

Upstream Lake Sturgeon Passage at the Vianney-Legendre Vertical Slot Fishway

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Area Map



Site Information



Photos by Jason Thiem

Fishway Information



- Constructed in 2001
- Renewal of fish passage
- 35 species pass
- Eel Ramp
- Vertical Slot Fishway (staircase style)

Photos by Jason Thiem

Lake Sturgeon

- Healthy population
- Successful passage
- 1 existing case

Vertical Slot Fishways

- Common Design Type
- Vertical Slot Fishway Characteristics
- Hydraulics well understood
- Optimize hydraulic conditions to suit Lake Sturgeon passage

Hydraulic Conditions

- Volumetric flow rates
- Flow velocities
- Tailwater depths
- Attraction Flows
- Turning Pools (gravel, cobble build up)
- Turbulence levels
- (Kinetic) Energy dissipation rates
- Shear stresses

Field Seasons

- Spring/Summer 2011
 - Quantitative Analysis
 - Turning pools
 - Detailed flow measurements
 - Fishway pools
 - Downstream of the fishway
- Spring/Summer 2012
 - Flow rate manipulations

Modelling

- Laboratory Modelling
 - Scale models
- Computer Modelling
 - CFD modelling

Research Objectives

- Collaboration of biological and hydraulic engineering knowledge.
- Understand the hydraulic conditions that lead to the successful upstream passage of lake sturgeon.
- Create a set of design criteria specific to lake sturgeon passage.

THANK YOU