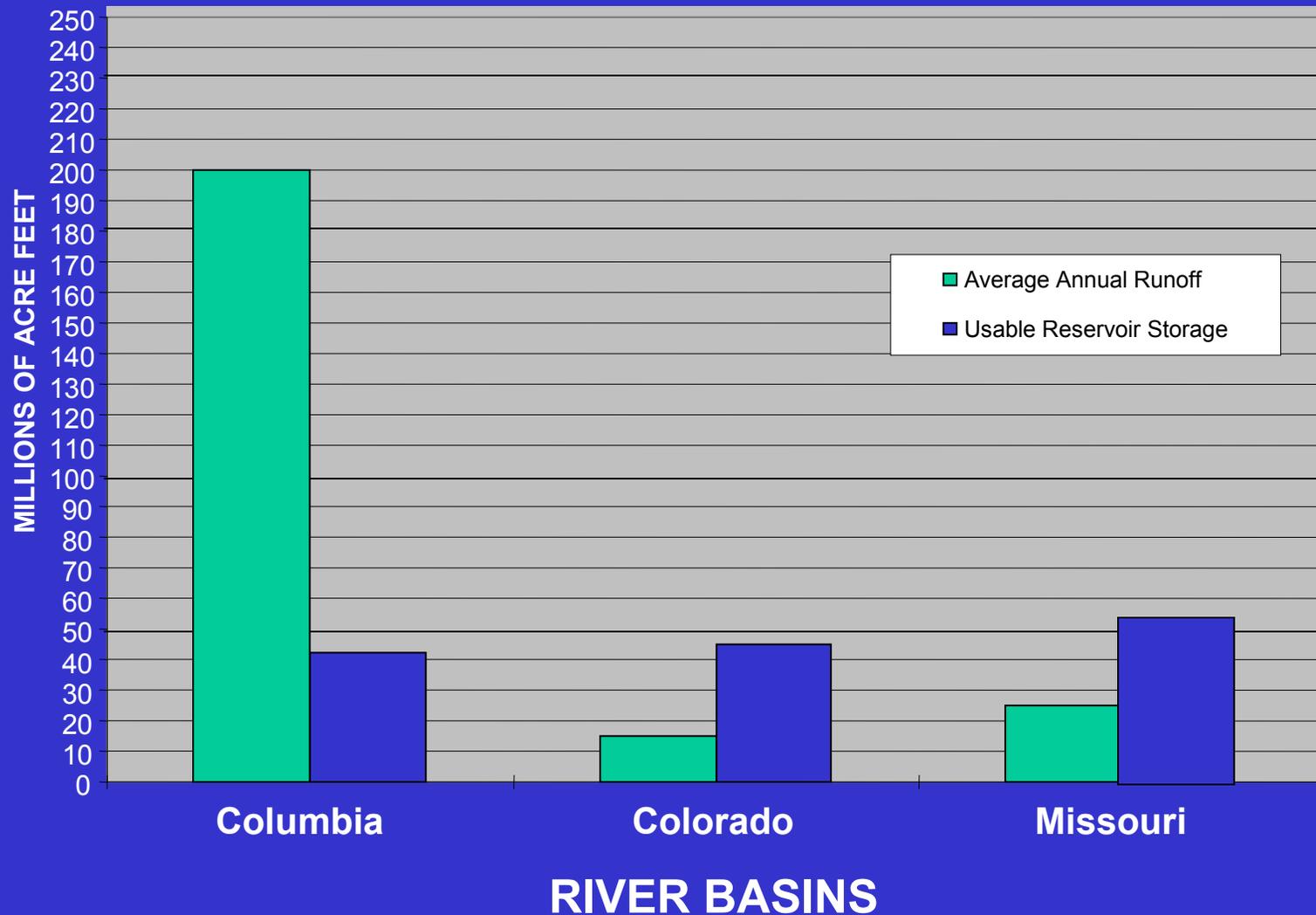
# COLUMBIA BASIN STATISTICS

- **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**



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# AVERAGE ANNUAL RUNOFF AND USABLE RESERVOIR STORAGE MAJOR WESTERN RIVER BASINS





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## 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





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# 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**



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# 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



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# 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**



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# Regional Water Management Planning



- Annual fish passage plans developed to guide fish passage
- Provide detailed operating plans for fish passage at specific projects
- More information: [www.nwd-wc.usace.army.mil/tmt/](http://www.nwd-wc.usace.army.mil/tmt/)



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# Regional Water Control Data System

- **Regional Water Control Data System (WCDS) and database implemented to improve interagency effectiveness and efficiency (~\$500,000 annual savings)**
- **System provides “one door” to real-time & historic data in a consistent format for use by decision makers throughout the region**



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# 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
- More information: [www.nwd-wc.usace.army.mil/report.htm](http://www.nwd-wc.usace.army.mil/report.htm)



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# 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



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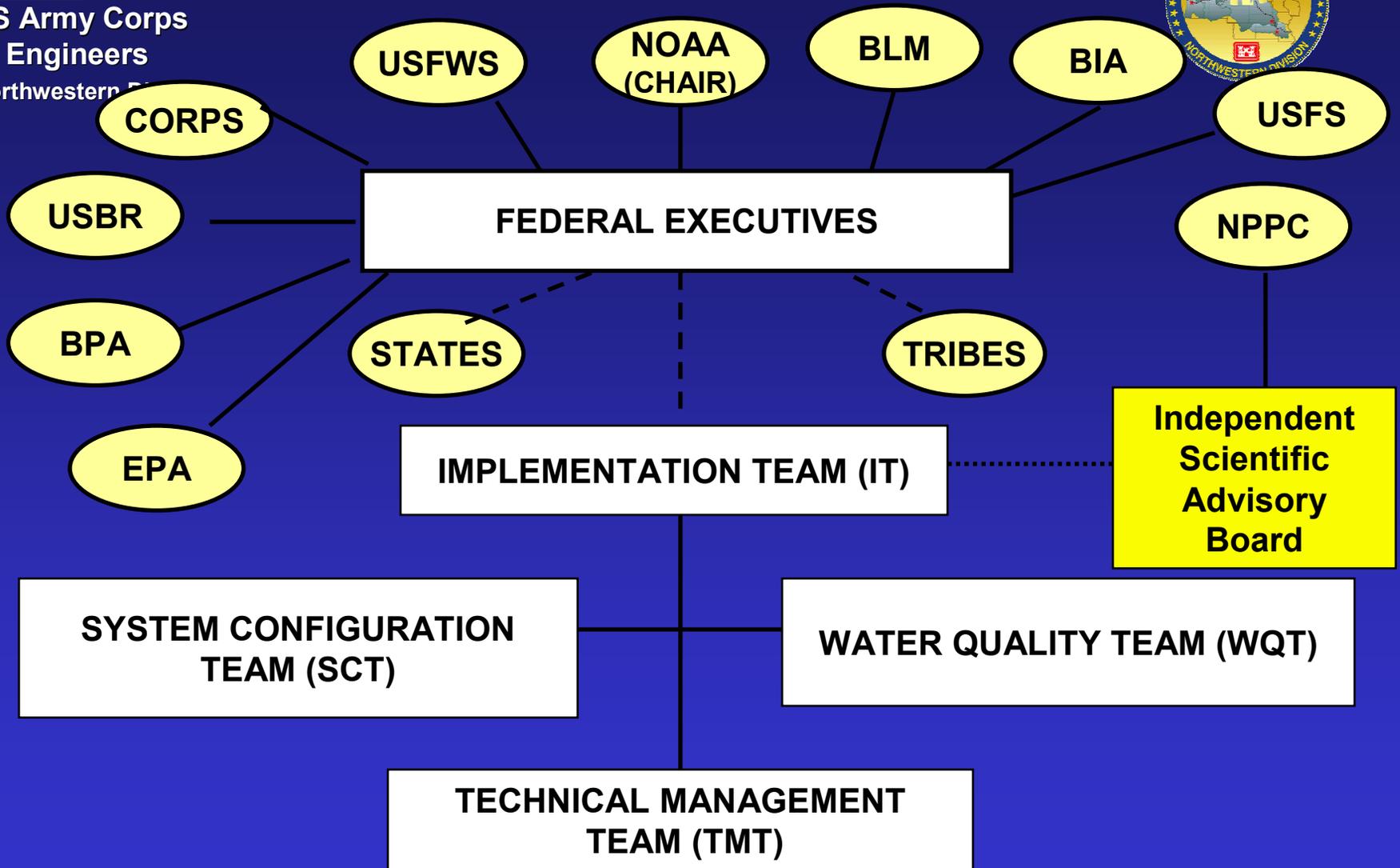
# Regional Water Management Forum





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# Regional Interagency Forum





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# SUMMARY

- **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**



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# 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**



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# QUESTIONS?





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# Contact Information



- **Jim Barton, Corps of Engineers**
- **(503) 808-3930**
- **Email:**  
**[james.d.barton@nwd01.usace.army.mil](mailto:james.d.barton@nwd01.usace.army.mil)**