

The background of the slide is a light gray gradient. It is decorated with several realistic water droplets of various sizes and shapes, scattered across the top and bottom edges. The droplets have highlights and shadows, giving them a three-dimensional appearance.

**DES FOR RESIDENT FISH**

# WHAT IS OUR OBJECTIVE?

- SPECIES/POPULATIONS
  - WHITE STURGEON
  - BULL TROUT
  - LAMPREY
  - REDBAND TROUT
  - WESTSLOPE CUTTHROAT TROUT
  - OTHER?
- AGENCY AND TRIBAL PRIORITIES

# STATUS OF RESIDENT FISH MONITORING

- RESIDENT FISH STOCK STATUS ABOVE CHIEF JOSEPH AND GRAND COULEE DAMS (BPA PROJECT)
- OTHER STATE AND TRIBAL RM&E
- SPECIFIC MONITORING EFFORTS FOR LAMPREY AND BULL TROUT
- ADDITIONAL RESEARCH & MONITORING EFFORTS/

Table 2. – NPCC “Draft Columbia River Basin Monitoring, Evaluation, Research, and Reporting Plan” 2011

Management Question	High Level Indicator	Program Indicator	Potential Metrics
Are Columbia River Basin fish and wildlife abundant, diverse, productive, spatially distributed, and sustainable?	Abundance	Abundance and status/trends of resident fish focal species	<u>Abundance</u> – Life-stage specific (length) population estimate, total population estimate, density estimate, CPUE, spawner count (by life history) <u>Population Productivity</u> – Year-class survival, length-frequency distribution, mean weight by year-class, biomass (total weight), body condition (relative weight), growth rates, age distribution, spawner counts, IPSD, length-weight relationship, fecundity, sex ration, GSI, out-migrant per spawner ratio <u>Intra-species Diversity</u> – Genetics, length frequency distribution, age frequency distribution <u>Spatial Distribution</u> – Adult, sub-adult, and juvenile distribution, spawner distribution
Are Columbia River Basin ecosystems healthy?	Ecosystem health	Watershed health and non-native species distribution	<u>Non-native species</u> – See abundance, productivity, diversity, and distribution metrics above
Are the actions implemented by the Council’s Fish and Wildlife Program having the expected biological effect on fish and wildlife and their habitat?	Abundance	Production of wild fish related to habitat improvements and predation	<u>Population Productivity</u> – Year-class survival, length-frequency distribution, mean weight by year-class, biomass (total weight), body condition (relative weight), growth rates, age distribution, spawner counts, IPSD, length-weight relationship, fecundity, sex ration, GSI, out-migrant per spawner ratio <u>Predation</u> – Diet composition and consumption
Is harvest supportive of the Council’s Fish and Wildlife Program’s vision of restoring fish and wildlife impacted by the development and operation of the Columbia River Basin’s hydrosystem?	Council action	Harvest numbers and rates, contribution of Program-funded hatcheries to fisheries	<u>Harvest</u> - Direct fishing effort, harvest, HPUE, yield <u>Economic</u> – Angler expenditure, net value, cost-to-benefit <u>Social and Market</u> – Angler preferences, angler satisfaction, Native American cultural value, cultural value
Does artificial production complement resident and anadromous fish recovery and harvest goals within the Columbia River Basin?	Council action	Abundance of hatchery released fish complement abundance of wild fish	<u>Abundance</u> – Life-stage specific (length) population estimate, total population estimate, density estimate, CPUE, spawner count (by life history)
Are the fish and wildlife losses associated with the development and operation of the Columbia River Basin’s hydrosystem being mitigated as described by the Council’s Fish and Wildlife Program?	To be developed	Harvest and angler satisfaction (resident fish substitution)	<u>Harvest</u> - See harvest metrics above <u>Social</u> - See social and market metrics above

# POPULATION ATTRIBUTES TO MEASURE

- ABUNDANCE OF ADULT FISH
- JUVENILE PRODUCTION
- GENETIC SAMPLING
- STATUS AND TRENDS FOR LISTED ESUS
- HABITAT PRODUCTIVITY
- HARVEST & HATCHERIES
- OTHER?

# PROPOSAL

- ENGAGE AGENCY & TRIBAL LEADERS TO DEFINE PRIORITIES AND AREAS WHERE SHARING DATA WOULD BE MOST USEFUL AND PRODUCTIVE
- WHAT ARE YOUR IDEAS?
- JUST LIKE OTHER DES, WE ARE LOOKING FOR VOLUNTEERS TO FILL OUT A WORK GROUP TO IDENTIFY A SUITE OF INDICATORS AND DEVELOPING AN INITIAL DES
- JUNE WORKSHOP FOR FURTHER DISCUSSION?