

Eightmile Lake Restoration and Expansion Appraisal

DRAFT

ICICLE COMPREHENSIVE WATER RESOURCES STRATEGY

More Information Available at <http://www.ecy.wa.gov/programs/wr/cwp/>

PROJECT DESCRIPTION

Eightmile Lake is one of four Alpine Lakes currently managed by Icicle Peshastin Irrigation District (IPID) for supplemental irrigation supply. IPID typically releases water from one lake each year on a rotating basis to supplement irrigation supply and to perform routine maintenance. In drought years, water from all four lakes are released.

Water storage control structures for Eightmile Lake have been damaged by ice and flooding, which results in more recent lower storage capacity.

This project will evaluate four storage scenarios at Eightmile Lake. The purpose of this project is to complete an appraisal level study to restore storage volumes to historic operational, permitted, and adjudicated water right levels of 1,827 acre-feet, 2,000 acre-feet, and 2,500 acre-feet, respectively. A conceptual evaluation will also be included to evaluate an increase in storage to 5,000 acre-feet.

Lead Entity to Implement: Icicle-Peshastin Irrigation District

Estimated Project Cost:

- **Storage Restoration Appraisal Study and Conceptual Expansion Study: \$120,000**
- **Storage Restoration: \$1.2 Million**

Timeline to Implement

Restoration:

2014– Study

2015– Design and Environmental Review

2016– Construct

Expansion: Pending outcome of Conceptual Study

PROJECT BENEFIT

Storage Restoration

- IPID to receive benefit in drought years, and Leavenworth in non-drought years at City wells.
- Instream flow benefits of 4.2 cfs (627 ac-ft) to 8.7 cfs (1,300 ac-ft) from RM 0.0 in Icicle Creek to Eightmile lake (additional benefits to mainstem Wenatchee and Columbia River).
- Improves storage reliability and management
- Meets domestic demand for the City of Leavenworth

Storage Expansion

- Continued instream flow benefit to Wenatchee River and Columbia River
- Instream flow benefits of 25.3 cfs (3,800 ac-ft) in reaches described above.

GUIDING PRINCIPLES

- Instream flow (GP #1)
- Municipal and domestic demand (GP #4)
- Improved agricultural reliability (GP #5).

POTENTIAL ISSUES/ DATA GAPS

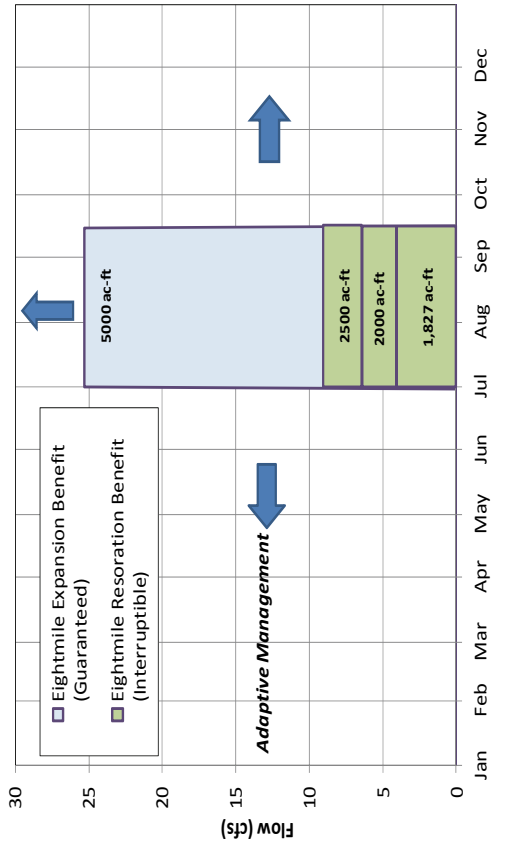
- Working in Wilderness Area, remote access for construction, storage water rights
- Coordinated with Alpine Lakes Automation Project
- Data gaps include permitting and construction feasibility, impacts and storage/release timing

EXISTING and ONGOING STUDIES

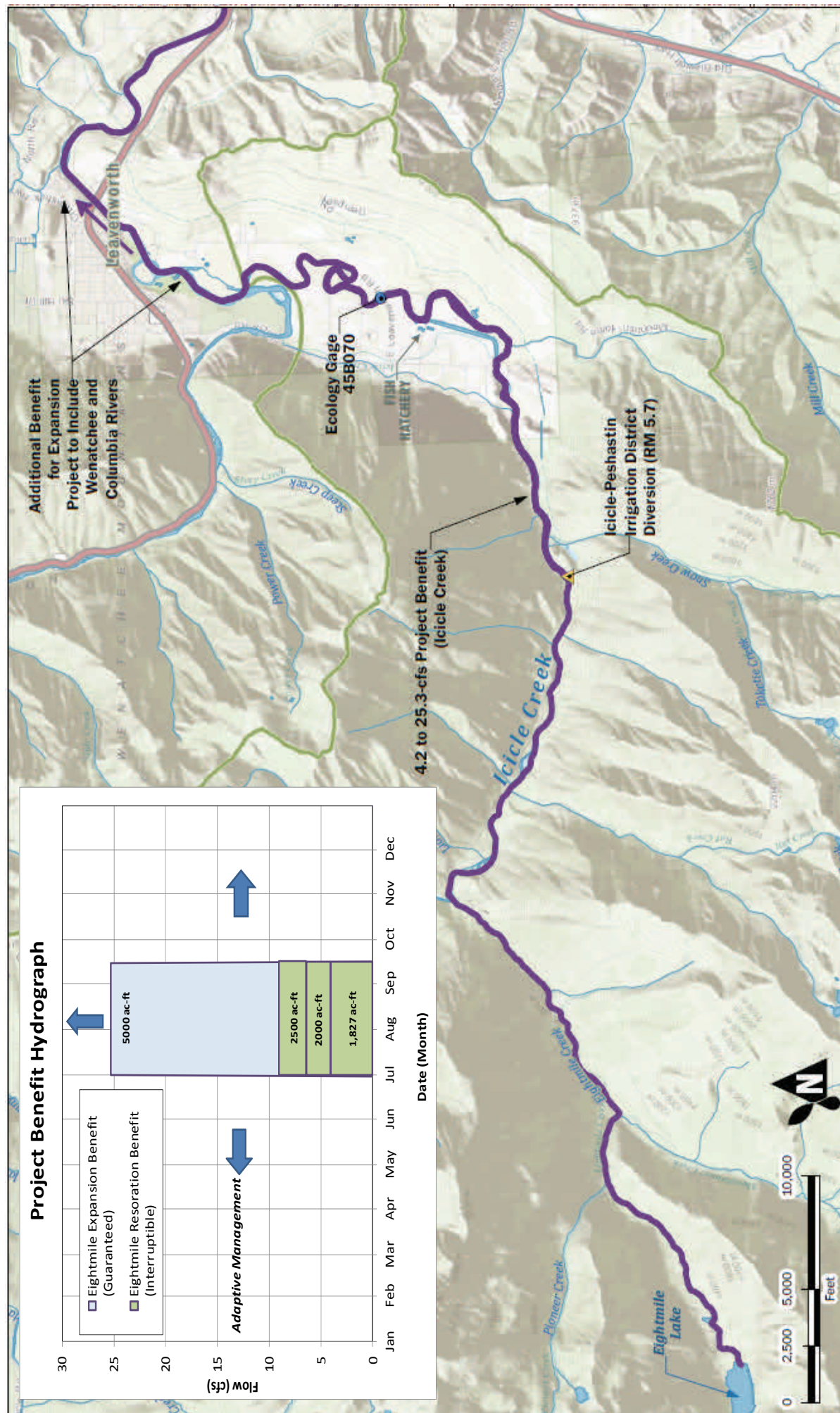
- Icicle Creek Target Flow Report of the Leavenworth National Fish Hatchery, 2004, Montgomery Water Group; Addressing Icicle Creek from RM 3.9 to RM 4.5.
- Lower Icicle IFIM, 2005, US Bureau of Reclamation; Basis for Wenatchee Instream Flow Rule (WAC 173-545) addressing Icicle Creek from RM 0.0 to RM 2.7.
- Instream Flow Incremental Methodology (IFIM) Study, (Ongoing), US Fish and Wildlife Service; Addressing Icicle Creek from RM 2.7 to RM 3.8.

Revision Date: September 4, 2013

Project Benefit Hydrograph



4.2 to 25.3-cfs Project Benefit (Icicle Creek)



Additional Benefit for Expansion for Project to Include Wenatchee and Columbia Rivers

Ecology Gage 45B070

Icicle-Peshastin Irrigation District Diversion (RM 5.7)

- Stream Gage
- Diversion
- Highway
- Instream Flow Benefit (Interruptible - Restoration)
- Guaranteed - Expansion
- Adaptive management

Water Supply Availability:
Guaranteed - water rights are permanently placed in the State Trust Program under RCW 90.42.08
Firm - water rights that are described as "non-permanent conveyances" under RCW 90.42.040
Interruptible - water rights that are subject to interruption during drought years



Eightmile Restoration Project

Icicle Creek Comprehensive Water Management Strategy
 WRIA 45, Washington



SEP 2013
 PROJECT NO. 120045

BY: EAH / JRB
 REV BY: ---

FIGURE NO. **3**