

## *Workshop Agenda*

# **ADVANCING SCIENTIFIC KNOWLEDGE OF MINING IMPACTS ON SALMONID-BEARING WATERSHEDS**

**October 23-27, 2019**

**Flathead Lake Biological Station, Polson, MT**

## **GOALS**

Engage a diverse network of science and policy experts that will address the following questions:

- 1) What are the key policy or management decision points regarding mining impacts in transboundary, salmonid-bearing watersheds that should be informed by science? What barriers or challenges impede the use of science to inform policy and management decision-making?
- 2) What science-based information is needed to inform those decisions?
- 3) Where are those information needs already met by defensible science and where are there partial or total gaps?
- 4) What are the priority research needs going forward, either to continue to provide required information or to address key gaps?

To address these questions, this workshop will convene individuals with expertise in ecotoxicology, salmonids, hydrology/water quality, and the application of science to environmental decision-making. Working together through a 2-day full workshop followed by a 1-day writing group session, we will aim to outline and ultimately generate a focused synthesis manuscript for scientific publication. We also hope this workshop will begin to develop a more cohesive network of scientists and policy experts studying the impacts of mining on freshwater ecosystems. While some emphasis will be placed on mining in transboundary watersheds, the workshop will engage experts working in a variety of geographic settings.

## **PRODUCTS**

- 1) Network of scientists and policy experts engaged in understanding the impacts of mining in rivers.
- 2) High-impact manuscript outline synthesizing knowledge from each working group and identifying: key decision points for mining impacts, critical data needs and knowledge gaps, important gaps in policy and management and future research priorities.
- 3) Ideas for additional future manuscripts (beyond that referenced in 2, above), other communications, and associated funding needs and potential opportunities.
- 4) Summary of workshop proceedings and archive of information generated from the workshop.

## AGENDA

NOTE: All events will take place at the Flathead Lake Bio Station, see [FLBS map](#):

- Plenary sessions will be in the Elrod Lecture Hall
- Focal group breakout sessions will be in:
  - ◆ Salmonids and Ecotoxicology: Elrod Lecture Hall
  - ◆ Policy: Elrod Conference Room
  - ◆ Hydrology/Water Quality: Lakeside Conference Room
- Meals will be in the FLBS dining room
- Happy hours: Location(s) TBA
- Organizers' debriefs will be in, Lakeside Conference Room
- The Day 3 manuscript session will be in Elrod Lecture Hall

Day/Time	Agenda
<b>Wednesday, October 23: Arrival and welcome</b>	
Afternoon	<b>Attendees Arrive FLBS</b> <i>Please note:</i> <ul style="list-style-type: none"> <li>▪ <i>If you have not already emailed signed facility forms, please stop by the main office to sign in person.</i></li> <li>▪ <i>If arriving in your own vehicle, please obtain your room key at the main office.</i></li> </ul>
5:30 PM	<b>FLBS Welcome and Tour</b> <ul style="list-style-type: none"> <li>▪ Jim Elser, Bierman Professor and Director, FLBS and Tom Bansak, Assistant Director, FLBS</li> </ul>
6:30 PM	<b>Dinner</b>
<b>Thursday, October 24: Opening, setting the stage, and focal group sessions</b>	
7:30 AM	<b>Breakfast</b>
8:30 AM	<b>Plenary: Land Acknowledgement and Welcome</b> <ul style="list-style-type: none"> <li>▪ Rich Janssen, Department Head, Natural Resources, Confederated Salish and Kootenai Tribes</li> </ul>
9:00 AM	<b>Plenary: Opening</b> <ul style="list-style-type: none"> <li>▪ Chris Sergeant, Research Scientist, FLBS and Erin Sexton, Senior Scientist, FLBS</li> <li>▪ Elizabeth O'Neill, Workshop Facilitator</li> </ul>
9:30 AM	<b>Plenary--Setting the Stage: Case studies on the interface of management and policy decisions and known impacts of mining on freshwater ecosystems</b> <ul style="list-style-type: none"> <li>▪ <i>Mining Impacts on Freshwater Ecosystems</i>, Sonia Nagorski, Asst. Professor, Geology, University of Alaska Southeast</li> </ul>

	<ul style="list-style-type: none"> <li>▪ <i>BC/CA Environmental Assessment</i>, Greg Knox, Director, SkeenaWild</li> <li>▪ <i>Pebble Mine Case Study</i>, Sarah O'Neal, AK/US Mining Assessment</li> <li>▪ <i>The Taku River Land Use Plan</i>, Mark Connor; Fisheries Coordinator, Taku River Tlingit First Nation</li> </ul>
10:30 AM	<b>Break</b>
10:45 AM	<b>Plenary--Setting the Stage (cont'd)</b> <ul style="list-style-type: none"> <li>▪ <i>A Tale of Two Rivers</i>, Erin Sexton, Senior Scientist, UM Flathead Lake Biological Station</li> <li>▪ <i>Lake Koocanusa Compliance Monitoring</i>, Dave Naftz, Hydrologist, USGS, Wyoming/Montana Science Center</li> <li>▪ <i>Elk River Mining Contaminants</i>, Genny Hoyle, Fish Biologist, Kootenai Tribe of Idaho</li> </ul>
11:45 AM	<b>Plenary Interactive: Initial download of information needs and gaps</b>
12:30 PM	<b>Lunch</b>
1:30 PM	<b>Focal Group Breakout Sessions I: Identifying decision points and associated information needs and gaps</b>
3:15 PM	<b>Break</b>
3:30 PM	<b>Focal Group Breakout Sessions II: Refining decision points and associated information needs and gaps</b>
5:00 PM	<b>Organizers Debrief</b>
5:30 PM	<b>Happy Hour</b>
6:30 PM	<b>Dinner</b>
<b>Friday, October 25: Focal group sessions, feedback, closing of main meeting</b>	
7:30 AM	<b>Breakfast</b>
8:30 AM	<b>Plenary: Opening</b>
9:00 AM	<b>Plenary Presentation: Intricacies of transboundary watershed science and policy</b> <ul style="list-style-type: none"> <li>▪ <i>Effect of Mining on Gravel Bed Rivers and Why You Should Care</i>, Ric Hauer, Professor Emeritus, University of Montana.</li> </ul>
10:00 AM	<b>Focal Group Breakout Sessions III: Setting research priorities (same locations as preceding day)</b>
12:00 PM	<b>Lunch</b>
1:00 PM	<b>Group Photo (outside the dining hall)</b>
1:30 PM	<b>Plenary: Report-outs from focal groups</b>

2:30 PM	<b>Plenary Input: Feedback on focal group results <i>and</i> Workshop Organizers: Synthesis of results</b>
3:15 PM	<b>Plenary: Results of Feedback and Synthesis</b>
4:00 PM	<b>Plenary: Closing</b>
5:00 PM	<b>Organizers Debrief</b>
5:30 PM	<b>Happy Hour</b>
6:30 PM	<b>Dinner</b>
<b>Saturday, October 26: Working group drafts manuscript outline and development plan</b>	
7:30 AM	<b>Breakfast</b>
8:30 AM	<b>Opening</b>
9:00 AM	<b>Draft Outline of Manuscript</b>
10:00 AM	<b>Synthesize Results from Days 1 and 2: Needs, gaps, and research priorities</b>
12:00 PM	<b>Lunch</b>
1:00 PM	<b>Identification of Case Studies to Include in the Manuscript</b>
2:00 PM	<b>Manuscript Title Brainstorming</b>
2:45 PM	<b>Process for Manuscript Development: Tasks, timeline, roles and responsibilities (to include a discussion of authorship)</b>
4:00 PM	<b>Closing</b>
5:00 PM	<b>Organizers Debrief</b>
5:30 PM	<b>Happy Hour</b>
6:30 PM	<b>Dinner</b>
<b>October 27, Travel Day</b>	
7:30 AM	<b>Breakfast</b>
9:00 AM	<b>Shuttle departs to FCA</b>