



SGCN and Habitat Threats

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Water-borne pollutants from agricultural, silvicultural, and aquaculture systems that include nutrients, toxic chemicals and/or sediments including the effects of these pollutants on the site where they are applied

Species Associated With This Threat:		SGCN Priority Level		
		P1 = 28	/ P2 = 56	/ P3 = 7
Class	Ray-finned Fishes (<i>Actinopterygii</i>)	SGCN Priority		
Alewife (<i>Alosa pseudoharengus</i>)		1		
Severity: Moderate Severity Actionability: Moderately Actionable				
The specific causes of impact are increased non-point source pollution (heavy metals and nutrient inputs), increased turbidity, and lower dissolved oxygen.				
American Shad (<i>Alosa sapidissima</i>)		1		
Severity: Moderate Severity Actionability: Moderately Actionable				
The specific causes of impact are increased non-point source pollution (heavy metals and nutrient inputs), increased turbidity, and lower dissolved oxygen.				
Arctic Charr (<i>Salvelinus alpinus oquassa</i>)		1		
Severity: Moderate Severity Actionability: Moderately Actionable				
Potential spruce budwork mitigation could pose risks to some charr habitats. Requires cooperation with Forestry and landowners to minimize impacts to charr habitats.				
Blueback Herring (<i>Alosa aestivalis</i>)		1		
Severity: Moderate Severity Actionability: Moderately Actionable				
The specific causes of impact are increased non-point source pollution (heavy metals and nutrient inputs), increased turbidity, and lower dissolved oxygen.				
Lake Whitefish (<i>Coregonus clupeaformis</i>)		1		
Severity: Moderate Severity Actionability: Moderately Actionable				
Run-off from extensive forest spraying is a likely stressor, ex. Budworm mitigation				
Rainbow Smelt (<i>Osmerus mordax</i>)		1		
Severity: High Severity Actionability: Actionable with Difficulty				
Non-point source pollution (heavy metals and nutrient inputs) has been directly related to declining smelt runs. Likelihood is high and increasing (high certainty), actionability is low because further regulation of effluents is not likely within next10 years in Maine.				
Redfin Pickerel (<i>Esox americanus americanus</i>)		2		
Severity: High Severity Actionability: Moderately Actionable				
Nutrient loading from agricultural runoff severely degrades water quality, vegetation type, and dissolved oxygen level. One RPK population is known to be affected.				



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Class	Ray-finned Fishes (<i>Actinopterygii</i>)	SGCN Priority
	Round Whitefish (<i>Prosopium cylindraceum</i>) Severity: Moderate Severity Actionability: Moderately Actionable Run-off from extensive forest spraying is a likely stressor, ex. Budworm mitigation	1
	Winter Flounder (<i>Pseudopleuronectes americanus</i>) Severity: High Severity Actionability: Moderately Actionable Although winter flounder appear to withstand changes in water quality based on lab studies, their primary spawning habitat is submerged aquatic vegetation like eelgrass that is highly sensitive to declines in water quality, especially nutrient inputs. Eelgrass die-offs in Maine in the 1970s are correlated with reductions in winter flounder populations.	2
Class	Amphibians (<i>Amphibia</i>)	SGCN Priority
	Northern Leopard Frog (<i>Lithobates pipiens</i>) Severity: Moderate Severity Actionability: Moderately Actionable Aquatic larvae are sensitive to pesticides and excessive nutrients	2
Class	Sea Stars (<i>Asteroidea</i>)	SGCN Priority
	Common Sea Star (<i>Asterias rubens</i>) Severity: High Severity Actionability: Moderately Actionable Echinoderm larvae, and to a lesser degree adults, are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments originating from agriculture and aquaculture activity. The likelihood of this threat is high and increasing (high certainty). The current spatial extent the threat from agriculture and forestry effluents is most severe in Southern Maine but expanding along coast along with development of the aquaculture industry, so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.	2
	Common Sun Star (<i>Crossaster papposus</i>) Severity: High Severity Actionability: Moderately Actionable Echinoderm larvae, and to a lesser degree adults, are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments originating from agriculture and aquaculture activity. The likelihood of this threat is high and increasing (high certainty). The current spatial extent the threat from agriculture and forestry effluents is most severe in Southern Maine but expanding along coast along with development of the aquaculture industry, so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.	2



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Class Sea Stars (*Asteroidea*)

SGCN Priority

Forbes's Starfish (*Asterias forbesi*)

2

Severity: High Severity

Actionability: Moderately Actionable

Echinoderm larvae, and to a lesser degree adults, are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments originating from agriculture and aquaculture activity. The likelihood of this threat is high and increasing (high certainty). The current spatial extent the threat from agriculture and forestry effluents is most severe in Southern Maine but expanding along coast along with development of the aquaculture industry, so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.

Purple Sunstar (*Solaster endeca*)

2

Severity: High Severity

Actionability: Moderately Actionable

Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments originating from agriculture and the aquaculture activity. Adults are sensitive, but less so. Likelihood is high and increasing (high certainty). Current spatial extent is most severe in Southern Maine, but expanding along coast along with development of the aquaculture industry, so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.

White Sea Star (*Stephanasterias albula*)

2

Severity: High Severity

Actionability: Moderately Actionable

Echinoderm larvae, and to a lesser degree adults, are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments originating from agriculture and aquaculture activity. The likelihood of this threat is high and increasing (high certainty). The current spatial extent the threat from agriculture and forestry effluents is most severe in Southern Maine but expanding along coast along with development of the aquaculture industry, so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.

Class Birds (*Aves*)

SGCN Priority

American Kestrel (*Falco sparverius*)

2

Severity: Moderate Severity

Actionability: Moderately Actionable

Agriculture presents a potential threat to American Kestrels through exposure to various environmental contaminants and agrochemicals, including anticoagulant rodenticides, carbamates, neonicotinoids, organochlorines, organophosphates, and other pesticides. These contaminants can have adverse effects on reproductive success and overall population health.



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Class	Birds (<i>Aves</i>)	SGCN Priority
	American Three-toed Woodpecker (<i>Picoides dorsalis</i>)	1
	Severity: Moderate Severity Actionability: Moderately Actionable MSMA (used for bark beetle control) is not widely applied in Maine, but the broader use of insecticides to control forest pests may have unintended consequences on this bark-foraging species through reduced prey availability or contamination via bioaccumulation.	
	Baltimore Oriole (<i>Icterus galbula</i>)	2
	Severity: Moderate Severity Actionability: Moderately Actionable Insecticide spraying in urban and rural areas can reduce their insect prey base and even poison adult birds. promoting integrated pest management and reducing non-essential spraying can mitigate harm.	
	Bank Swallow (<i>Riparia riparia</i>)	1
	Severity: High Severity Actionability: Moderately Actionable Widespread use of pesticides reduces availability and diversity of aerial insect prey, likely contributing to steep population declines observed across aerial insectivores.	
	Barn Swallow (<i>Hirundo rustica</i>)	2
	Severity: Moderate Severity Actionability: Actionable with Difficulty Pesticides, herbicides, and biocides reduce prey availability	
	Bay-breasted Warbler (<i>Setophaga castanea</i>)	2
	Severity: Moderate Severity Actionability: Moderately Actionable Historic use of fenitrothion had documented sublethal effects (e.g., AChE inhibition). While current pesticides like B.t. are presumed safer, the effects of newer compounds like tebufenozide remain poorly studied and could pose risks.	
	Bobolink (<i>Dolichonyx oryzivorus</i>)	2
	Severity: Moderate Severity Actionability: Moderately Actionable While direct pesticide exposure is less studied in Maine, Bobolinks are exposed to harmful pesticides during migration and on their wintering grounds, including lethal and sublethal effects from organophosphates and neonicotinoids. Regulation of these chemicals lies mostly outside Maine's jurisdiction; however, Maine can encourage the use of safer alternatives and discouraging the use of harmful pesticides, including neonicotinoids, in agricultural and residential settings. Reducing pesticide use in and near known Bobolink breeding areas can also help support prey availability and limit exposure risk.	



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Class	Birds (<i>Aves</i>)	SGCN Priority
	Cape May Warbler (<i>Setophaga tigrina</i>) Severity: Moderate Severity Actionability: Moderately Actionable Historic aerial spraying to control spruce budworm caused catastrophic Cape May Warbler mortality. Though modern insecticides are less acutely toxic and application strategies have improved, forest pest management remains a threat if not bird-conscious. There is also very limited data on how current practices affect Cape May Warbler survival and productivity.	2
	Chimney Swift (<i>Chaetura pelagica</i>) Severity: Moderate Severity Actionability: Moderately Actionable Insect declines due to pesticide use	2
	Cliff Swallow (<i>Petrochelidon pyrrhonota</i>) Severity: Moderate Severity Actionability: Moderately Actionable Bioaccumulation of pesticides and heavy metals (e.g., mercury, etc.) from aquatic-to-terrestrial food pathways. Reduced prey availability due to insecticide use.	1
	Common Nighthawk (<i>Chordeiles minor</i>) Severity: High Severity Actionability: Moderately Actionable Likely major driver of declines due to reduction of aerial insect prey from broad-scale pesticide use.	2
	Eastern Kingbird (<i>Tyrannus tyrannus</i>) Severity: Moderate Severity Actionability: Moderately Actionable Pesticide accumulation	3
	Eastern Whip-poor-will (<i>Antrostomus vociferus</i>) Severity: Moderate Severity Actionability: Moderately Actionable Pesticide use likely contributing to food limitation and population declines.	2
	Eastern Wood-pewee (<i>Contopus virens</i>) Severity: Moderate Severity Actionability: Actionable with Difficulty Studies show reduced prey availability and subcutaneous fat reserves in sprayed forests. Pesticide impacts affect prey abundance even when direct contamination is minimal.	2
	Golden Eagle (<i>Aquila chrysaetos</i>) Severity: Moderate Severity Actionability: Moderately Actionable PCB's, DDT, DDE, and mercury exposure have contributed to population decline in northeastern U.S.	1



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Class	Birds (<i>Aves</i>)	SGCN Priority
Lincoln's Sparrow (<i>Melospiza lincolnii</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
A previous study showed that Glyphosate treatment reduces shrub and forb cover critical for nesting and demonstrated territory loss in Maine clearcuts.		
Mourning Warbler (<i>Geothlypis philadelphia</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Glyphosate use following clearcutting was shown to reduce Mourning Warbler breeding densities significantly for several years, although effects were considered short-term. Strategic planning and timing of herbicide applications can reduce unintended impacts.		
Peregrine Falcon (<i>Falco peregrinus</i>)		1
Severity: Moderate Severity	Actionability: Moderately Actionable	
The threat posed by exposure to various environmental contaminants can have adverse effects on reproductive success and overall population health.		
Purple Martin (<i>Progne subis</i>)		1
Severity: High Severity	Actionability: Highly Actionable	
Strong evidence links neonicotinoid and pyrethroid pesticide use to reductions in insect prey availability		
Tree Swallow (<i>Tachycineta bicolor</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Insect declines likely affect food availability. Policy-level fixes possible but not easily actionable at state scale.		
Wilson's Warbler (<i>Cardellina pusilla</i>)		2
Severity: Moderate Severity	Actionability: Highly Actionable	
Herbicide application can suppress the growth of shrub layers important to nesting Wilson's Warblers. Reported steep declines following phenoxy herbicide use in Oregon suggest sensitivity to these treatments.		
Class	Marine And Freshwater Molluscs (<i>Bivalvia</i>)	SGCN Priority
Atlantic Great Piddock (<i>Zirfaea crispata</i>)		2
Severity: High Severity	Actionability: Moderately Actionable	
Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments can reduce populations size. Direct effects could include toxicity of tributyl compounds shown in other gastropods.		



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Class	Marine And Freshwater Molluscs (<i>Bivalvia</i>)	SGCN Priority
	Brook Floater (<i>Alasmidonta varicosa</i>) Severity: Moderate Severity Actionability: Moderately Actionable impacts to water quality from point and non-point sources; direct impacts to mussels and/or fish hosts from contaminants and toxins	1
	Tidewater Mucket (<i>Atlanticoncha ochracea</i>) Severity: Moderate Severity Actionability: Moderately Actionable impacts to water quality from point and non-point sources; direct impacts to mussels and/or fish hosts from contaminants and toxins	1
	Yellow Lampmussel (<i>Lampsilis cariosa</i>) Severity: Moderate Severity Actionability: Moderately Actionable impacts to water quality from point and non-point sources; direct impacts to mussels and/or fish hosts from contaminants and toxins	1
Class	Sea Urchins (<i>Echinoidea</i>)	SGCN Priority
	Green Sea Urchin (<i>Strongylocentrotus droebachiensis</i>) Severity: High Severity Actionability: Moderately Actionable Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.	2
Class	Aquatic And Terrestrial Snails (<i>Gastropoda</i>)	SGCN Priority
	American Pelican Foot (<i>Arrhoges occidentalis</i>) Severity: High Severity Actionability: Moderately Actionable Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments originating from aquaculture can reduce populations size. Direct effects could include toxicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.	2
	Bigmouth Pondsail (<i>Ladislavella mighelsi</i>) Severity: Moderate Severity Actionability: Moderately Actionable Requires clean oligotrophic waters and agricultural and forestry runoff may be harmful	1



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Class Aquatic And Terrestrial Snails (*Gastropoda*)

SGCN Priority

Clathrate Trophon (*Boreotrophon clathratus*)

2

Severity: High Severity

Actionability: Moderately Actionable

Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments originating from aquaculture can reduce populations size. Direct effects could include toxicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Murex (*Boreotrophon truncatus*)

2

Severity: High Severity

Actionability: Moderately Actionable

Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments originating from aquaculture can reduce populations size. Direct effects could include toxicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Pygmy Whelk (*Colus pygmaeus*)

2

Severity: High Severity

Actionability: Moderately Actionable

Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments originating from aquaculture can reduce populations size. Direct effects could include toxicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Spindle Shell (*Ptychotractus ligatus*)

2

Severity: High Severity

Actionability: Moderately Actionable

Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments originating from aquaculture can reduce populations size. Direct effects could include toxicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Class Sea Cucumbers (*Holothuroidea*)

SGCN Priority

Orange-footed Sea Cucumber (*Cucumaria frondosa*)

2

Severity: High Severity

Actionability: Moderately Actionable

Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.



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Class Sea Cucumbers (<i>Holothuroidea</i>)		SGCN Priority
Psolus (<i>Psolus fabricii</i>)		2
Severity: High Severity Actionability: Moderately Actionable Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.		
Psolus (<i>Psolus phantapus</i>)		2
Severity: High Severity Actionability: Moderately Actionable Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.		
Sea Cucumber (<i>Thyonidium drummondii</i>)		2
Severity: High Severity Actionability: Moderately Actionable Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.		
Class Insects (<i>Insecta</i>)		SGCN Priority
American Bumble Bee (<i>Bombus pensylvanicus</i>)		3
Severity: High Severity Actionability: Moderately Actionable Pesticides (e.g., seed/nursery stock inoculation, agricultural applications); past impacts (i.e., severe declines) actionable with difficulty, but future impacts moderately actionable (e.g., changes in pesticide type and use)		
Arrow Clubtail (<i>Stylurus spiniceps</i>)		2
Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs		
Big Bluet (<i>Enallagma durum</i>)		1
Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs		
Boreal Snaketail (<i>Ophiogomphus colubrinus</i>)		1
Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs		



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Class	Insects (<i>Insecta</i>)	SGCN Priority
	Brown's Comb Minnow Mayfly (<i>Ameletus browni</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or stream channel where run off/application of pesticides and other chemicals for forest management can degrade water quality or impact nymphs	2
	Cobra Clubtail (<i>Gomphurus vastus</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	2
	Comet Darner (<i>Anax longipes</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	2
	Common Sanddragon (<i>Progomphus obscurus</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	2
	Demaray's Primitive Minnow Mayfly (<i>Siphonurus demarayi</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or stream channel where run off/application of pesticides and other chemicals for forest management can degrade water quality or impact nymphs	2
	Dusky Dancer (<i>Argia translata</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	2
	Mocha Emerald (<i>Somatochlora linearis</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	1
	New England Bluet (<i>Enallagma laterale</i>) Severity: Moderate Severity Actionability: Moderately Actionable Aquatic larvae and submerged aquatic vegetation sensitive to pesticides	3



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Class	Insects (<i>Insecta</i>)	SGCN Priority
	Pine Devil (<i>Citheronia sepulcralis</i>)	3
	Severity: Moderate Severity Actionability: Highly Actionable Was extirpated from most of Northeast in mid 20th century primarily from DDT and Compsilura introductions; nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME;	
	Pink Sallow (<i>Psectraglaea carnosus</i>)	3
	Severity: Moderate Severity Actionability: Highly Actionable Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME	
	Provancher's Armored Mayfly (<i>Baetisca rubescens</i>)	2
	Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or stream channel where run off/application of pesticides and other chemicals for forest management can degrade water quality or impact nymphs	
	Rambur's Forktail (<i>Ischnura ramburii</i>)	2
	Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	
	Ringed Boghaunter (<i>Williamsonia lintneri</i>)	1
	Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	
	Ringed Emerald (<i>Somatochlora albicincta</i>)	2
	Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	
	Roaring Brook Mayfly (<i>Epeorus frisoni</i>)	1
	Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or stream channel where run off/application of pesticides and other chemicals for forest management can degrade water quality or impact nymphs	
	Scarlet Bluet (<i>Enallagma pictum</i>)	3
	Severity: Moderate Severity Actionability: Moderately Actionable Aquatic larvae and submerged aquatic vegetation sensitive to pesticides	



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Class	Insects (<i>Insecta</i>)	SGCN Priority
	Sedge Darner (<i>Aeshna juncea</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	1
	Spatterdock Darner (<i>Rhionaeschna mutata</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or aquatic system where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality and impact nymphs	2
	Tomah Mayfly (<i>Siphonisca aerodromia</i>) Severity: Moderate Severity Actionability: Moderately Actionable in riparian buffer or stream channel where run off/application of pesticides, fertilizers, and other chemicals can degrade water quality or impact nymphs	1
	Waxed Sallow Moth (<i>Chaetagnia cerata</i>) Severity: Moderate Severity Actionability: Highly Actionable Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME	3
Class	Crustaceans (<i>Malacostraca</i>)	SGCN Priority
	Northern Shrimp (<i>Pandalus borealis</i>) Severity: High Severity Actionability: Moderately Actionable Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.	1
	Polar Lebbeid Shrimp (<i>Lebbeus polaris</i>) Severity: High Severity Actionability: Moderately Actionable Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.	2
	Spiny Lebbeid Shrimp (<i>Lebbeus groenlandicus</i>) Severity: High Severity Actionability: Moderately Actionable Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.	2
Class	Horseshoe Crabs And Sea Scorpions (<i>Merostomata</i>)	SGCN Priority



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Class	Horseshoe Crabs And Sea Scorpions (<i>Merostomata</i>)	SGCN Priority
	Horseshoe Crab (<i>Limulus polyphemus</i>) Severity: High Severity Actionability: Moderately Actionable Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.	1
Class	Corals, Sea Pens, Sea Fans, Sea Anemones (<i>Octocorallia</i>)	SGCN Priority
	Sea Strawberry (<i>Gersemia rubiformis</i>) Severity: High Severity Actionability: Moderately Actionable 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	2
Class	Brittle Stars (<i>Ophiuroidea</i>)	SGCN Priority
	Northern Basket Starfish (<i>Gorgonocephalus arcticus</i>) Severity: High Severity Actionability: Moderately Actionable Echinoderm larvae, and to a lesser degree adults, are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments originating from agriculture and aquaculture activity. The likelihood of this threat is high and increasing (high certainty). The current spatial extent the threat from agriculture and forestry effluents is most severe in Southern Maine but expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.	2
Class	Brachiopods (<i>Rhynchonellata</i>)	SGCN Priority
	Lamp Shell (<i>Terebratulina septentrionalis</i>) Severity: High Severity Actionability: Moderately Actionable Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments originating from aquaculture can reduce populations size. Direct effects could include toxicity of tributyl compounds shown in other marine invertebrates. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.	2
Class	Eudicots (<i>Eudicots</i>)	SGCN Priority
	Featherfoil (<i>Hottonia inflata</i>) Severity: Moderate Severity Actionability: Moderately Actionable	1
	Pygmy Water-lily (<i>Nymphaea leibergii</i>) Severity: Moderate Severity Actionability: Moderately Actionable	1



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Class Clubmoss (<i>Lycopodiopsida</i>)		SGCN Priority
Prototype Quillwort (<i>Isoetes prototypus</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Shore Quillwort (<i>Isoetes riparia</i> var. <i>canadensis</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Class Monocots (<i>Magnoliopsida</i>)		SGCN Priority
Fries' Pondweed (<i>Potamogeton friesii</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Northern Slender Pondweed (<i>Stuckenia filiformis</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Spotted Pondweed (<i>Potamogeton pulcher</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Straight-leaved Pondweed (<i>Potamogeton strictifolius</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Vasey's Pondweed (<i>Potamogeton vaseyi</i>)		2
Severity: Moderate Severity	Actionability: Moderately Actionable	
Habitats Associated With This Threat:		
Macrogroup Eastern North American Marsh, Wet Meadow & Shrubland		
Eastern North American Marsh, Wet Meadow & Shrubland Macrogroup - Unknown Habitat System		
Some marshes lack buffers from adjacent farmlands; Runoff from poorly buffered farmlands may add excess nutrients, sediment, heavy metals, etc.		
Introduced Wetland and Riparian Vegetation		
Runoff from poorly buffered farmlands may add excess nutrients, sediment, heavy metals, etc.		
Laurentian-Acadian Freshwater Marsh		
Some marshes lack buffers from adjacent farmlands		
Laurentian-Acadian Wet Meadow-Shrub Swamp		
Runoff from poorly buffered farmlands may add excess nutrients, sediment, heavy metals, etc.		
Macrogroup Laurentian-Acadian Flooded & Swamp Forest		
Laurentian-Acadian Flooded & Swamp Forest Macrogroup- Unknown Habitat System		
Many floodplain forest occurrences are downslope of agricultural fields.		
Laurentian-Acadian Floodplain Forest		
Many floodplain forest occurrences are downslope and/or adjacent to agricultural activity		



SGCN and Habitat Threats

Level 2 Threat: Agricultural and Forestry Effluents

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, threats, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.