

FY 2009 RESEARCH PROBLEM STATEMENT

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TITLE

Investigation of Travel Time and Dispersion Characteristics of the Deschutes and John Day Rivers

PROBLEM (Description of need)

The Deschutes and John Day River are significant assets in Oregon. They provide multiple recreational opportunities, but also near highway and rail corridors for transport of freight including oil and hazardous materials. Concern over a spill potential into these rivers from the state highways along these rivers has prompted a need for information related to mitigating the effects of a spill on the environment.

PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY

The goal is to provide hydraulic information necessary to predict the time of travel and dispersion characteristics along the main stem reaches of both rivers. This information can be used to mitigate the effects of a spill. To achieve these objectives, dye-tracer techniques will be used to determine the velocity of a dye cloud as it passes several locations along the rivers. The velocity will be related to stream discharge to determine the dispersive characteristics. These data will be input into USGS StreamStats.

BENEFITS

The stream velocity and dispersion information obtained from this study will provide fundamental hydraulic data to better determine river travel times to agencies responsible for emergency responses during spills. Also these characteristics can provide a better knowledge of water quality at highway stream crossings.

CONTACT PERSON:

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