Conserving Vernal Pools in Maine

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Vernal Pool Protection Timeline

• 1995: Natural Resources Protection Act revised – VP identified as significant wildlife habitat, if mapped

• 1999: Vernal Pool Working Group convened
  – Reps from state & federal agencies, environmental groups, environmental consultants and an academic wetland ecologist
  – Maine Audubon and UMaine collaborated on the Very Important Pool (VIP) Program – a preliminary statewide inventory and ecological assessment of pools by trained citizen scientists; resulted in data on > 400 vernal pools.
  – Introduction to VP ecology through workshops, news articles, radio and TV programs
What is a Vernal Pool?

- **Size:** Small (<0.1 to 2.0 ac)
- **Hydrology:** Ephemeral, Isolated
- **Fish:** Absent
Isolated upland basin pool

Floodplain scour pool
Shrub swamp pools

Forested swamp pools
Maine’s Vernal Pool Indicator Species

Blue-spotted Salamander

Spotted Salamander

Wood Frog

Fairy Shrimp (2-3 spp)
Maine’s Vernal Pool Wildlife

Waterfowl, Wading Birds, & Raptors

Amphibia – 11 of 17 native spp

Reptilia -- 9 of 17 native spp

>500 spp invertebrates in the NE
## Rare, Threatened & Endangered Species of Maine’s Vernal Pools

<table>
<thead>
<tr>
<th>Group / Species</th>
<th>Status</th>
<th>Distribution</th>
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<tr>
<td><strong>Reptiles &amp; Amphibians</strong></td>
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<tr>
<td>Blanding’s Turtle</td>
<td>Endangered</td>
<td>Southern</td>
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<tr>
<td>Box Turtle</td>
<td>Endangered</td>
<td>Southern</td>
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<td>Spotted Turtle</td>
<td>Threatened</td>
<td>Southern &amp; Midcoast</td>
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<tr>
<td>Wood Turtle</td>
<td>Special Concern</td>
<td>Statewide</td>
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<td>Ribbon Snake</td>
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<td>Blue-spotted Salamander</td>
<td>Special Concern</td>
<td>Statewide</td>
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<tr>
<td><strong>Invertebrates</strong></td>
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<tr>
<td>Ringed Boghaunter</td>
<td>Threatened</td>
<td>Southern</td>
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<tr>
<td>Comet Darner</td>
<td>Special Concern</td>
<td>Southern</td>
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<tr>
<td>Swamp Darner</td>
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<td>Spatterdock Darner</td>
<td>Special Concern</td>
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<tr>
<td>Fairy Shrimp</td>
<td>Rare</td>
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<td><strong>Plants</strong></td>
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<tr>
<td>Feather Foil</td>
<td>Endangered</td>
<td>Southern</td>
</tr>
<tr>
<td>Sweet Pepperbush</td>
<td>Special Concern</td>
<td>Southern</td>
</tr>
</tbody>
</table>
One of the North America’s Most Significant Annual Wildlife Migrations
Vernal Pool Protection Timeline

• 2002 – 2004: Manuals produced on Best Development Practices and Forestry Habitat Management Guidelines
• Discussion on legislation to regulate significant vernal pools
Vernal Pool Protection Timeline

- 2005: Statute dropped requirement for pre-mapping SVPs (except for forest management activities).
- 2006: Rule adopted by Maine DEP with criteria for identifying SVPs.
- 2007: Rule approved by Maine Legislature
Natural Resources Protection Act  
(1988; Rev. 1995)  
Significant Wildlife Habitat  
Chapter 335 Rules

- Seabird Nesting Islands (1998)
- Waterfowl and Wading Bird Areas (2006)
- Shorebird Nesting, Feeding, & Staging Areas (2006)
- Significant Vernal Pools (2007)
- Endangered & Threatened Species Habitat
- Deer Wintering Areas
- Atlantic Salmon Spawning & Nursery Areas
What is a Significant Vernal Pool (NRPA)?

- **Size:** Small
- **Hydrology:** Seasonal, Isolated
- **Origin:** Natural
- **Fish:** Absent

- **Abundance:**
  - Wood Frog .................. 40 egg masses
  - Spotted Salamander ...... 20 egg masses
  - Blue-spotted Salamander .. 10 egg masses  

  **OR**
  - Fairy Shrimp .................. Presence

- **Rarity:** State Rare, Threatened, or Endangered Species
Natural Resources Protection Act
Chapter 335 Rules

Significant Vernal Pools (2006)

Mapped Vernal Pools (March 2016)

- Not Significant: 1980 (77.8%)
- NRPA Significant: 468 (18.4%)
- Potentially Significant: 96 (3.8%)

TOTAL ASSESSED: 2544
Habitat Management Standards for SVPs (MDEP Chapter 335 Rules)

Vernal Pool Depression
- *no disturbance*

Critical Terrestrial Habitat (0-250 ft)
- *maintain 75% as unfragmented forest*

Exemptions:
- Forest Management (unless mapped by APA process);
- Neighboring Parcels without pool depression;
- Utility Lines within 25 ft of a cleared ROW
Subdivision near vernal pool, Wells
Vernal Pool Protection Timeline

- 2007 – Present: Vernal Pool Mapping & Assessment Program created; a municipal-based citizen science initiative with 12 towns participating to develop a database of SVPs.
- 2008 – Present: Development of local, incentive based (in-lieu fee) alternative; proposed for a SAMP.
- 2011- 2013: Compromises made to accommodate adjacent landowners
Further Advances in Vernal Pool Science

2006

2008
Non-Regulatory Tools

- Fee acquisition
- Conservation easement
- Best Development Practices
- Forestry Habitat Mgmt Guidelines
- Landowner assistance
- Public outreach
The Work Continues – Vernal Pool SAMP Working Group

- 6 years
- 60+ meetings
- Citizens
- Development community
- Economists/Appraisers
- Biologists
- 2 towns
- 7 state and federal agencies
- 2 Land trusts
Acknowledgments

Key Vernal Pool Partnerships
Maine Dept of Inland Fisheries & Wildlife
Maine Dept of Environmental Protection
University of Maine
Maine Audubon Society
Maine Association of Wetland Scientists
The Nature Conservancy
U.S. Fish & Wildlife Service
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
Maine Land Trust Community

Vernal Pool Funding Support
U.S. Environmental Protection Agency
Maine Conservation Loon License Plate
Maine Chickadee Check-off
Maine Dept of Environmental Protection
USFWS State Wildlife Grants
Take Home Messages

1. Do your homework prior to regulation
2. Be ready to compromise – It won’t be perfect
3. You need to have champions for the cause (Aram and Phillip)