



# SUSITNA-WATANA HYDRO

## Goal, Structure and Outcome of the Riparian Modeling IFS – Technical Team Meetings April 29-30, 2014

**GOAL:** Similar to the November 2013 IFS-TT meeting, this Riparian IFS-TT meeting is intended to (1) provide a forum to review and discuss various riparian / riverine-related modeling and study integration efforts, and (2) present and discuss proposed metrics. The overall goal of the meeting is to seek, in a smaller work group format, input from participants regarding the models that are being developed and how these models will be used to address riparian specific questions and issues pertaining to project operations.

**STRUCTURE:** *The meeting is structured into two sessions:*

- **Session One (Day 1) – Physical Modeling Integration and Study Designs.** This session will open with an overview of the Goals and Objectives of the meetings and a brief review of the agenda. This will be followed by a review of the Riparian Instream Flow Study (Study 8.6) and modeling designs. The session will be led by R2, ABR, TetraTech and GWS and will focus on how the Riparian IFS, Riparian Vegetation Study (Study 11.6), Fluvial Geomorphology (Study 6.6) and Riparian Surface Water / Groundwater (Study 7.5) Studies are integrated. The session will be interactive, with participants able to ask questions of each of the study leads as each study element is discussed. This session will provide the framework for both days and be a forum for questions from both TWG and other project disciplines concerning the overall study design.

Following the study over view, we will examine fluvial geomorphology modeling support of the riparian study. The presentation will focus on field study findings to-date, modeling efforts and riparian geomorphologic metrics.

The afternoon will focus on hydrology, including surface water and groundwater elements. The presentation will focus on study findings to-date, modeling and field efforts as well as riparian hydrologic metrics. We will also present an overview of the riparian evapotranspiration study and how it will input to MODFLOW.

- **Session 2 (Day 2) – Morning session will be dedicated to riparian focused ice processes questions, river ice field observations and ice process modeling. We will**



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illustrate how we are integrating field observations and ice process modeling to answer basic questions concerning the role of ice in floodplain vegetation pattern and process.

Afternoon session will first consider integration of fluvial geomorphology, hydrology and ice processes modeling in developing a predictive model of Project operations effects. Riparian IFS output to be used by fluvial geomorphology and ice processes studies will be discussed. Secondly, the integration of Riparian IFS and Riparian Vegetation Studies with the Wildlife Study will be presented. The wildlife presentation will cover how riparian studies outputs will be used to develop wildlife habit metrics.

**OUTCOME:** *At the end of this meeting Participants will have a better understanding of:*

- Types of riparian ecosystem and biologically relevant questions will be addressed by the models.
- Proposed types of evaluation metrics and how these will be integrated into Project effects analysis.
- The empirical data, models, and analysis being used and riparian specific details.
- The type, format and expected timing of inputs, dependencies of each model.
- Model outputs (units, spatial scale, format) and how these feed into other models.