

## *Gersemia rubiformis* (Sea Strawberry)

### Priority 2 Species of Greatest Conservation Need (SGCN)

**Class:** *Anthozoa* (Corals, Sea Pens, Sea Fans, Sea Anemones)

**Order:** *Alcyonacea* (Soft Corals)

**Family:** *Nephtheidae* (Soft Corals)

**General comments:** none

**No Species Conservation Range Maps Available for Sea Strawberry**

#### SGCN Priority Ranking - Designation Criteria:

**Risk of Extirpation:** NA

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

**Recent Significant Declines:**

Sea Strawberry is currently undergoing steep population declines, which has already led to, or if unchecked is likely to lead to, local extinction and/or range contraction.

Notes:

recent decline - Trott in review, last record in Cobscook Bay 1973; climate change - Southward et al. 1995; Schiel et al. 2004; Arctic Province species; understudied - targeted collecting by public aquaria and supply companies

**Regional Endemic:** NA

**High Regional Conservation Priority:** NA

**High Climate Change Vulnerability:**

*Gersemia rubiformis* is highly vulnerable to climate change.

**Understudied rare taxa:**

Recently documented or poorly surveyed rare species for which risk of extirpation is potentially high (e.g. few known occurrences) but insufficient data exist to conclusively assess distribution and status. \*criteria only qualifies for Priority 3 level SGCN\*

Notes:

recent decline - Trott in review, last record in Cobscook Bay 1973; climate change - Southward et al. 1995; Schiel et al. 2004; Arctic Province species; understudied - targeted collecting by public aquaria and supply companies

**Historical:** NA

**Culturally Significant:** NA

#### Habitats Assigned to Sea Strawberry:

Formation Name	Subtidal
<b>Macrogroup Name</b>	<b>Subtidal Bedrock Bottom</b>
<b>Habitat System Name:</b> Bedrock	<b>**Primary Habitat**</b> Notes: sperm fertilize eggs within female gastrovascular cavity, eggs develop in gastrovascular cavity and planula larvae released, juvenile feeding habitat, adult feeding habitat
<b>Habitat System Name:</b> Erect Epifauna	<b>**Primary Habitat**</b> Notes: sperm fertilize eggs within female gastrovascular cavity, eggs develop in gastrovascular cavity and planula larvae released, juvenile feeding habitat, adult feeding habitat
<b>Habitat System Name:</b> Kelp Bed	<b>**Primary Habitat**</b> Notes: sperm fertilize eggs within female gastrovascular cavity, eggs develop in gastrovascular cavity and planula larvae released, juvenile feeding habitat, adult feeding habitat
<b>Macrogroup Name</b>	<b>Subtidal Coarse Gravel Bottom</b>
<b>Habitat System Name:</b> Coarse Gravel	<b>**Primary Habitat**</b> Notes: sperm fertilize eggs within female gastrovascular cavity, eggs develop in gastrovascular cavity and planula larvae released, juvenile feeding habitat, adult feeding habitat
<b>Habitat System Name:</b> Erect Epifauna	<b>**Primary Habitat**</b> Notes: sperm fertilize eggs within female gastrovascular cavity, eggs develop in gastrovascular cavity and planula larvae released, juvenile feeding habitat, adult feeding habitat
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***Gersemia rubiformis* (Sea Strawberry)****Priority 2 Species of Greatest Conservation Need (SGCN)****Class:** *Anthozoa* (Corals, Sea Pens, Sea Fans, Sea Anemones)**Order:** *Alcyonacea* (Soft Corals)**Family:** *Nephtheidae* (Soft Corals)**Formation Name Subtidal****Macrogroup Name Subtidal Mud Bottom****Habitat System Name:** Unvegetated **\*\*Primary Habitat\*\*** **Notes:** sperm fertilize eggs within female gastrovascular cavity, eggs develop in gastrovascular cavity and planula larvae released, juvenile feeding habitat, adult feeding habitat**Macrogroup Name Subtidal Pelagic (Water Column)****Habitat System Name:** Nearshore **\*\*Primary Habitat\*\*** **Notes:** larval development & dispersal not far from colony (via bottom water)**Habitat System Name:** Offshore **\*\*Primary Habitat\*\*** **Notes:** larval development & dispersal not far from colony (via bottom water)**Stressors Assigned to Sea Strawberry:**

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 Biological Resource Use****IUCN Level 2 Threat:** Fishing and Harvesting of Aquatic Resources**Severity:** Severe**Actionability:** Highly actionable**Notes:** Unintentional catch by commercial bottom trawling reduces population size and subsequently results in local extinctions facilitated by low growth rates, impaired role of the functional group "suspension feeders".**IUCN Level 1 Threat Pollution****IUCN Level 2 Threat:** Agricultural and Forestry Effluents**Severity:** Severe**Actionability:** Moderately actionable**Notes:** Corals are sensitive to excessive nutrients, toxic chemicals (including heavy metals, pesticides and chemical therapeutants), and/or sediments. Actionability is moderate, i.e. the threat can be minimized by reducing runoff and nutrient inputs**IUCN Level 1 Threat Climate Change and Severe Weather****IUCN Level 2 Threat:** Habitat Shifting or Alteration**Severity:** Severe**Actionability:** Actionable with difficulty**Notes:** Ocean acidification are unknown at this time but could result in decreased survivorship of larvae, and growth and feeding shown in other corals. The ability to mitigate ocean acidification is low.**IUCN Level 2 Threat:** Temperature Extremes**Severity:** Severe**Actionability:** Actionable with difficulty**Notes:** Sea strawberries are cold-water species. Increased water temperatures may have interactive effects with ocean pH decreasing survivorship of larvae and growth rate shown for other corals. Likelihood is high (high certainty) and large scale. The ability to mitigate sea temperature change is low.**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:** Actionable with difficulty**Notes:** Invasives such as encrusting colonial tunicates (*Didemnum vexillum*) could decrease availability of habitat and have other effects largely unknown at this time. Likelihood is high and large scale (throughout the region), so actionability is low.

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#### Species Level Conservation Actions Assigned to Sea Strawberry:

None. *Only species specific conservation actions that address high (red) or medium-high (orange) priority stressors are summarized here.*

#### Conservation Actions Associated with the Cnidaria Guild:

Conservation Action	Category:	Biological Priority:	Type:
Encourage the use of more targeted fishing gear in order to reduce bycatch and habitat disturbance	Public Outreach	high	on-going

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

Fishing and Harvesting of Aquatic Resources

Conservation Action	Category:	Biological Priority:	Type:
Reduce the collection and possession of live specimens	Policy	critical	new

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

Fishing and Harvesting of Aquatic Resources

Conservation Action	Category:	Biological Priority:	Type:
Develop molecular tools to identify where specimens are collected.	Research	high	new

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

Fishing and Harvesting of Aquatic Resources

Conservation Action	Category:	Biological Priority:	Type:
Through education and collaboration, reduce the use of antifouling agents and biocides that negatively affect SGCN, and investigate alternative biofouling agents.	Policy	critical	on-going

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

Marine and Freshwater Aquaculture

#### 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.

*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.*