

# Flowering Rush:

## An Invasive Aquatic Macrophyte Infesting the Headwaters of the Columbia River System



### About the Project

In 2007, Virgil Dupuis (Salish Kootenai College, Pablo, Montana) and Peter Rice (University of Montana, Missoula) were awarded funding from the USDA Cooperative State Research, Education, and Extension Service – Tribal Research Grants Program to develop and implement the Spatial Modeling of Invasive Flowering Rush (*Butomus umbellatus*) in the Columbia River Headwaters project.

The project utilized an integrated approach, combining research, education, and extension to develop a spatial model that would help predict the biological potential of flowering rush in Flathead Lake. This research is the first of its type, evaluating the ecological role of flowering rush invasion; and spatial modeling of invasive species in aquatic environments is a relatively new area. Documenting current and future conditions and increasing understanding of plant ecology is essential to evaluate the threat to local and regional fish and wildlife environments, agricultural irrigation water delivery costs, water quality, and identification of safe and effective mitigations.

### Partners

Salish Kootenai College, Confederated Salish and Kootenai Tribes, University of Montana, and the Center for Invasive Plant Management (Montana State University, Bozeman).

### Project Contacts

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### Project Resources

#### Video

[Flowering Rush: Invasion of the Columbia River System](#)

Video produced by Salish Kootenai College

#### Presentations

[Flowering Rush: An Invasive Aquatic Macrophyte Infesting the Flathead Basin](#)

Peter Rice, Virgil Dupuis, and Alvin Mitchell, Fall 2009

[Flowering Rush \(\*Butomus umbellatus\*\) in Flathead Lake and River: An Integrated Invasive Plant Management Project](#)

Presentation given at Weeds Across Borders Conference, May 2008

#### Reports

[Final Report: Spatial Modeling of Invasive Flowering Rush \(\*Butomus umbellatus\*\) in the Columbia River Headwaters Project](#)

Elizabeth Galli-Noble and Emily Rindos, August 2010

[Flowering Rush: Mapping and Spatial Prediction Model](#)

Peter Rice, Marcus Reddish, Virgil Dupuis, and Alvin Mitchell, May 2010

[Flowering Rush: An Invasive Aquatic Macrophyte Infesting the Headwaters of the Columbia River System](#)

Peter Rice & Virgil Dupuis, November 2009

[Initial Results of Foliar Application of Herbicides to Flowering Rush](#)

Peter Rice, Virgil Dupuis, and Alvin Mitchell, October 2009

[Results in the Second Summer After Foliar Application of Herbicides to Flowering Rush](#)

Peter Rice, Virgil Dupuis, and Alvin Mitchell, October 2009

[Herbicide Trials on an Invasive Aquatic Weed, \*Butomus umbellatus\*, on the Flathead Lake East Bay Shore, Flathead Indian Reservation, Montana](#)

Montina McLean Threefingers, Senior thesis, Spring 2009

#### Helpful Links

[Invaders Database System](#)

[Center for Invasive Plant Management](#)

[Salish Kootenai College](#)