

July 24 Consultant Information Meeting
Seattle City Light Boundary Relicensing Integrated Licensing Process
Current List of Studies

Identified Resource Issue	Study/Information Needs
Water Quality Studies	
Water temperature	<ul style="list-style-type: none"> ▪ Water temperature modeling (in conjunction with ongoing water temperature data collection and in coordination with the TMDL process)
Toxic compounds	<ul style="list-style-type: none"> ▪ Literature-Based Assessment of Toxics of Concern Identified in Toxic Inventory and Screen Review
pH	<ul style="list-style-type: none"> ▪ Water quality data collection (including measurements to assess the possible effect of macrophytes on pH)
Water quality / effects on fish and habitat	<ul style="list-style-type: none"> ▪ Water quality data collection (including specific parameters to assess potential water quality concerns related to fish habitat)
	<ul style="list-style-type: none"> ▪ Aquatic macrophytes study (Described under Fish and Aquatic Resources)
Total Dissolved Gas (TDG) Studies	<ul style="list-style-type: none"> ▪ TDG assessment process (to meet Section 401 water quality requirements and in coordination with the TMDL process)
Modeling Varial Zone and Instream Flows	
Load-following and pool level fluctuations	<ul style="list-style-type: none"> ▪ Hydraulic routing model ▪ Reservoir/varial zone modeling – Physical habitat model <p><i>(Supporting biological studies:</i></p> <ul style="list-style-type: none"> ▫ <i>Fish</i> ▫ <i>Benthic macroinvertebrates</i> ▫ <i>Submerged macrophytes</i>)
Instream flows in the Pend Oreille River	<ul style="list-style-type: none"> ▪ Determination of downstream area of potential effect of the Boundary Project <p><i>(Studies comparable to those for the reservoir, i.e.):</i></p> <ul style="list-style-type: none"> ▪ Hydraulic routing model ▪ Varial zone modeling – Physical habitat model ▪ Supporting biological studies

Fish and Aquatics Studies	
Sediment transport	<ul style="list-style-type: none"> ▪ Mainstem and tributary delta sediment transport ▪ Tributary sediment effects on delta habitats ▪ Pend Oreille River hydrology and geomorphology
Wood recruitment and transport	<ul style="list-style-type: none"> ▪ Mainstem reservoir wood management and large woody debris in the inundation zone
Effects of aquatic vegetation on fish and benthic macroinvertebrates	<ul style="list-style-type: none"> ▪ Aquatic macrophytes study
Aquatic productivity	<ul style="list-style-type: none"> ▪ Analysis of secondary productivity ▪ Tributary habitat conditions ▪ Distribution and abundance of native salmonids ▪ Native vs. non-native fish interactions
Recreational fishery	<ul style="list-style-type: none"> ▪ Recreational creel survey ▪ Triploid trout movement
Fish Biotelemetry Studies	<p>Potential movement of native salmonids in forebay</p> <ul style="list-style-type: none"> ▪ Presence of native salmonids in tailrace ▪ Potential subadult bull trout movement in Seven Mile reservoir
Fish entrainment Studies	<ul style="list-style-type: none"> ▪ Evaluation of potential turbine entrainment
Botanical and Wildlife Resources Studies	
Shoreline erosion	<ul style="list-style-type: none"> ▪ Shoreline erosion study <i>(Described under Geology and Soils)</i> ▪ Hydraulic routing model <i>(Described under Fish and Aquatic Resources)</i>
Waterfowl nesting habitat and productivity	<ul style="list-style-type: none"> ▪ Waterfowl/waterbird surveys ▪ Aquatic macrophytes study <i>(Described under Fish and Aquatic Resources)</i> ▪ Hydraulic routing model <i>(Described under Fish and Aquatic Resources)</i>
Cottonwood	<ul style="list-style-type: none"> ▪ Cottonwood inventory ▪ Shoreline erosion study <i>(Described under Geology and Soils)</i> ▪ Hydraulic routing model <i>(Described under Fish and Aquatic Resources)</i> ▪ Mainstem and tributary delta sediment transport <i>(Described under Fish and Aquatic Resources)</i>
Deer and elk	<ul style="list-style-type: none"> ▪ Deer/elk study
Rare, threatened, and endangered species	<ul style="list-style-type: none"> ▪ RTE plant species inventory/study ▪ RTE wildlife species surveys/assessment
Bats	<ul style="list-style-type: none"> ▪ Bat surveys and cave mapping
Effect of invasive aquatic plants on wildlife habitat quality	<ul style="list-style-type: none"> ▪ Aquatic macrophytes study <i>(Described under Fish and Aquatic Resources)</i>

Geology and Soils Studies	
Shoreline erosion	▪ Shoreline erosion study
Recreation and Land Use Studies	
Visitor use counts and visitor survey data	▪ Recreation visitor survey
Regional context	▪ Regional recreation analysis
Dispersed shoreline recreation use and impacts	▪ Dispersed shoreline recreation use area inventory and impact analysis
Existing recreation carrying capacity	▪ Recreation carrying capacity analysis
Future use in the Project area	▪ Projected recreation use analysis
Recreational fishing activity and success the Project	▪ Recreational creel survey <i>(Described under Fish and Aquatic Resources)</i>
Shoreline erosion (potential effect of creation and effects on land use)	▪ Shoreline erosion study <i>(Described under Geology and Soils)</i>
Aesthetic/Visual Resources Studies	
Potential effect of Project on visual character and visual quality	▪ Aesthetic/visual resource assessment
Cultural Resources Studies	
Area of potential effect (APE)	▪ Consultation to finalize the Project APE
Historic properties within the Project APE	▪ Historic properties inventory
Traditional cultural properties (TCPs)	▪ TCP study as determined through Tribal consultation
Evaluation of significance	▪ Formal determinations of eligibility
Identification of Project impacts	▪ Synthesis of finding from other studies ▪ Dispersed shoreline recreation use area inventory and impact analysis <i>(Described under Recreation and Land Use)</i> ▪ Shoreline erosion study <i>(Described under Geology and Soils)</i> ▪ Bat surveys and cave mapping <i>(Described under Botanical and Wildlife Resources)</i>