

Northern Rhode Island Regional Energy Collaborative

Blackstone River Hydropower Feasibility Study

Phase 1 Update

August 2010

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Regional Collaborative

Towns of Cumberland, Lincoln & Glocester, and the City of Pawtucket in Coordination with:

- Blackstone River Watershed Council
- John H. Chafee Blackstone River National Corridor Commission
- Blackstone Valley Tourism Council
- RI Office of Energy Resources
- RI Economic Development Corporation
- RI Foundation
- NOAA
- US FWS and
- RIDEM

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Vision & Goals

Develop clean renewable energy through a collaboration of public/private partnerships to:

- Improve dam safety
- Provide cost effective, environmentally sustainable, local renewable energy
- Protect & enhance fishery resources
- Protect water quality
- Protect & enhance cultural and historic resources

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Hydro Feasibility Study

Phase 1

- Site Control / Dam Ownership
- Preliminary Dam Safety Inspections
- Site Hydraulics and Energy Estimates
- Regional Collaborative
- Initial Technical Screening

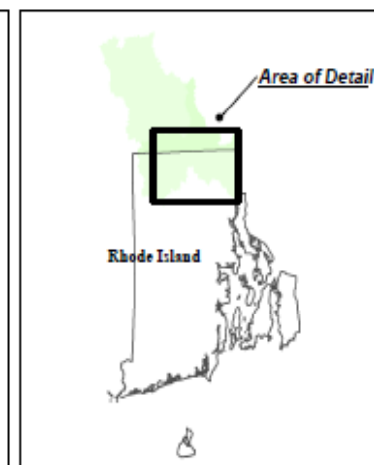
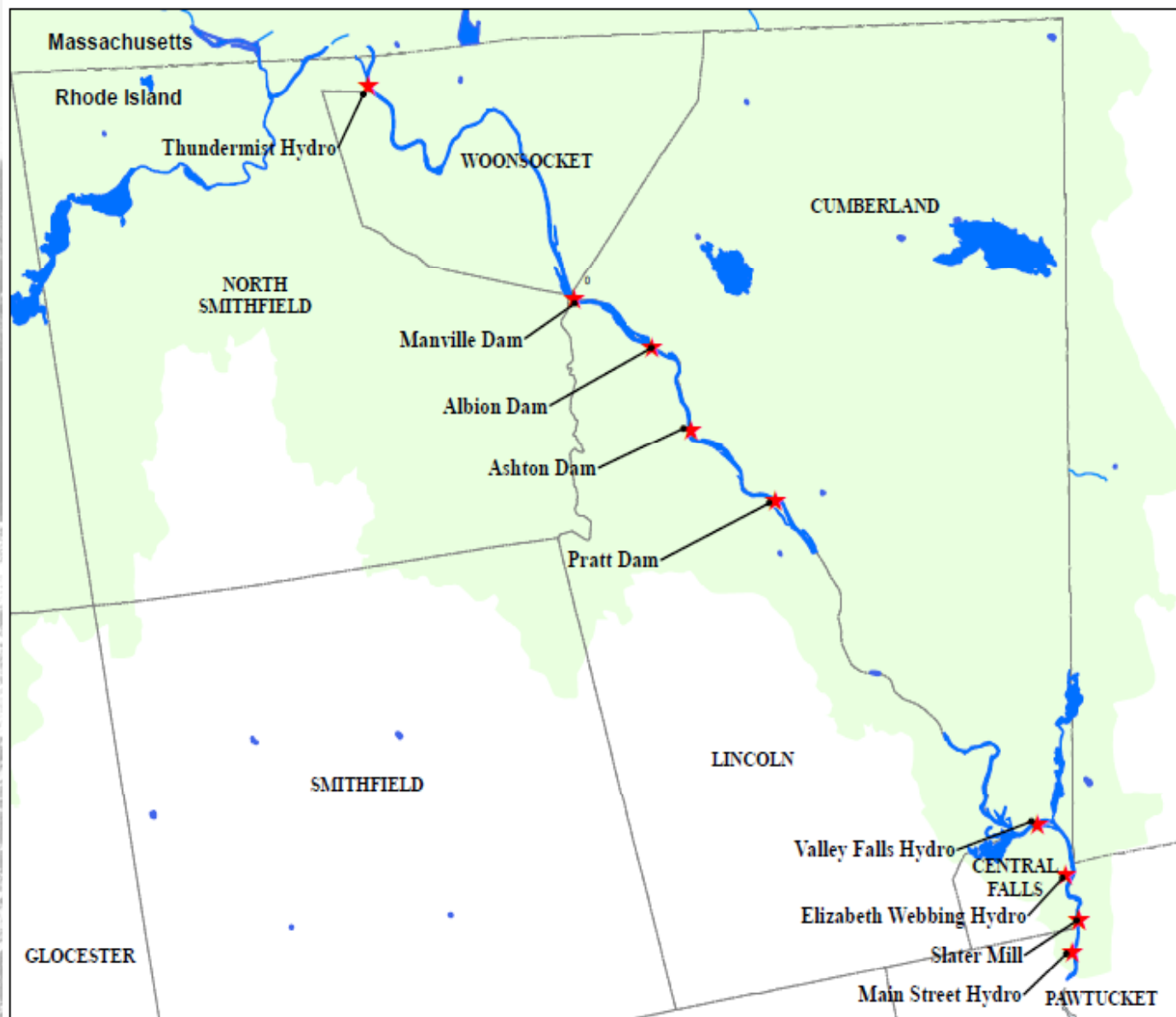
Phase 2

- Preliminary Engineering Optimization
- Environmental Assessment
- Economic Performance


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Map Legend

 Blackstone River Watershed

This map does not comply with National Mapping Standards and is intended for informational purposes only.

**Blackstone River Watershed
Rhode Island / Massachusetts**

**Hydro Screening Study
Overview Map**

**THE ESSEX
PARTNERSHIP**

27 Vaughan Ave. Newport Rhode Island 02840
p. 401-619-4872 f. 401-619-4874

Site Control

State has ownership interests in:

- Albion – RIDOT (dominant) & DEM
- Ashton – DEM
- Elizabeth Webbing – DEM
- Manville – RIDOT & Cumberland

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Dam Safety

- Independent inspection - April 2010
- Dams are stable; no immediate concerns
- Routine maintenance has been neglected:
 - Brush & tree removal
 - Re-pointing of masonry
 - Restoration of low level outlets
 - Flashboard & caplog repairs

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Site Hydraulics

Dam Name	Published Dam Height (ft)	Actual Head (avg. ft)	Delta (ft)	% Change
<i>Pratt</i>	12	1.9	-10.1	-84%
<i>Manville</i>	22	13.4	-8.6	-39%
<i>Albion</i>	18	10.8	-7.2	-40%
<i>Ashton</i>	18	7.9	-10.1	-56%

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Energy Estimates

No	Alternative	Installed Capacity (kW)	Average Power (KW)	Net Annual Energy (MWH)
1	Ashton	833	359	3,023
2	Albion	1,087	472	3,974
3	Manville	1,374	591	4,976
4	Elizabeth Webbing	700	350	4,360
A	Ashton, Albion, Manville	3,294	1,422	11,973
B	Albion, Manville, Webbing	3,161	1,413	13,310
C	Ashton, Albion, Manville, Webbing	3,994	1,772	16,333

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