

## **Ecosystem Flows and Indicators of Hydrologic Alteration Workshop Agenda**

**22 January 2014**

**Location: Room 107 Gorsuch Commons, University of Alaska Anchorage  
OR webinar (information to be sent later)**

### **Meeting objectives**

- Overview of Ecosystem Flows including flow-ecology relationships in the Susitna basin
- Introduction to tools to characterize the flow regime and measure alteration, focusing on Indicators of Hydrologic Alteration (IHA)
- Introduce the preliminary framework of TNC's Ecological Risk Assessment (ERA)

### **Meeting materials to be provided:**

- Flow-ecology diagrams for salmon
- Flow data for Susitna River and Willamette River case studies

### **What participants provide:**

- If interested in hands-on IHA training, a laptop with IHA installed in advance (TNC will provide link and technical assistance)
- Flow data if interested in another river and/or effect other than hydropower (e.g. climate change or water withdrawals for mining)

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9:00 a.m. Welcome, Introductions and Review of Agenda and meeting materials

9:30 a.m. Ecological Risk Assessment – Problem Formulation

- Approach and overview
- Present risk profile for changes to flow regime

10:00 a.m. Ecosystem Flows

- Introduction to concept and supporting science
- Methods to define ecosystem flow needs and track change
- In practice – review large river case studies

11:00 a.m. Break

11:15 a.m. Flow-ecology relationships – Susitna case study

- Outline key flow-ecology relationships for the Susitna
- Review ecologically relevant statistics

12:15 p.m. Lunch (provided on site)

1:15 p.m. *Willamette River (Columbia River Basin) Case Study*  
Assessing Hydrologic Alteration – Comparative Analysis and Outputs

- Overview of IHA
- Hydrologic data selection, sources and formatting
- Running IHA to compare unaltered and altered conditions
- Interpreting outputs
- Methods to assess sub-daily alteration with IHA and other tools

2:45 *Susitna River Case Study*  
Characterizing a Baseline Flow Regime with IHA

- Application of a single-period analysis
- Analysis and interpreting outputs

3:45 Assessing Hydrologic Alteration - Defining the Question  
Break-out session: Participants will be divided into two groups based on hydro-period. Each group will refine a few flow-ecology hypotheses about how changes to the *magnitude, duration, frequency or rate of change* of flows during a particular season may affect biota or processes in Susitna river reaches and macrohabitats

4:30 Exploration, Discussion and Questions

5:00 Meeting ends