

# The Oak Ridge National Laboratory (ORNL) Environmental Metrics for Hydropower

## What is the Environmental Metrics Project?

The Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) Water Power Technologies office is supporting Oak Ridge National Laboratory's (ORNL) Environmental Metrics for Hydropower initiative. This effort is focused on enhancing the scientific basis, and the public understanding of that scientific basis, for assessing, comparing, and discussing the environmental effects of hydropower.

## Objectives

- ◆ The primary focus of this project is to develop a science-based, rigorous, concise, shared, and easily understood vocabulary and actionable candidate metrics for stakeholders to use in considering the potential environmental effects of new hydropower development.
- ◆ These metrics and vocabulary will foster clear communication among diverse stakeholders about specific hydropower developments using a common set of facts and information that are well understood and based on best available science.

## Benefits

The benefits of this project offers a number of significant benefits to the populations that this energy source serves. The Project will:

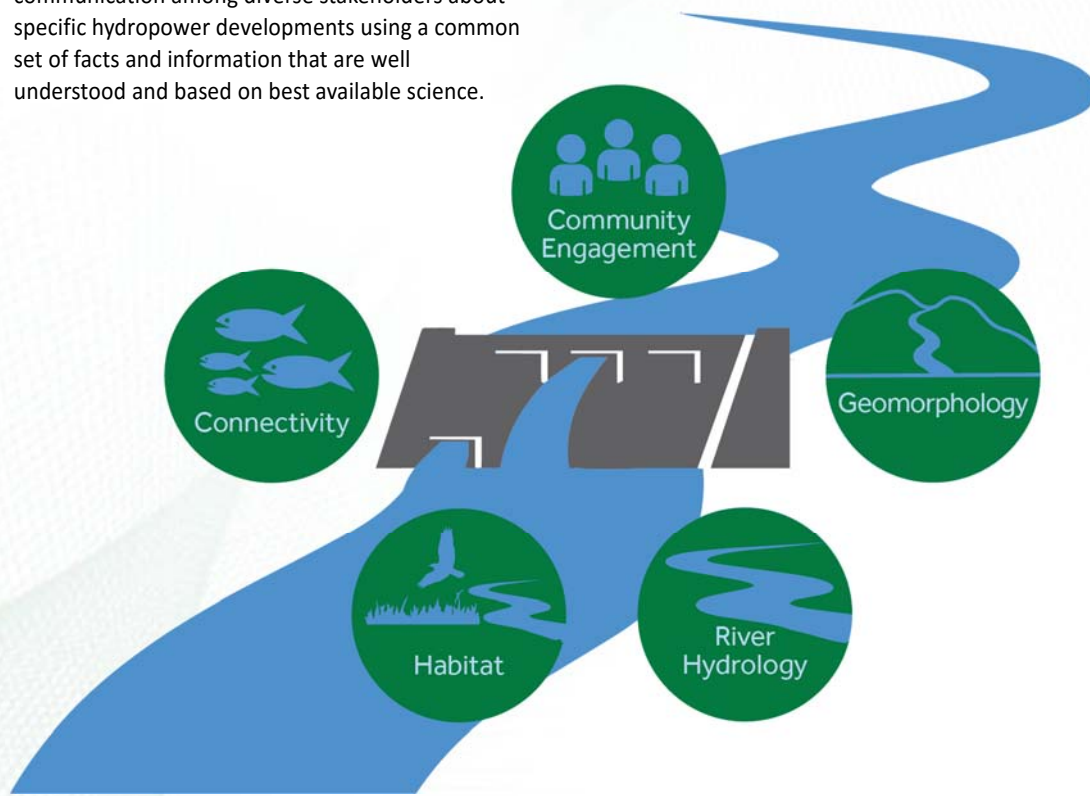
- ◆ **Empower** stakeholders, including agencies, to express priorities and interests about hydropower development more efficiently, concisely, and transparently.
- ◆ **Enable** best available scientific and quantitative analysis to inform decision-making.
- ◆ **Contribute** to robust consensus outcome.
- ◆ **Help** to attain renewable energy goals and reduce climate change impacts.

## Contact

**Shelaine Curd**  
Hydropower Environmental  
Metrics Project Manager  
Oak Ridge National Laboratory  
[curdsl@ornl.gov](mailto:curdsl@ornl.gov)

[ornl.gov](http://ornl.gov)

ORNL is managed by  
UT-Battelle for the  
US Department of Energy



## Outcomes

Phase one of this project will yield scientifically sound and peer-reviewed environmental metrics to assess hydropower. This will include the development of a set of transparent, credible, scientifically rigorous environmental metrics that can be used by hydropower decision-makers, policy-makers and other stakeholders.

## Process Overview

During phase one, the indicators of sustainability will be determined through early, open, and transparent communications and engagement of hydropower stakeholders.

Rigorous documentation, and peer-reviewed publication of the rationale, indicators, and algorithms developed from stakeholder input will inform the Environmental Metrics Framework.

## Stakeholder Engagement

To ensure transparency, efficacy, consistency, and relevance of hydropower environmental metrics, two advisory boards will be developed including:

- A Mission Advisory Board (MAB), and
- A Science Advisory Board (SAB).

## Advisory Boards

### Membership

The members of the **MAB** will be populated with a cross-section of representatives from sectors with an interest in this topic (water interests, environmental interests, electric industry/developers, agencies, etc.), and the **SAB** will be selected based on scientific qualifications and expertise.

### Duties

- The **MAB** will provide input on the relevance and usefulness of the planned research and emerging products for their stakeholders.
- The **SAB** will provide input on the scientific efficacy and consistency of environmental metrics under development.

### Public Awareness

The Boards will build public awareness of this project by establishing a common terminology enabling fact-based discussion within the industry, amongst stakeholders, and with the general public.

Interested members of the broader community may communicate with the directly with the ORNL project team. A project website will also be developed.

## Timeline



## How can I be involved?

If you would like to be involved, please contact Shelaine Curd, ORNL Hydropower Environmental Metrics Project Manager at: [curdsl@ornl.gov](mailto:curdsl@ornl.gov).

Track progress on the [project website](http://hydropower.ornl.gov), available at:

<http://hydropower.ornl.gov>

**Date:** June 2016