

LAMPREY TOOLBOX +



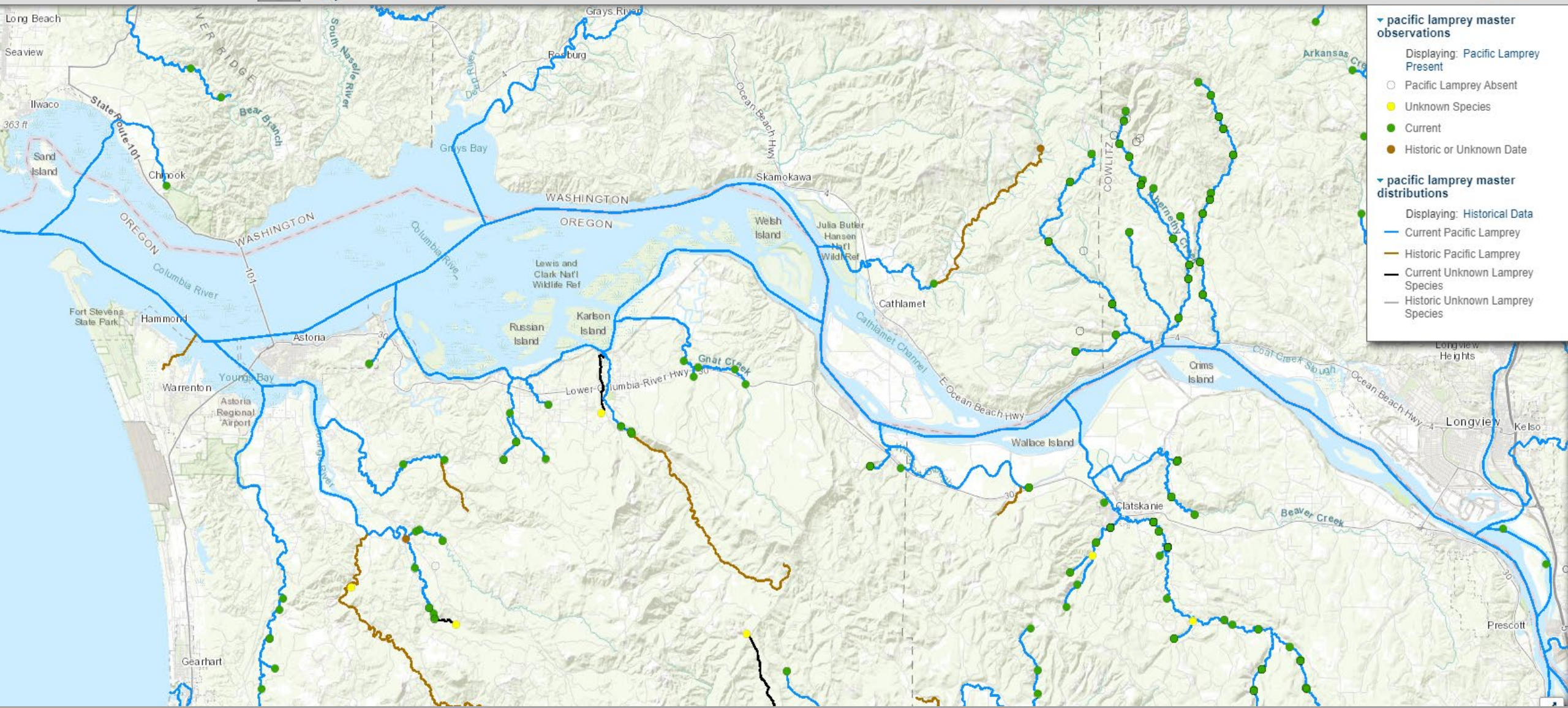
Joe Skalicky & Ann Gray, U.S. Fish & Wildlife Service
Presented at: Lower Columbia Estuary Partnership,
Science Work Group, 6-23-2020

Databasin.org

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Legend



▼ pacific lamprey master observations

Displaying: Pacific Lamprey Present

- Pacific Lamprey Absent
- Unknown Species
- Current
- Historic or Unknown Date

▼ pacific lamprey master distributions

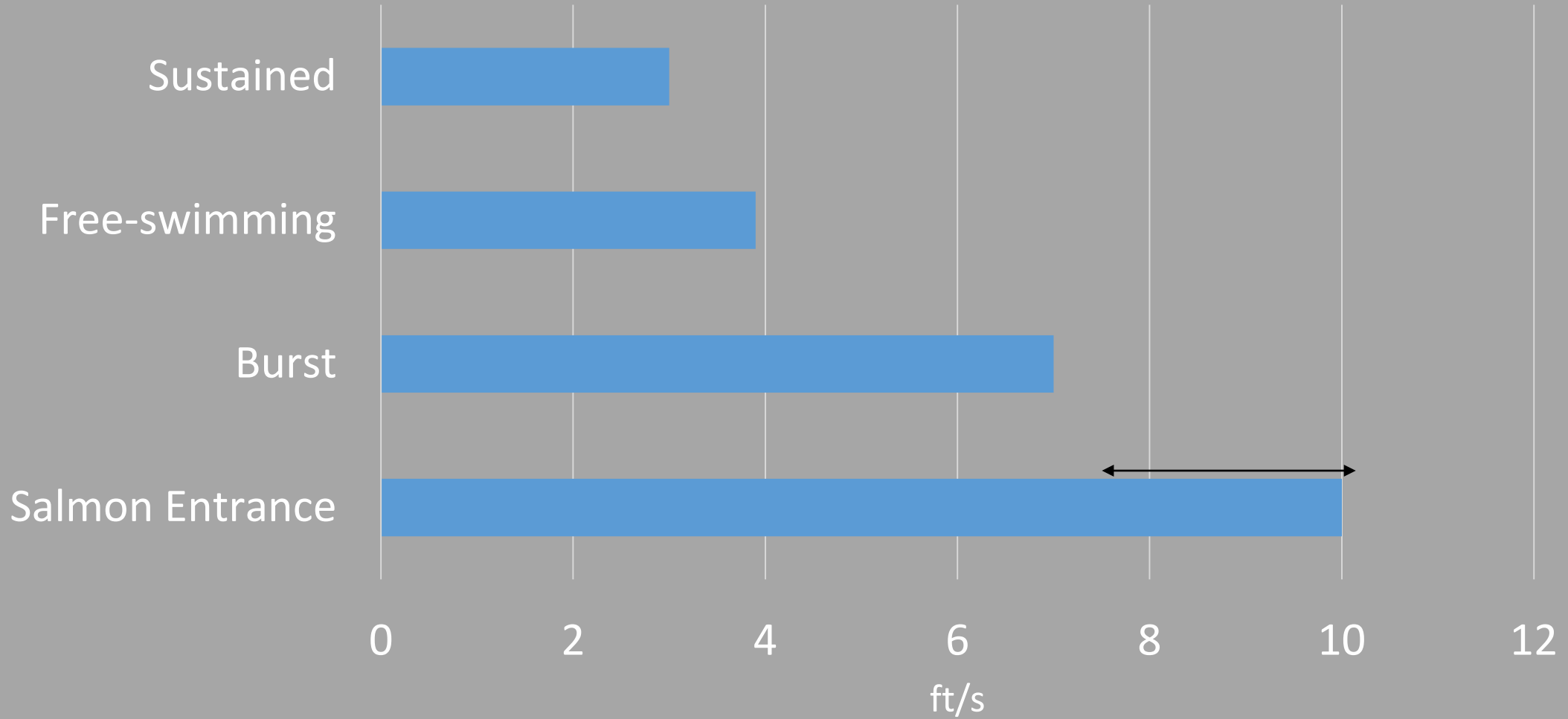
Displaying: Historical Data

- Current Pacific Lamprey
- Historic Pacific Lamprey
- Current Unknown Lamprey Species
- Historic Unknown Lamprey Species

Adult Passage



Pacific Lamprey Swimming Abilities

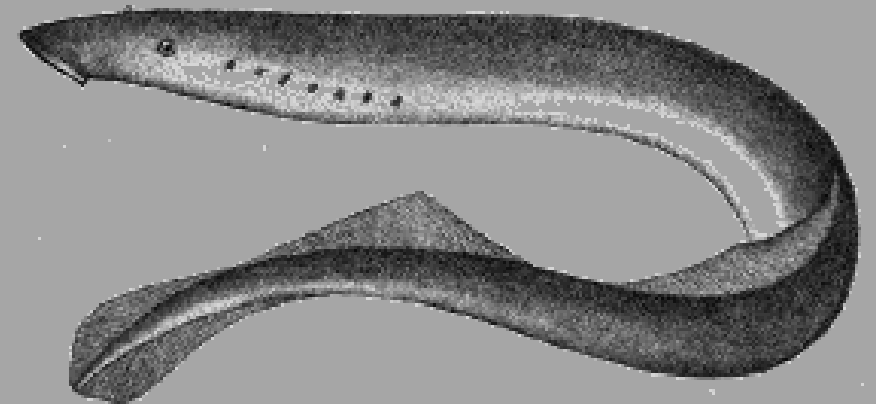


Restoring Passage: Traditional Fishways

**Technical White Paper:
Practical Guidelines for Incorporating
Adult Pacific Lamprey Passage at Fishways
June 20, 2017**

Recommended citation format: Pacific Lamprey Technical Workgroup. 2017. Practical guidelines for incorporating adult Pacific lamprey passage at fishways. June 2017. White Paper. 47 pp + Appendix. Available online: <https://www.fws.gov/pacificlamprey/mainpage.cfm>

- Behavior
- Solutions for Problem Areas
- Recommendations
- Case Studies





DESIGN GUIDELINES FOR PACIFIC LAMPREY PASSAGE STRUCTURES

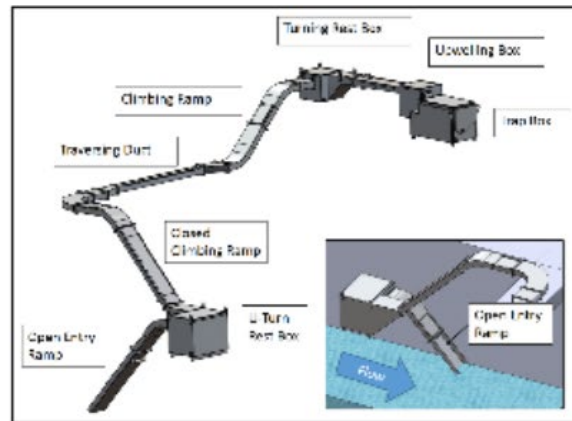
Study Code LMP-P-13-1

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For

U.S. Army Corps of Engineers
Portland District

2015

Restoring Passage: “Lamp Ramps”

Design Guidelines for Pacific Lamprey Passage Structures

*“online digital parts
library”*



Key to Success: Good entrance location!!

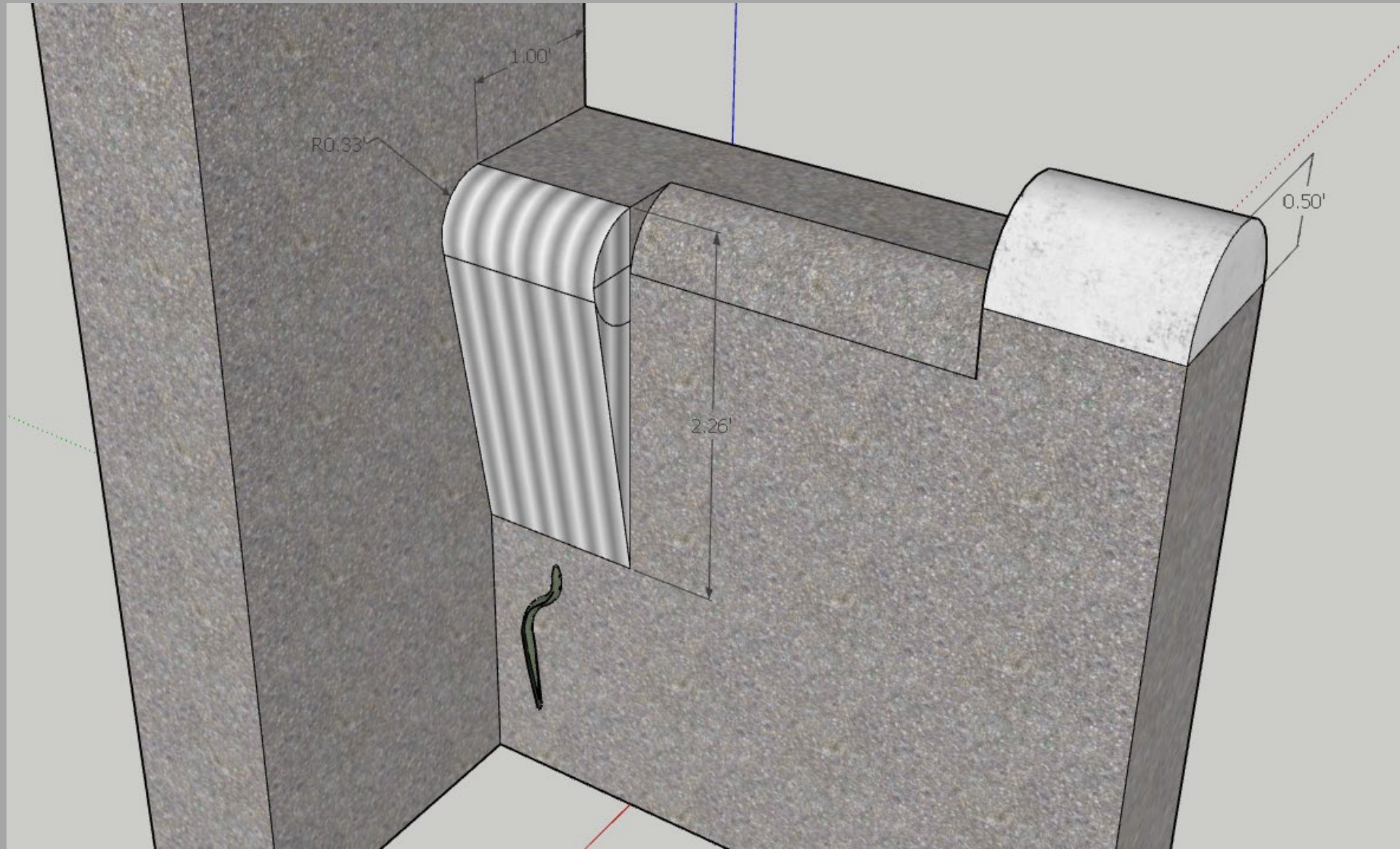
Simple Ramps





Wetted Walls

Fishways – 90° Options



Restoring Passage: Traditional Fishways



In traditional fishways, providing continuous attachment surfaces by rounding corners, eliminating gaps, and reducing floor grating can improve lamprey passage.

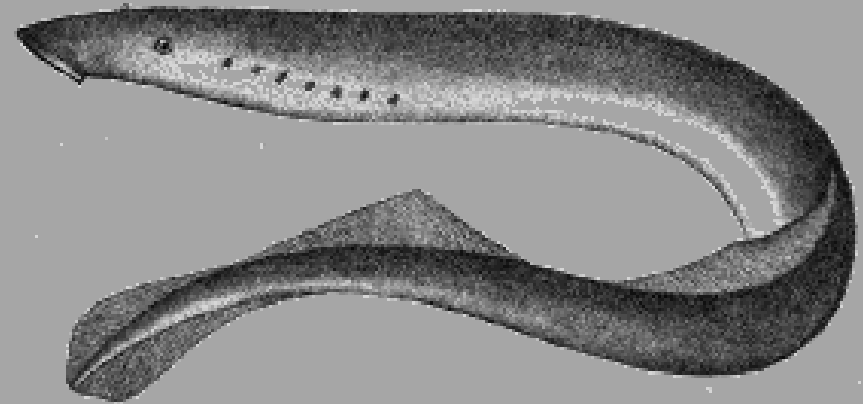
Restoring Passage: Recent Experiments



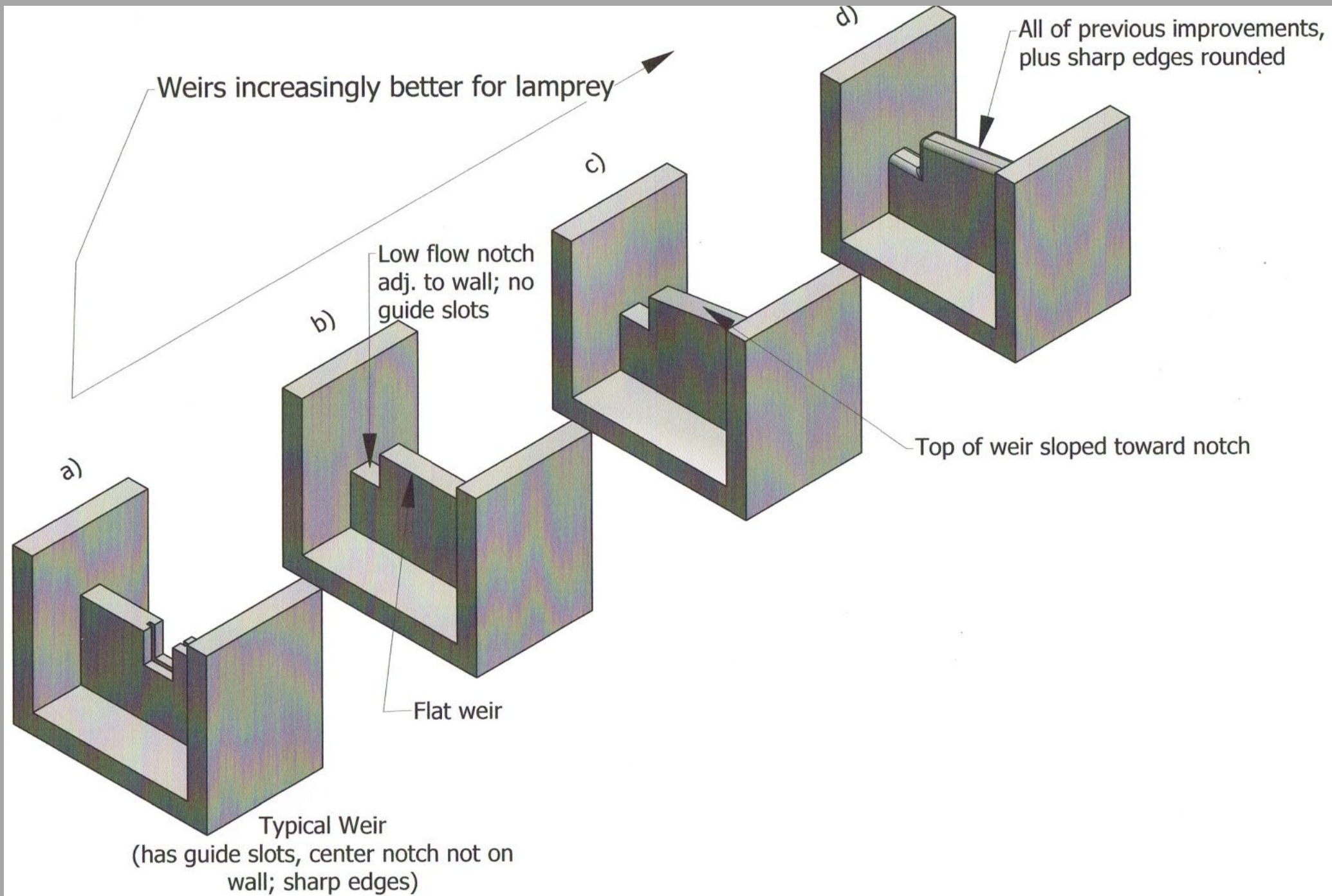
Van Arsdale Dam- lamprey passage tube
Damon Goodman and Stewart Reid
Photo : M. Macor- The Chronicle

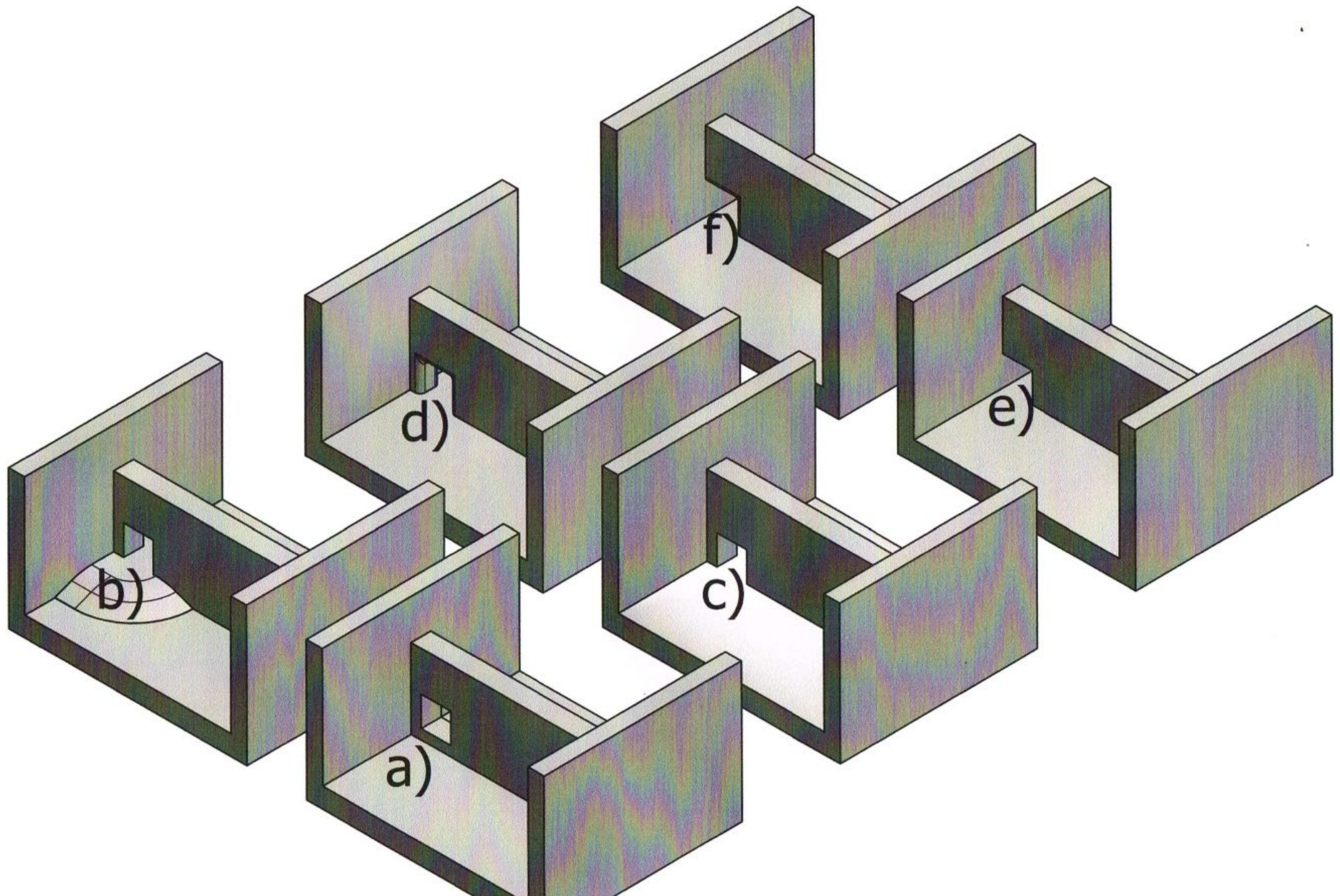
Traditional Fishways Considerations for Lamprey

- Type of ladder
- False attraction / No attraction
- Limited or no continuous attachment surfaces
- Picket spacing
- Counting stations
- Lighting
- Transition areas/ confusing flow patterns
- Limited resting area/ refuges



Weirs increasingly better for lamprey





Larval and Juvenile Salvage



*Best Management Guidelines for
Native Lampreys
During In-water Work
Living Document, Original Version 1.0
May 4, 2020*

Lamprey Technical Workgroup

Pacific Lamprey Habitat Restoration Guide



“Ideal” Fish Salvage Protocol

1. Conduct pre-drawdown lamprey presence/absence surveys
 - Mussels?
2. Perform pre-drawdown lamprey salvage
 - Mussels?
3. Perform pre-drawdown salvage boney fishes
4. Perform hands on lamprey salvage during drawdown
 - Mussels?
 - Boney fishes?
5. Perform “dry” shocking on dewatered substrates with high density of lamprey. Continue until site is completely dewatered.

Site Dewatering

- Slower the better
 - Increases self-rescue rates
 - 1-2" per hour
- Time to conduct active hands on salvage of stranded lamprey
- Daytime preferred – to salvage stranded larvae
- Most lamprey emerge in first 15 min (Liedtke *et al.* 2015)



Summary of Resources for Lamprey

- Websites-Conservation Initiative
 - Workgroups, mapping and other resources
- BMP documents
 - Mussels! Xerces Society
 - Fish Passage – ramps and traditional fishways
 - Inwater work and salvage!
 - Road Crossings BMPs-June 2020
- Us!
- You!

Questions?



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