

# NEAFWA HABITAT VULNERABILITY MODEL

## Module 1. Vulnerability of Non-tidal Habitats to Current and Future Climate Change

Habitat Being Modeled: **Acadian-Appalachian Montane Spruce-Fir Forest - Zone I**

		Vulnerability Score			
<b>1. Location in geographical range of habitat</b>	Close to (<200 kms) southern limit of habitat distribution	5	Certainty score	High	3
	More distant from southern limit of habitat distribution	1		Medium	2
	<b>Score</b>	<b>1</b>		Low	1
				<b>Score</b>	<b>3</b>
<b>2. Degree of cold-adaptation</b>	Important constituent species limited to cold-temperature areas	5	Certainty score	High	3
	Important constituent species limited to cool temperature areas	3		Medium	2
	Important constituent species tolerant of warmer temperatures	1		Low	1
	<b>Score</b>	<b>5</b>		<b>Score</b>	<b>3</b>
<b>3. Sensitivity to extreme climatic events (e.g., drought, floods, windstorms, icestorms)</b>	Highly vulnerable to extreme climatic events	5	Certainty score	High	3
	Less vulnerable to extreme climatic events	3		Medium	2
	Not vulnerable to extreme climatic events	1		Low	1
	<b>Score</b>	<b>3</b>		<b>Score</b>	<b>3</b>
<b>4. Vulnerability to maladaptive human responses</b>	Highly vulnerable to maladaptive human responses	5	Certainty score	High	3
	Less vulnerable to maladaptive human responses	3		Medium	2
	Not vulnerable to maladaptive human responses	1		Low	1
	<b>Score</b>	<b>1</b>		<b>Score</b>	<b>2</b>
<b>5. Location relative to highest elevation</b>	Mountain summit habitat confined to within 1,000 feet of the highest elevations	5	Certainty score	High	3
	High elevation habitat mainly occurring between 1,000 and 2,000 feet below the	3		Medium	2
	Lower elevation habitat that should be able to move upslope	1		Low	1
	<b>Score</b>	<b>3</b>		<b>Score</b>	<b>3</b>
<b>6. Intrinsic adaptive capacity</b>	Unlikely to be significant	5	Certainty score	High	3
	Likely to be significant	1		Medium	2
	<b>Score</b>	<b>5</b>		Low	1
				<b>Score</b>	<b>2</b>
<b>7. Dependence on specific hydrologic conditions</b>	Habitats that are dependent on specific hydrologic conditions	5	Certainty score	High	3
	Habitats less dependent on specific hydrologic conditions	1		Medium	2
	<b>Score</b>	<b>1</b>		Low	1
				<b>Score</b>	<b>3</b>
<b>8. Vulnerability of Foundation/Keystone species to climate change</b>	Foundation/keystone spp. Likely to be particularly vulnerable to climate change	5	Certainty score	High	3
	Foundation/keystone spp. Unlikely to be vulnerable to climate change	1		Medium	2
	<b>Score</b>	<b>5</b>		Low	1
				<b>Score</b>	<b>2</b>
<b>9. Constraints on latitudinal range shifts</b>	Highly constrained	5		High	2
	Somewhat constrained	3		Medium	2
	Low level of constraint	1		Low	1
	<b>Score</b>	<b>3</b>			<b>2</b>
<b>10. Likelihood of managing/alleviating climate change impacts</b>	Not feasible	5	Certainty score	High	3
	feasible	1		Medium	2
	<b>Score</b>	<b>5</b>		Low	1
				<b>Score</b>	<b>2</b>
<b>11. Potential for climate change to exacerbate impacts of non-climate stressors, or vice versa</b>	Potential for large increase in stressor impacts	5	Certainty score	High	3
	Potential low	1		Medium	2
	<b>Score</b>	<b>5</b>		Low	1
				<b>Score</b>	<b>2</b>

<b>Total Vulnerability Score</b>	<b>37</b>
<b>Score range</b>	<b>Vulnerability category</b>
11-20	Least Vulnerable (Vc1)
21-29	Less Vulnerable (Vc2)
30-38	Vulnerable (Vc3)
39-47	Highly Vulnerable (Vc4)
>47	Critically Vulnerable (Vc5)
<b>Total Certainty Score</b>	<b>27</b>