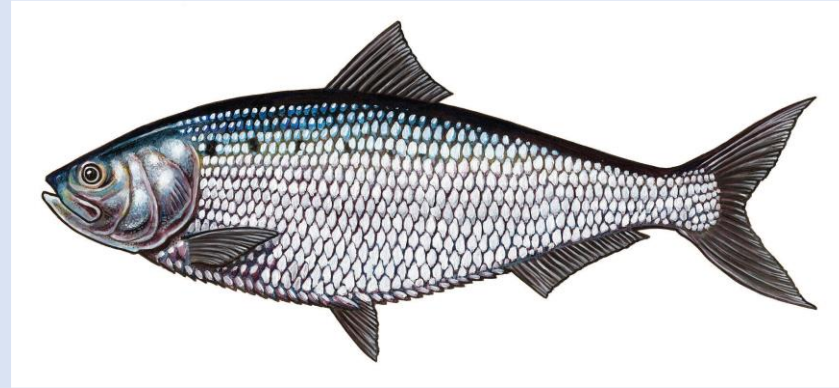


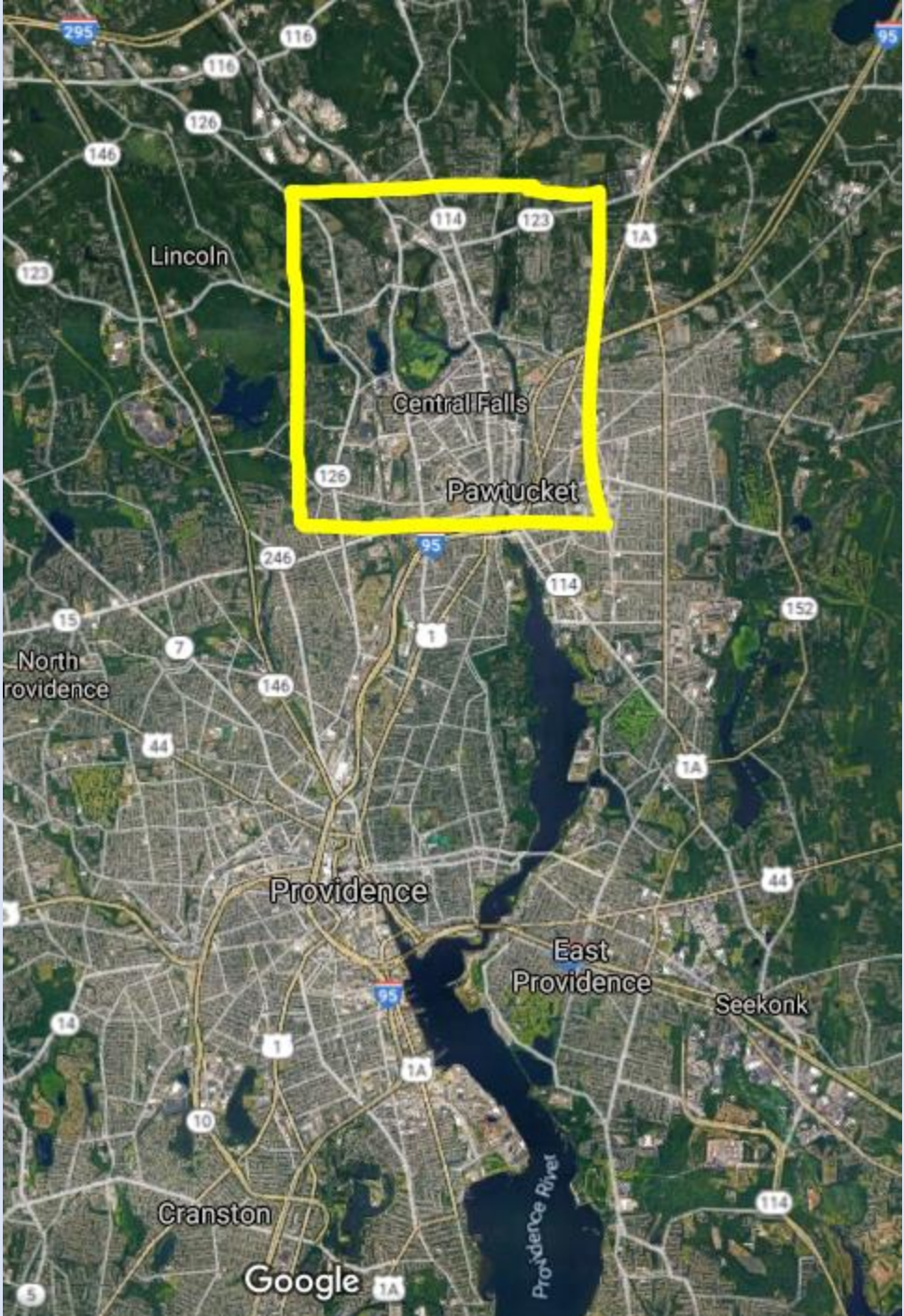
Lower Blackstone Fish Passage Restoration



RHODE ISLAND
Department of Environmental Management

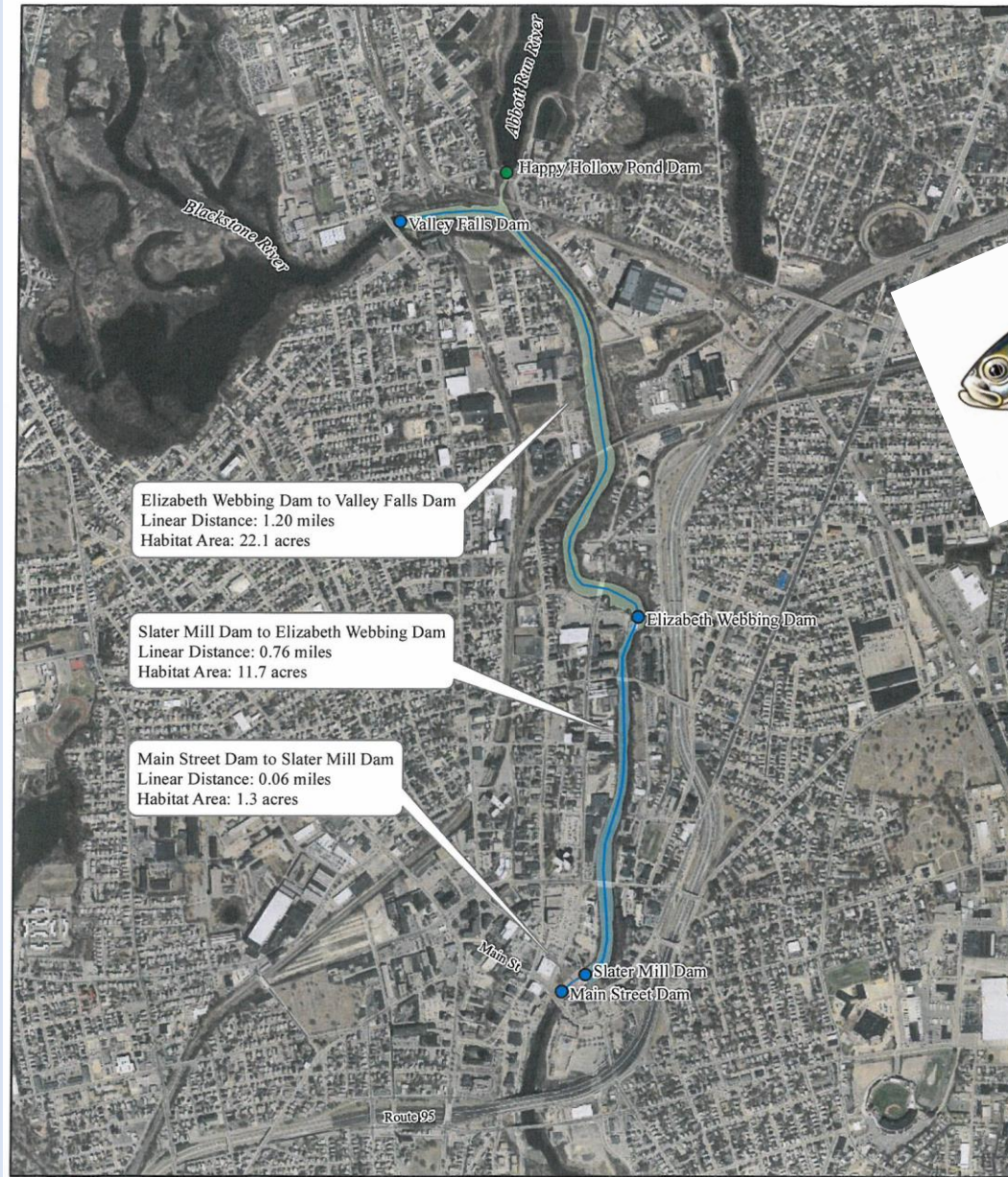
Lower Blackstone Fish Passage Restoration



Site



Lower Blackstone Fish Passage Restoration

Site



 Rhode Island Department of Environmental Management	Lower Blackstone River Dams		 RHODE ISLAND FISH & WILDLIFE
	Blackstone River Fish Passage Restoration		
0 0.125 0.25 0.5 Miles			



Lower Blackstone Fish Passage Restoration

Partnerships



Municipality



Affected Property Owners



Lower Blackstone Fish Passage Restoration

Considerations

Thorough evaluation under a number of criteria representing

- project performance goals/requirements,
- Site constraints
- stakeholder interests
- resource protection
- financial feasibility
- Sustainability
- adaptability
- And more!



Lower Blackstone Fish Passage Restoration Alternatives Assessment

Criteria

- .1 Permitting and Regulatory Criteria
- .2 Aquatic Passage Criteria
- .3 Cultural Resources Criteria
- .4 Construction Phase Criteria
- .5 Post-Construction Phase Criteria



Lower Blackstone Fish Passage Restoration Alternatives Assessment

Criteria

.1 Permitting and Regulatory Criteria

- ❖ *Avoid / Minimize Wetland Resource, Impacts and State / Federal Regulatory Jurisdictions*
- ❖ *Minimize NEPA Compliance Requirements*

.2 Aquatic Passage Criteria

.3 Cultural Resources Criteria

.4 Construction Phase Criteria

.5 Post-Construction Phase Criteria



	Permitting & Regulatory Criteria	
FISH PASSAGE ALTERNATIVE	Avoid / Minimize Wetland Resource, Impacts and State/Federal Regulatory Jurisdictions	Minimize NEPA Compliance Requirements
Linear Denil		
Fish Ladder		
Folded Vertical Slot Fishway		
Folded Denil		
Nature- Like Fishway		
Catch and Haul Facility		
Hydraulic Fish Conveyance Facility		
Linear Vertical Slot Fishway		



Lower Blackstone Fish Passage Restoration Alternatives Assessment

Criteria

.1 Permitting and Regulatory Criteria

- ❖ *Avoid / Minimize Wetland Resource, Impacts and State / Federal Regulatory Jurisdictions*
- ❖ *Minimize NEPA Compliance Requirements*

.2 Aquatic Passage Criteria

- ❖ ...
- ❖ ...

.3 Cultural Resources Criteria

- ❖ ...
- ❖ ...

.4 Construction Phase Criteria

.5 Post-Construction Phase Criteria

Lower Blackstone Fish Passage Restoration Alternatives Assessment

Fish Passage Alternative	Permitting & Regulatory Criteria		Aquatic Passage Criteria				Cultural Resources Criteria		Construction Phase Criteria			Post-Construction Phase Criteria							Overall Score
	Avoid / Minimize Wetland Resource, Impacts and State / Federal Regulatory Jurisdictions	Minimize National Environmental Policy Act (NEPA) Compliance Requirements	Maximize Fishway Attraction to Passage Structure	Maximize Fishway Effectiveness (Safe, Timely and Effective)	Maximize Access to Upstream Spawning Habitat	Maximize Connectivity for All Aquatic Species Within the River Corridor	Avoid / Minimize Indirect Impacts (Visual/Viewscapes, Vibrations, Sounds) to National Register Eligible Historic / Archaeological Resources	Avoid / Minimize Direct Impacts or Alterations to National Register Eligible Historic / Archaeological Resources	Minimize Construction Costs, Constructability Issues and Risks	Minimize Construction Duration / Traffic Impacts	Maximize Eligibility for NRCS and Other Potential Construction Funding Sources	Minimize Maintenance / Life-Cycle Costs	Avoid / Minimize Potential Impacts to Hydropower Facility Operations / Efficiency	Avoid / Minimize Increase of Storm/Flood Elevations	Maximize Community Engagement, Accessibility & Educational / Recreational Benefits	Avoid / Minimize Potentially Dangerous Access / Operational Scenarios	Avoid / Minimize Impediments to Future Maintenance / Reconstruction of Adjacent Structures (Bridge, Access Platform, Walls)	Maximize Adaptability to Future Conditions	
Criteria	2	2	10	10	10	6	4	4	4	2	4	10	10	4	6	8	8	8	
Linear Denil Fish Ladder	6	8	4	4	2	4	4	6	4	6	10	6	8	6	8	6	2	4	5.07
Folded Vertical Slot Fishway	4	4	2	6	2	8	2	4	2	4	8	8	4	4	6	6	2	8	4.79
Folded Denil Fish Ladder	8	10	4	6	6	4	6	4	10	8	10	6	8	10	10	6	6	4	6.46
Nature-Like Fishway	6	2	10	10	6	10	4	2	8	6	10	10	8	10	6	10	8	10	8.25

Lower Blackstone Fish Passage Restoration Alternatives Assessment

How much to
Build?



How much to
own, operate,
maintain?

Funding
Sources?
(Construction)

Funding
Source
Constraints



Lower Blackstone Fish Passage Restoration

