Pseudopleuronectes americanus (Winter Flounder)

Priority 2 Species of Greatest Conservation Need (SGCN)

Class: *Actinopterygii* (Ray-finned Fishes)
Order: *Pleuronectiformes* (Flatfish)
Family: *Pleuronectidae* (Righteye Flounders)

General comments:

Maine DMR jurisdiction; W Atlantic specialist = LB-GA

No Species Conservation Range Maps Available for Winter Flounder

SGCN Priority Ranking - Designation Criteria:

Risk of Extirpation: NA

State Special Concern or NMFS Species of Concern: NA

Recent Significant Declines:

Winter Flounder 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:

ASMFC Stock Assess, 30yr, and DFO. 2012. Assessment of winter flounder (Pseudopleuronectes americanus) in the southern Gulf of St. Lawrence (NAFO Div. 4T). DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2012/016.

Regional Endemic: NA

High Regional Conservation Priority:

Atlantic States Marine Fisheries Commission Stock Assessments:

Status: Unstable/Decreasing, Status Comment:

Reference:

High Climate Change Vulnerability: NA

Understudied rare taxa: NA

Historical: NA

Culturally Significant: NA

Habitats Assigned to Winter Flounder:

Formation Name **Subtidal**

Macrogroup Name **Subtidal Coarse Gravel Bottom**

Habitat System Name: Coarse Gravel ****Primary Habitat**** **Notes:** *adult spawning*

Habitat System Name: Kelp Bed **Notes:** *juvenile*

Macrogroup Name **Subtidal Mud Bottom**

Habitat System Name: Submerged Aquatic Vegetation ****Primary Habitat**** **Notes:** *adult spawning, juvenile, and adult non-spawning*

Macrogroup Name **Subtidal Sand Bottom**

Habitat System Name: Submerged Aquatic Vegetation ****Primary Habitat**** **Notes:** *adult spawning, juvenile, and adult non-spawning*

Habitat System Name: Unvegetated **Notes:** *adult non-spawing, juvenile*

Stressors Assigned to Winter Flounder:

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

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IUCN Level 1 Threat **Pollution**

IUCN Level 2 Threat: Agricultural and Forestry Effluents

Severity: Severe **Actionability:** Moderately actionable

Notes: 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.

IUCN Level 2 Threat: Domestic and Urban Waste Water

Severity: Severe **Actionability:** Moderately actionable

Notes: 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.

IUCN Level 1 Threat **Biological Resource Use**

IUCN Level 2 Threat: Fishing and Harvesting of Aquatic Resources

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

Notes: Historic heavy fishing pressure has drastically reduced haddock stocks in the Gulf of Maine and Maine waters. While there are current regulatory measures in place that limit haddock fishing, recent stock assessments for the Gulf of Maine found that the stocks may be recovering and that overfishing is not occuring

IUCN Level 1 Threat **Human Intrusions and Disturbance**

IUCN Level 2 Threat: Recreational Activities

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

Notes: Historic heavy fishing pressure has drastically reduced winter flounder stocks in the Gulf of Maine and Maine waters, combined with altered spawning habitat, the stocks have drastically decline. While there are current regulatory measures in place that limit the take and size of winter flounder, the stocks may be too far reduced to recover.

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: While reduced fishing pressure may allow Gulf of Maine stocks to rebuild slightly, changed in habitat associated with climate change and other environmental variables may limit the ability of the population to reach its potential.

IUCN Level 2 Threat: Temperature Extremes

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

Notes: While reduced fishing pressure may allow Gulf of Maine stocks to rebuild slightly, changed in habitat associated with climate change and other environmental variables may limit the ability of the population to reach its potential.

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IUCN Level 1 Threat **Energy Production and Mining**

IUCN Level 2 Threat: Oil and Gas Drilling

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

Notes: There is potential for offshore oil spills in the Gulf of Maine from tankers. The use of oil dispersants increases the effect on groundfish and pelagic species by increasing the toxicity of oil gloubules, though the exact effects are not well documented.

Species Level Conservation Actions Assigned to Winter Flounder:

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

Conservation Action **Category:** Research **Biological Priority:** moderate **Type:** on-going

Conduct research regarding winter flounder habitat needs for various life stages and determine the importance of unique habitat systems such as eelgrass on survivability

Stressor(s) Addressed By This Conservation Action

Agricultural and Forestry Effluents

Conservation Action **Category:** Survey and Monitoring **Biological Priority:** High **Type:** on-going

Monitor water quality at winter flounder habitats to determine effect of changing water quality on winter flounder biology and survivability (e.g. temperature and sex ratio relationships).

Stressor(s) Addressed By This Conservation Action

Agricultural and Forestry Effluents

Conservation Action **Category:** Research **Biological Priority:** moderate **Type:** new

Identify areas where winter flounder spawn

Stressor(s) Addressed By This Conservation Action

Agricultural and Forestry Effluents

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.

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.