

# Inter-Tribal Forest Adaptation

*Honoring our forest communities on a changing landscape*



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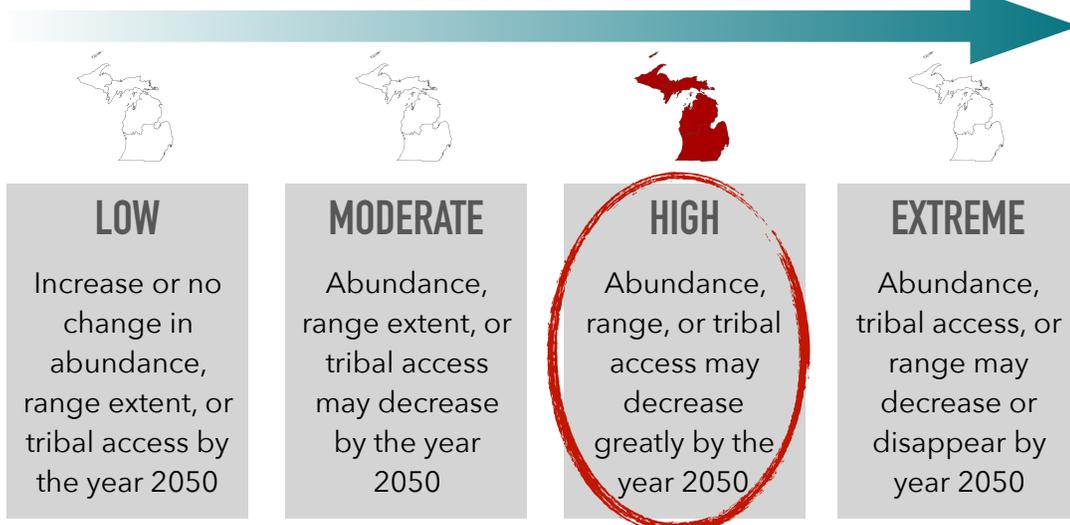
## Jiisens; Thisés

### Wild ginseng (*Panax quinquefolius*)

Jiisens is a long-lived herb that grows in rich, undisturbed forests of closed-canopy sugar maple, beech, and other hardwood trees. They are native to North America and provide food and medicine for Anishinaabek, other people and animals. Jiisens has declined in North America because of habitat loss, over-harvest of large roots, and changing forest management.

### How might Jiisens respond to climate-driven change in Michigan?

#### VULNERABILITY RATING



#### Growth

Jiisens grows slowly, in small groups, and lives to be 25-30 years.



#### Habitat

Jiisens grows in cool, moist soils under the shade of mature hardwoods.



#### Protections

Jiisens is listed as threatened in Michigan and a species of federal concern.

## Changes in climate may impact how and where Jiisens grows

Climate-driven changes	Possible impacts on Jiisens	What to watch for
<p><b>Increasing temperatures</b> The average temperature increased by 2 F° over the past century and may increase 4-6 F° by 2050.</p>	Jiisens grows in cooler areas of the forest, which may become warmer as air temperatures increase.	Do Jiisens grow in the coolest areas of local forests?
<p><b>Increasing freeze-thaw cycles</b> Erratic freeze-thaw cycles occur in spring and fall.</p>	Increasing freeze-thaw cycles harm Jiisens in the springtime and lead to reduced survival, growth, and reproduction.	Have you noticed a decrease in the size of Jiisens?
<p><b>Extreme storms</b> Heavy storms have increased in number and intensity and may continue increasing in the future.</p>	Disturbance from storms and wind may decrease Jiisens habitat by opening up the tree canopy.	Have you noticed more or less Jiisens growing locally?
<p><b>Increasing invasive species and deer browse</b> Invasive species and deer may increase due to climate-driven change.</p>	Increased competition from invasive species and browsing by white-tailed deer may reduce Jiisens growth and reproduction.	Have you noticed new plants or earthworms around Jiisens?

### Working together to support native forest understory plants

Anishinaabeg maintain important knowledges on, and relationships with, local forests, waters, seasons, and cycles. The Inter-Tribal Council of Michigan is working with the Bay Mills Indian Community, Lac Vieux Desert Band of Lake Superior Ojibwe, Pokagon Band of Potawatomi, Saginaw Chippewa Indian Tribe, Michigan Natural Features Inventory, and Northern Institute for Applied Climate Science to understand and support forest understory plants across Michigan, based on Anishinaabe and Western scientific knowledges and ways.



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