

## *Alasmidonta varicosa* (Brook Floater)

### Priority 1 Species of Greatest Conservation Need (SGCN)

**Class:** *Bivalvia* (Marine And Freshwater Molluscs)

**Order:** *Unionoida* (Freshwater Mussels)

**Family:** *Unionidae* (Freshwater Mussels)

#### General comments:

found in very low densities with lack of recruitment observed at many occurrences; some isolated and fragmented populations; some evidence of past and current declines and extirpations

#### Species Conservation Range Maps for Brook Floater:

Town Map: [Alasmidonta varicosa\\_Towns.pdf](#)

Subwatershed Map: [Alasmidonta varicosa\\_HUC12.pdf](#)

#### SGCN Priority Ranking - Designation Criteria:

**Risk of Extirpation:**

Maine Status: Threatened

**State Special Concern or NMFS Species of Concern: NA**

**Recent Significant Declines: NA**

**Regional Endemic: NA**

**High Regional Conservation Priority:**

Northeast Endangered Species and Wildlife Diversity Technical Committee:

Risk: Yes, Data: No, Area: Yes, Spec: No, Warrant Listing: No, Total Categories with "Yes": 2

Northeast Regional Synthesis (RSGCN):

Responsibility: High, Concern: Very High

**High Climate Change Vulnerability: NA**

**Understudied rare taxa: NA**

**Historical: NA**

**Culturally Significant: NA**

#### Habitats Assigned to Brook Floater:

Formation Name	Freshwater Aquatic
<b>Macrogroup Name</b>	<b>Rivers and Streams</b>
<b>Habitat System Name:</b> Headwaters and Creeks	<b>**Primary Habitat**</b> <b>Notes:</b> <i>not a headwater stream specialist</i>
<b>Habitat System Name:</b> Large River	<b>**Primary Habitat**</b>
<b>Habitat System Name:</b> Medium River	<b>**Primary Habitat**</b>
<b>Habitat System Name:</b> Small River	<b>**Primary Habitat**</b>

#### Stressors Assigned to Brook Floater:

Stressor Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

**IUCN Level 1 Threat**

**Other Options**

**IUCN Level 2 Threat:**    Lack of knowledge

**Severity:** Moderate Severity

**Actionability:** Highly actionable

**Notes:** Lack of comprehensive survey effort and monitoring to identify status and trends of individual populations

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#### IUCN Level 1 Threat      Agriculture and Aquaculture

**IUCN Level 2 Threat:** Annual and Perennial Non-timber crops

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** In riparian zone where forest canopy is lost or degraded

**IUCN Level 2 Threat:** Livestock Farming and Ranching

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** In riparian zone where forest canopy is lost or degraded; in unfenced stream bed where water quality is directly impacted (e.g., bank erosion, sedimentation, manure in stream) or trampling by livestock occurs

#### IUCN Level 1 Threat      Biological Resource Use

**IUCN Level 2 Threat:** Logging and Wood Harvesting

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** In riparian zone where forest canopy is lost or degraded; instream where sunken logs are salvaged

#### IUCN Level 1 Threat      Invasive and Other Problematic Species, Genes and Diseases

**IUCN Level 2 Threat:** Invasive Non-native-Alien Species-Diseases

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** Zebra mussel and Asian clam are potential threats - not yet documented in Maine but are present in other New England states; prevention/outreach programs could be increased but once established would likely be irreversible; invasive aquatic plants can alter/degrade habitat

#### IUCN Level 1 Threat      Natural Systems Modifications

**IUCN Level 2 Threat:** Dams and Water Management-Use

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** Species requires clean, flowing water; dams alter habitat, can block fish hosts and potentially fragment populations; drawdowns for dam maintenance and repair can cause direct mortality and downstream sedimentation; water withdrawals for irrigation or other large scale consumptive uses

#### IUCN Level 1 Threat      Pollution

**IUCN Level 2 Threat:** Agricultural and Forestry Effluents

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** Impacts to water quality from point and non-point sources; direct impacts of toxins to mussels and/or fish hosts

**IUCN Level 2 Threat:** Domestic and Urban Waste Water

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** Impacts to water quality from point and non-point sources; direct impacts of toxins to mussels and/or fish hosts

**IUCN Level 2 Threat:** Industrial and Military Effluents

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** Impacts to water quality from point and non-point sources; direct impacts of toxins to mussels and/or fish hosts

#### IUCN Level 1 Threat      Residential and Commercial Development

**IUCN Level 2 Threat:** Commercial and Industrial Areas

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** In riparian zone where forest canopy is lost or degraded and/or water quality is impacted; in stream bed where increased access/use directly impacts stream bottom and/or water quality

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#### IUCN Level 1 Threat      Residential and Commercial Development

**IUCN Level 2 Threat:**      Housing and Urban Areas

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** In riparian zone where forest canopy is lost or degraded and/or water quality is impacted; in stream bed where increased access/use directly impacts stream bottom and/or water quality

#### IUCN Level 1 Threat      Transportation and Service Corridors

**IUCN Level 2 Threat:**      Roads and Railroads

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** In riparian zone where forest canopy is lost or degraded; in stream corridor where stream banks, bottom or water quality are impacted (e.g., bridge crossings, road improvements/maintenance); impacts to fish host distribution from culverts

**IUCN Level 2 Threat:**      Utility and Service Lines

**Severity:** Moderate Severity      **Actionability:** Moderately actionable

**Notes:** In riparian zone where forest canopy is lost or degraded; in stream corridor where utility crossing impacts stream bed

#### IUCN Level 1 Threat      Climate Change and Severe Weather

**IUCN Level 2 Threat:**      Habitat Shifting or Alteration

**Severity:** Moderate Severity      **Actionability:** Actionable with difficulty

**Notes:** Climate change impacts (e.g., increased water temperature, drought, etc)

### Species Level Conservation Actions Assigned to Brook Floater:

*\*Only species specific conservation actions that address high (red) or medium-high (orange) priority stressors are summarized here.*

<b>Conservation Action</b>	<b>Category:</b> Survey and Monitoring	<b>Biological Priority:</b> critical	<b>Type:</b> on-going
Develop and implement a systematic protocol for monitoring population size, demographics, and trends.			

#### Stressor(s) Addressed By This Conservation Action

Lack of knowledge

### Guild Level Conservation Actions:

This Species is currently not attributed to a guild.

### Broad Taxonomic Group Conservation Actions:

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-1.

### Habitat Based Conservation Actions:

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-15. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

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*The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.*