OAK RESILIENCY ASSESSMENT TOOL

A RESOURCE FOR LANDOWNERS, FORESTERS, AND NATURAL RESOURCE PROFESSIONALS

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Tool Summary

This assessment tool can tell you important information about oak forests, including:

- Overall site vulnerability
- Range of impacts and adaptive capacity
- Issues of concern
- Potential management pathways

The tool produces a report that provides extensive resources to accompany existing or new forest management plans.

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NIACS
Northern Institute of Applied Climate Science

Forest Stewards Guild
putting the forest first

USDA FOREST SERVICE

FEMC

Site Description

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Site acreage:_____

Site description:_____

_____

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_____

Site location (address or map latitude/longitude):__

_____

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_____

Take a photograph of the stand.

4 Assessment of Impacts

mark on scale

1. Increase in extreme precipitation events.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

2. Increases in storm frequency and intensity.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

3. Elevated drought risk.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

4. Elevated risk of wildfire.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

5. Increases in invasive plants.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

6. Increases in insect pests and forest pathogens.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

7. Level of deer herbivory.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

8. Reduced habitat for some northern tree species.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

9. Higher sea levels.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

10. Damage to forest roads and trails.

Very Supportive: These conditions will not greatly impact the site. — **Moderate** — **Very Disruptive:** These conditions will greatly impact the site.

11. Overall rating. Rate the overall level vulnerability of the forest given all of the considerations above.

Very Supportive — **Moderate** — **Very Disruptive**

Assessment of Adaptive Capacity

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mark on scale

1. Forest condition given past land use.

Very Low: Past land uses or management have degraded the forest condition.	**Moderate**	**Very High:** Forest has been minimally disturbed or has recovered favorably.

2. Level of landscape connectivity.

Very Low: Site is small and isolated or surrounded by agricultural or developed land.	**Moderate**	**Very High:** Site is part of a large complex of forests or other ecosystems.

3. Tree health.

Very Low: Trees exhibit poor growth or damage, or are in extremely high or low densities.	**Moderate**	**Very High:** Trees have good growth and minimal damage. Density is appropriate.

4. Species and structural diversity.

Very Low: The forest has less diversity than would be expected for community type.	**Moderate**	**Very High:** The forest has a high level of species and structural diversity.

5. Ability to compete with more shade-tolerant species.

Very Low: There is strong competition which may impede oak regeneration.	**Moderate**	**Very High:** Oak trees are the dominant species and there is relatively little competition.

6. Ability to compete with invasive plants.

Very Low: Forest regeneration is negatively affected by invasive plants.	**Moderate**	**Very High:** Forest regeneration is generally able to outcompete invasive plants.

7. Abundance of species adapted to current and expected future conditions.

Very Low: The dominant species are maladapted to future conditions.	**Moderate**	**Very High:** The dominant tree species can tolerate warmer, drier, or variable conditions.

8. Oak regeneration potential.

Very Low: Regeneration is limited by interfering factors and/or is absent.	**Moderate**	**Very High:** Tree seedlings or saplings are present, and the species mix is desirable.

9. Stewardship planning and implementation capacity.

Very Low: The landowner or manager has limited time and/or resources for stewardship.	**Moderate**	**Very High:** The landowner or manager has or can access time and resources for stewardship.

10. Overall rating. Rate the overall level of adaptive capacity present of the forest given all of the considerations above.

Very Low	**Moderate**	**Very High**

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Report Summary

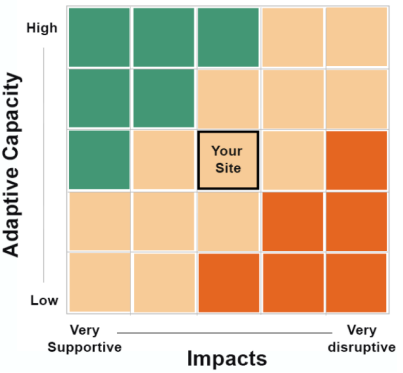
Overall site vulnerability: Low — Moderate — High

Score Feedback

Your Overall Site Vulnerability is moderate based on your rankings of Impact and Adaptive Capacity scores. Your Impact ranking is moderate and your Adaptive Capacity ranking is moderate. Below you will see potential pathways for management of your oak stand(s) and issues of concern that may need to be addressed.

Site Range

The site range will indicate how much adaptive capacity compared with impacts your site has.



Issues of Concern

These are issues you should consider when planning your management of your site.

Potential Pathways

- Resistance actions
- Resilience actions
- Transition actions
- No action

Site Image

Issues of Concern

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Circle all that may apply

Invasive Plants

Herbivory

Extreme Precipitation

Extreme Weather Events

Drought

Competition

Wildfire

Sea Level Rise

Pests and Pathogens

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Resistance, Resilience, and Transition

- Resistance actions are designed to work against the effects of climate change and maintain the forest in its current condition.
- Resilience actions focus on increasing the capacity of the ecosystem to cope with climate change and other stressors while maintaining its fundamental character.
- Transition actions intentionally accommodate ecosystem change, rather than resist it. These actions work to move forests toward conditions that are expected to be better adapted to future conditions.
- Landowners and forest managers can intentionally decide to take no action in managing their forests, which allows forests to mature and be influenced by natural succession and disturbance dynamics rather than human intervention.

Find the tool by scanning the QR code with your phone's camera or by visiting: www.uvm.edu/femc/oak_resiliency