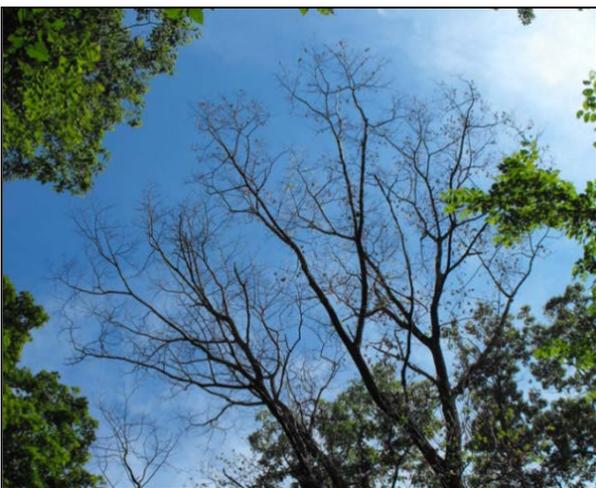


Revised Oak Harvesting Guidelines: What you need to know



Kyoko Scanlon

Forest Pathologist

Wisconsin Dept. of Natural
Resources

WISCONSIN
DEPT. OF NATURAL RESOURCES



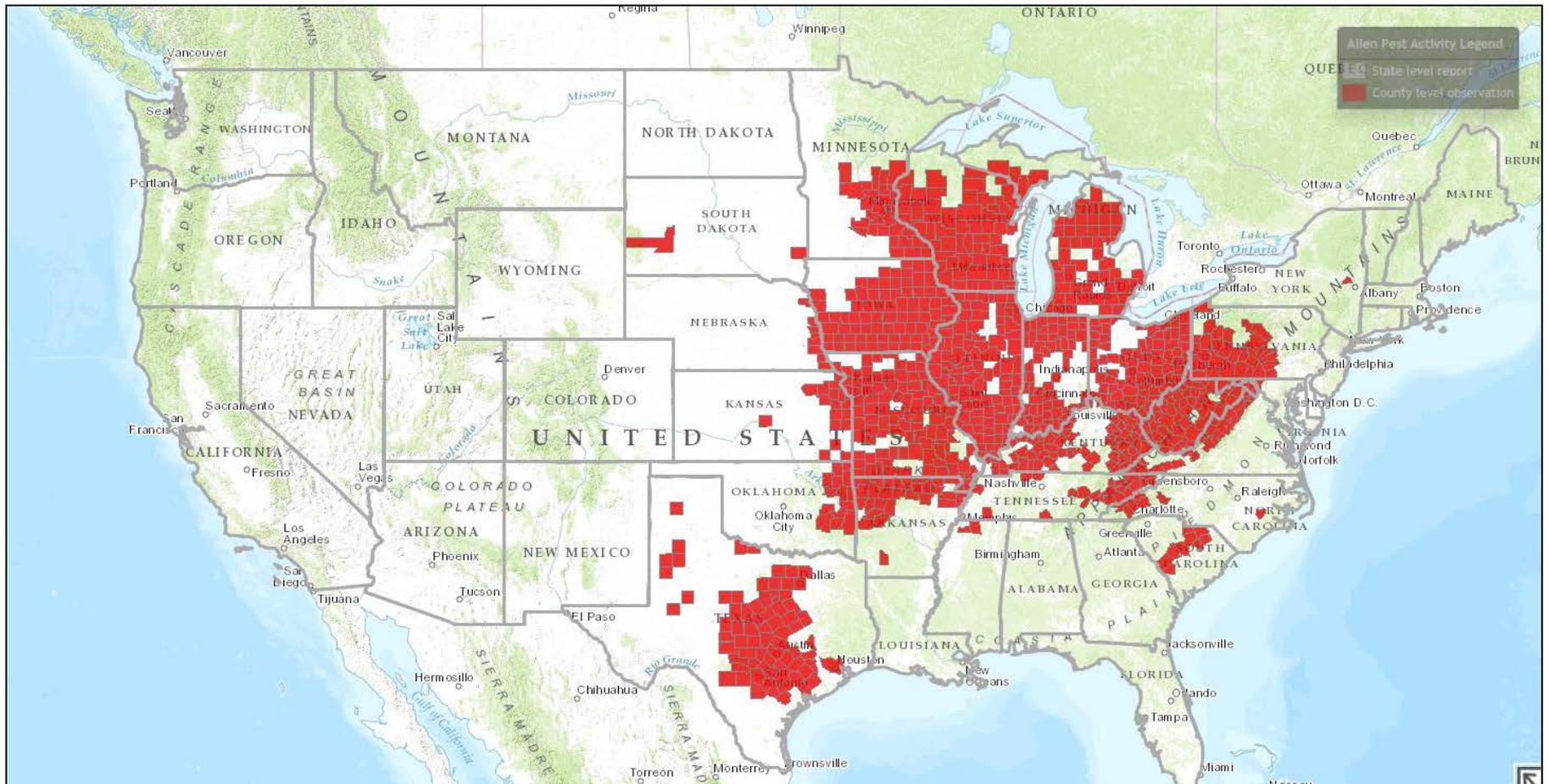


Oak wilt 101

Caused by the fungus
(*Ceratocystis fagacearum*)

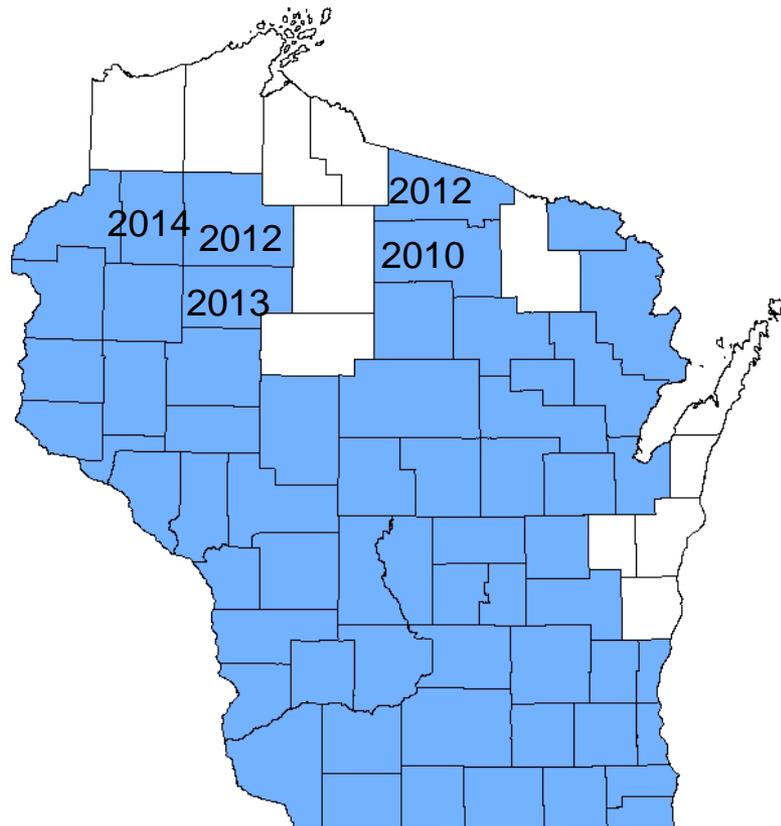


National county level distribution of oak wilt in US

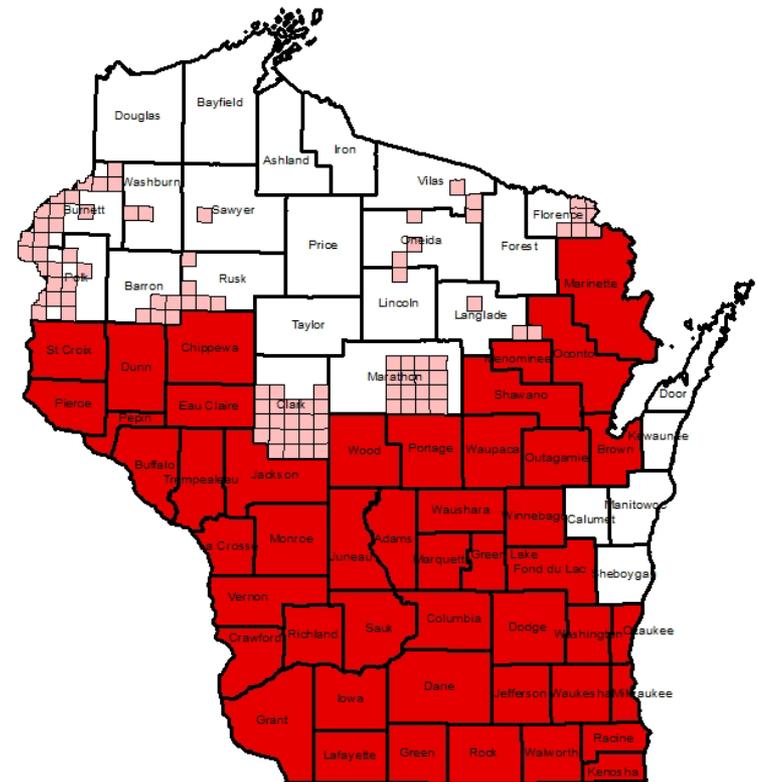


Oak wilt distribution in Wisconsin

County-level distribution of oak wilt



Township-level distribution of oak wilt



Maps available on-line (dnr.wi.gov keyword: oak wilt)

Host Susceptibility

Red Oak Group
(northern red oak, northern
pin oak, black oak)



Highly Susceptible

Bur oaks and
swamp white oaks



Moderately Resistant

White oak
(*Quercus alba*)



Highly Resistant

Overland Spread

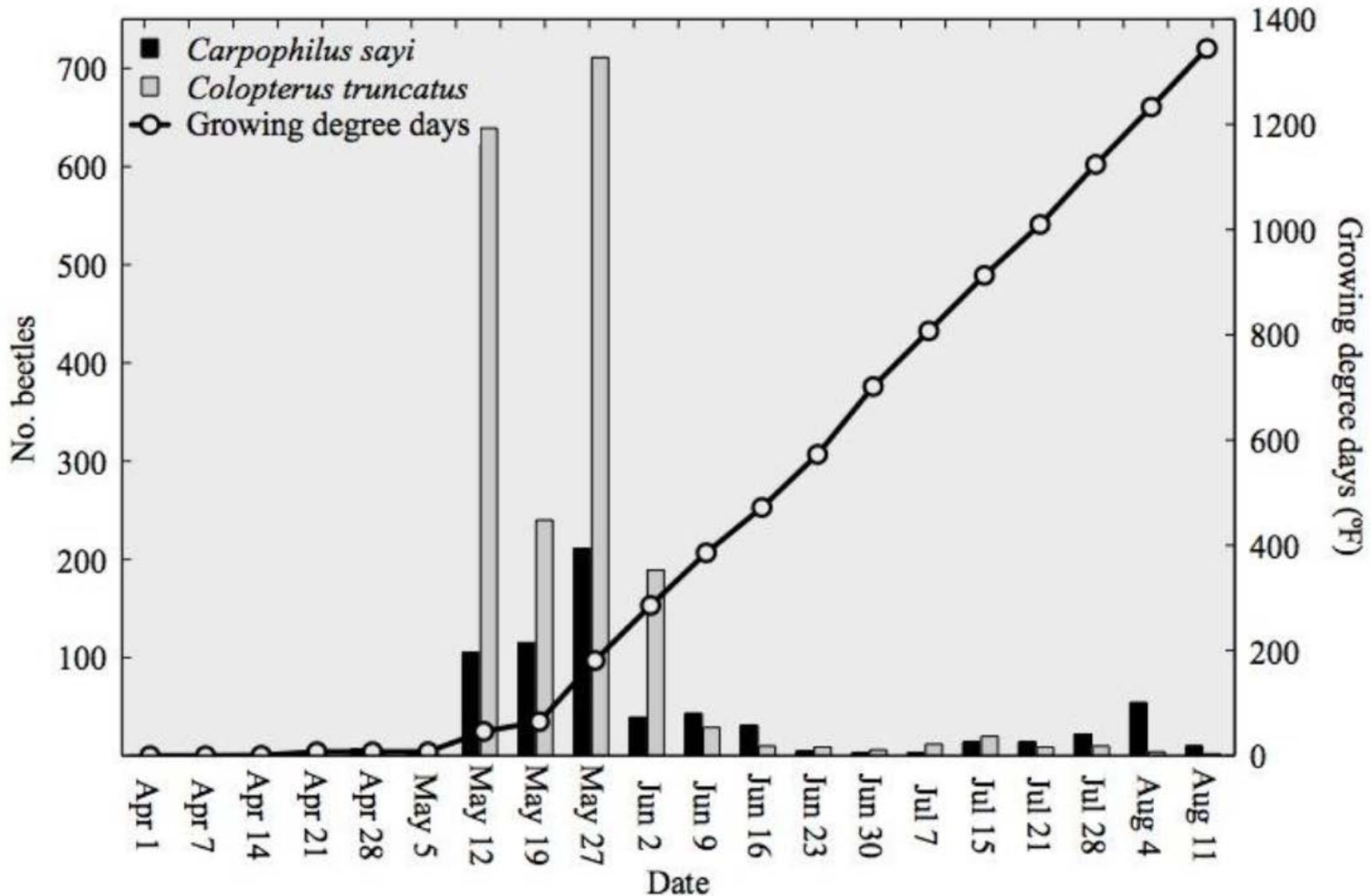


Below-ground spread



2014 Beetle flight study

Menominee Tribal Enterprises



Overland Spread



Below-ground spread



Review Process

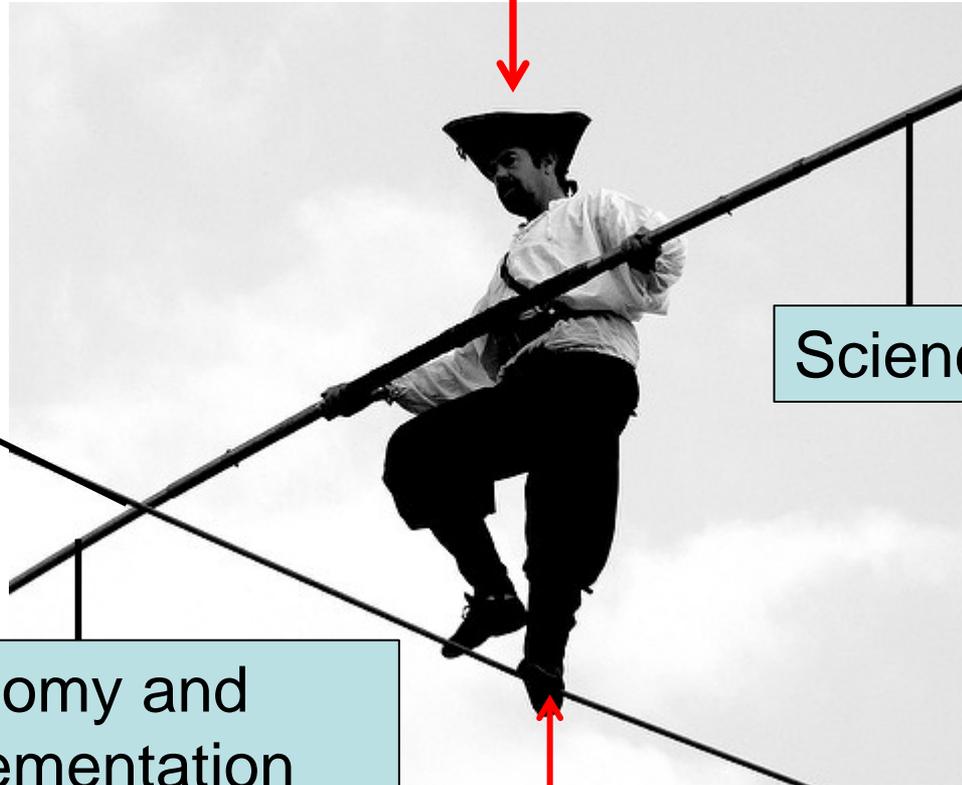
Advisory Committee

Practical
sustainable
forestry
management

Science

Economy and
Implementation

Public comment period





Implementation

- Implemented on January 1, 2016
- “Used on DNR lands, County Forests and lands entered in WI forest tax law programs”
 - Cooperating forester agreement



Revised guide available on-line

<http://dnr.wi.gov/topic/foresthealth/oakwilt.html>

Oak wilt

Learn if your property is at risk, how to reduce the spread of oak wilt in a forested area, how to know if a yard tree has oak wilt and much more.

Distribution | **Biology** | **Impact** | **Symptoms and Signs** | **Prevention** | **Management**

Oak wilt in Wisconsin

Oak wilt is widespread in southern Wisconsin but in much of northern Wisconsin it is still a new and uncommon disease.

Legend
Townships confirmed with oak wilt
Generally infested counties

Distribution of oak wilt in Wisconsin (as of January 2016). [View expanded map \(PDF\)](#).

Forest health

Read
what's new in our current regional forest health updates.

Watch
how to identify and control invasive forest plants.

Learn
about gypsy moth and other spring leaf-eating caterpillars.

Oak wilt guides

- Interactive online guide
- Spreadsheet guide (Excel)
- Revised oak harvesting guidelines (for reading) (1 MB PDF) (implementation date: January 1, 2016)
- Download Revised oak harvesting guidelines (For printing only) (25 MB PDF)

Right click on the link and "save target as" or "save link as" to download it to your hard drive.

Diseases

- Annosum root rot

Left side-bar
"Oak wilt guide"

<http://dnr.wi.gov/topic/foresthealth/oakwilt.html>

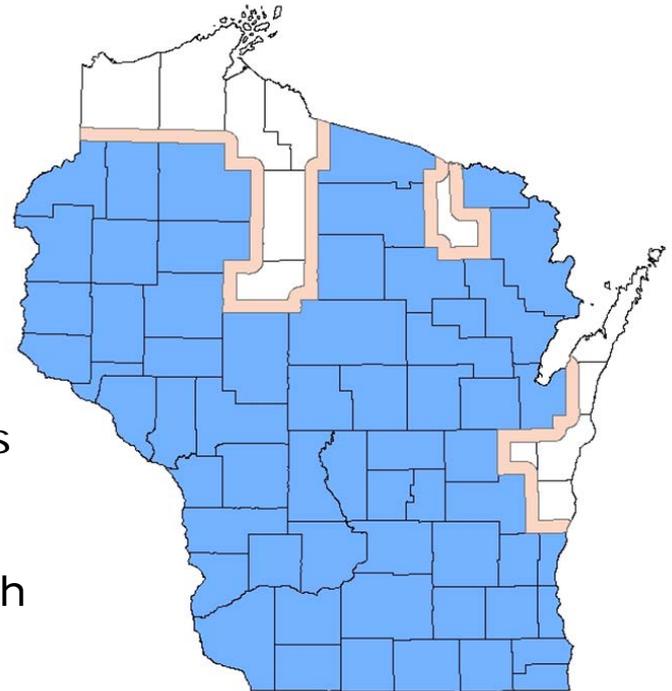
<http://dnr.wi.gov/> Key word: oak wilt

What hasn't changed?

- The main structure of the Guidelines remains the same

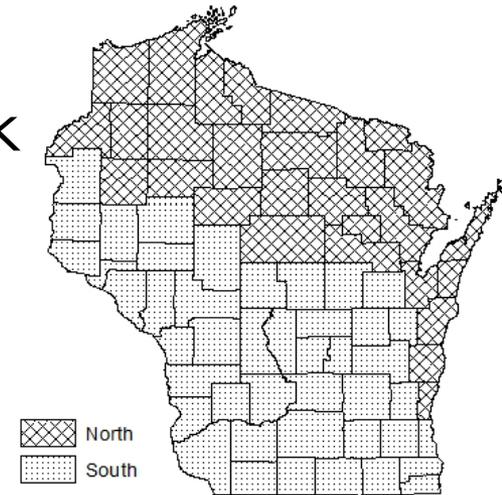
They are divided into three categories depending on the presence of the disease in a stand or in a county where the stand is located

- Your stand is in a county that does not have oak wilt AND is NOT within 6 miles of a county with oak wilt
- Your stand is in a county that has oak wilt OR is within 6 miles of a county with oak wilt AND oak wilt is NOT in your stand
- Oak wilt is present in your stand



What hasn't changed?

- Harvesting-restricted periods due to oak wilt remain unchanged
 - North: April 15 to July 15
 - South: April 1 to July 15
- Consist of two aspects
 1. Harvesting restriction recommendation
 2. Stand-level Oak Wilt Risk Assessment



Interactive on-line guide

http://dnr.wi.gov/topic/foresth/ OakWiltGuide.asp

File Edit View Favorites Tools Help

Business Licenses & Regulations Recreation Education Contact Join DNR Search or Keywords

Oak wilt guide

To obtain your oak wilt risk rating and associated guidelines, answer the five questions below then click Submit.

1. Is oak wilt present in your county?

Choose one of the responses below:

- Oak wilt not present in the county AND stand is NOT within 6 miles of county with oak wilt.
- Oak wilt present in the county or your stand is within 6 miles of a county with oak wilt AND oak wilt is not known to be in the stand.
- Oak wilt present in the stand.



FIG. Counties where oak wilt is confirmed in Wisconsin (as of August 2013).

2. What time of the year do you propose cutting?

Choose one of the responses below:

- April 1 to July 15 (spring-mid summer, SPS) - south of tension zone.
- April 15 to July 15 (spring-mid summer, SPS) - north of tension zone.
- July 16 to Sept. 30 (mid summer-early fall, SEF) statewide.
- Oct. 1 to March 31 (fall-winter, FWN) if south of tension zone.
- Oct. 1 to April 14 (fall-winter, FWN) if north of tension zone.

Note: If uncertain about tension zone location, please see Figure 2A&B.



FIG. Climate region by county.



http://dnr.wi.gov/topic/foresth/GuidelinesResults.asp

File Edit View Favorites Tools Help

Business Licenses & Regulations Recreation Education Contact Join DNR Search or Keywords

Oak Wilt Guide

RISK RATING RESULTS AND ASSOCIATED GUIDELINES

NNSPSHFRM

Risk Rating Results: (rating scale to below)

Risk of introducing oak wilt to the stand.	M
Risk of spread and impact in the future oak stand.	H
Combined risk for oak wilt introduction and impact in the future oak stand.	H

Risk Rating Scale

VH Risk is very high	AP	Oak wilt is already present in stand
H Risk is high	CON	Spread and impact of oak wilt will continue
M Risk is moderate	TNCR	Overall impact of oak wilt will increase
L Risk is low		
VL Risk is very low		

Harvest Guidelines (for the conditions of the stand):

NO RESTRICTIONS April 1 - July 15 (south) and April 15 - July 15 (north).

Information on other time periods:

NO RESTRICTIONS any time of the year.

Further Considerations:

Forest health

Read
What's new in our current regional forest health updates.

Watch
How to identify and control invasive forest plants.

Learn
About gypsy moth and other spring leaf-eating caterpillars.

Diseases

- Annosum root rot
- Beech bark disease
- Oak wilt
- Red pine pocket mortality
- Sudden oak death
- Thousand cankers disease

Contact information
<http://dnr.wi.gov/foresthealth.asp>

Guide Table Appendix A

Appendix A: Stand-level Oak Wilt Risk Assessment

The tables below show the stand-level risks of oak wilt. Please refer to the section "Stand-level oak wilt risk assessment" (page 4) in Chapter 1.

For the on-line interactive guide, visit dnr.wi.gov Keyword: oak wilt

I. If your stand is in a county that does not have oak wilt AND is NOT within 6 miles of a county with oak wilt

Pre-harvest basal area of oak	Terrain	Soil type	Date of harvest	Risk of introduction	Risk of impact	Combined risk
< 15 sq feet/acre	Flat/Rolling	Light	N: 4/15-7/15 S: 4/1-7/15	Moderate	Low	Low
< 15 sq feet/acre	Flat/Rolling	Light	7/16-9/30	Low	Low	Low
< 15 sq feet/acre	Flat/Rolling	Light	N: 10/1-4/14 S: 10/1-3/31	Very Low	Low	Very Low
< 15 sq feet/acre	Flat/Rolling	Heavy	N: 4/15-7/15 S: 4/1-7/15	Moderate	Low	Low
< 15 sq feet/acre	Flat/Rolling	Heavy	7/16-9/30	Low	Low	Low
< 15 sq feet/acre	Flat/Rolling	Heavy	N: 10/1-4/14 S: 10/1-3/31	Very Low	Low	Very Low
< 15 sq feet/acre	Hills/Valleys	Light	N: 4/15-7/15 S: 4/1-7/15	Moderate	Low	Low
< 15 sq feet/acre	Hills/Valleys	Light	7/16-9/30	Low	Low	Low
< 15 sq feet/acre	Hills/Valleys	Light	N: 10/1-4/14 S: 10/1-3/31	Very Low	Low	Very Low
< 15 sq feet/acre	Hills/Valleys	Heavy	N: 4/15-7/15 S: 4/1-7/15	Moderate	Very Low	Very Low
< 15 sq feet/acre	Hills/Valleys	Heavy	7/16-9/30	Low	Very Low	Very Low
< 15 sq feet/acre	Hills/Valleys	Heavy	N: 10/1-4/14 S: 10/1-3/31	Very Low	Very Low	Very Low
15-35 sq feet/acre	Flat/Rolling	Light	N: 4/15-7/15 S: 4/1-7/15	Moderate	High	Moderate
15-35 sq feet/acre	Flat/Rolling	Light	7/16-9/30	Low	High	Low
15-35 sq feet/acre	Flat/Rolling	Light	N: 10/1-4/14 S: 10/1-3/31	Very Low	High	Very Low
15-35 sq feet/acre	Flat/Rolling	Heavy	N: 4/15-7/15 S: 4/1-7/15	Moderate	Moderate	Moderate
15-35 sq feet/acre	Flat/Rolling	Heavy	7/16-9/30	Low	Moderate	Low
15-35 sq feet/acre	Flat/Rolling	Heavy	N: 10/1-4/14 S: 10/1-3/31	Very Low	Moderate	Very Low
15-35 sq feet/acre	Hills/Valleys	Light	N: 4/15-7/15 S: 4/1-7/15	Moderate	High	Moderate
15-35 sq feet/acre	Hills/Valleys	Light	7/16-9/30	Low	High	Low
15-35 sq feet/acre	Hills/Valleys	Light	N: 10/1-4/14 S: 10/1-3/31	Very Low	High	Very Low
15-35 sq feet/acre	Hills/Valleys	Heavy	N: 4/15-7/15 S: 4/1-7/15	Moderate	Moderate	Moderate
15-35 sq feet/acre	Hills/Valleys	Heavy	7/16-9/30	Low	Moderate	Low
15-35 sq feet/acre	Hills/Valleys	Heavy	N: 10/1-4/14 S: 10/1-3/31	Very Low	Moderate	Very Low
>35 sq feet/acre	Flat/Rolling	Light	N: 4/15-7/15 S: 4/1-7/15	Moderate	Very High	High
>35 sq feet/acre	Flat/Rolling	Light	7/16-9/30	Low	Very High	Low
>35 sq feet/acre	Flat/Rolling	Light	N: 10/1-4/14 S: 10/1-3/31	Very Low	Very High	Very Low
>35 sq feet/acre	Flat/Rolling	Heavy	N: 4/15-7/15 S: 4/1-7/15	Moderate	High	High
>35 sq feet/acre	Flat/Rolling	Heavy	7/16-9/30	Low	High	Low



What hasn't changed?

- Guidelines do not address
 - Landscape-level management issues
 - Management of actively-expanding oak wilt pockets

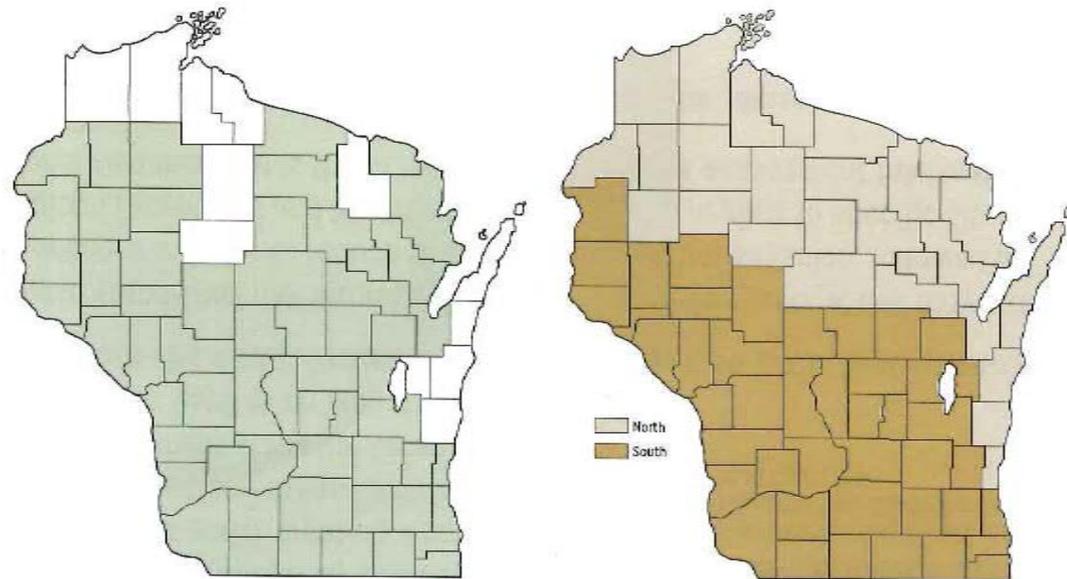


What are the changes?

- Provide much more flexibilities in seasonal oak harvesting while protecting oak resources from oak wilt
- Provide consistency for implementation in the field by articulating flexibilities under Exceptions and Modifications

Other changes

- Map good through the end of each year
- Can use the up-to-date on-line map

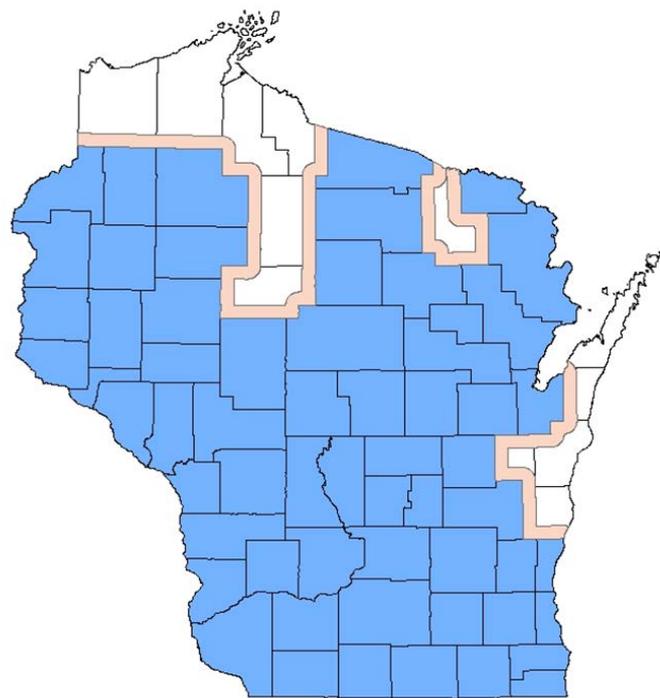


*(Left) Map of known counties with oak wilt. Map creation date: 1/1/2016. Map is good through: 12/31/2016.
(Right) Map that shows counties in the North and South zones. The harvesting-restricted periods are between April 15th and July 15th in the North zone and April 1st and July 15th in the South zone."*



Table of Contents

- Chapter 1: Introduction
- Chapter 2: If your stand is in a county that does not have oak wilt AND is NOT within 6 miles of a county with oak wilt
- Chapter 3: If your stand is in a county that has oak wilt OR is within 6 miles of a county with oak wilt AND oak wilt is NOT in your stand
- Chapter 4: If oak wilt is present in your stand
- Chapter 5: Guideline Rationale and Implementation Notes





Differences

- **Exceptions**

- Considered relatively common
- Straightforward to apply

- **Modifications**

- Considered to be stand-specific
- Consultation with your regional DNR Forest Health Specialist or forester is recommended





Documentation

- **Exceptions**

- A short explanation of which Exception was used should be included in the timber sale documentation

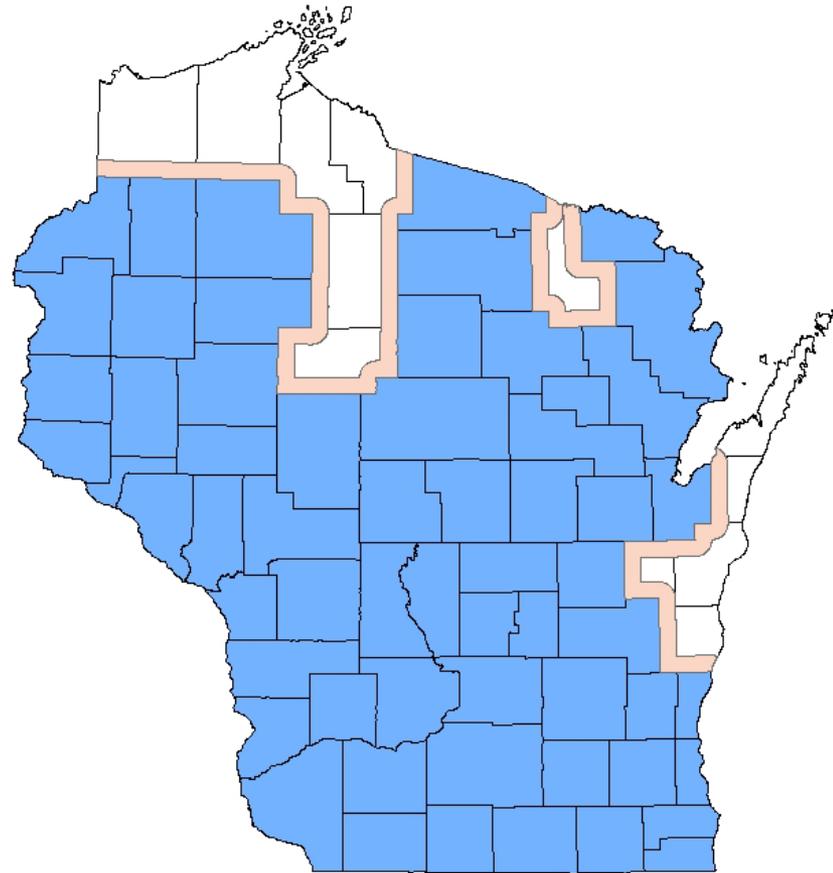
- **Modifications**

- Justification needs to be documented and included in the normal approval process for harvesting

- Public lands: Form 2460-001 (timber sale notice and cutting report)
- MFL/FCL: Form 2450-032 (cutting notice and report of wood product)

Chapter 2

- Your stand is in a county that **does not** have oak wilt
AND
- Your stand is NOT within 6 miles of a county with oak wilt



Areas in white in the map



Seasonal Oak Harvesting Recommendation

Harvesting can be considered any time of the year

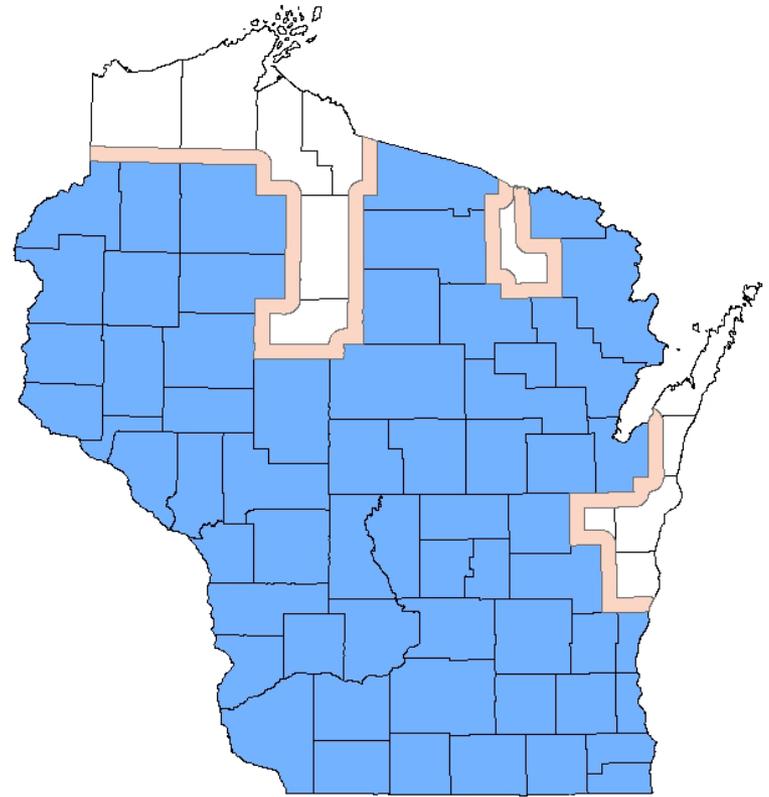
- **Exceptions** : None
- **Modifications** : None



Chapter 3

- Your stand is in a county that has oak wilt OR is within 6 miles of a county with oak wilt
AND
- Oak wilt is NOT in your stand

Areas in blue and tan in the map





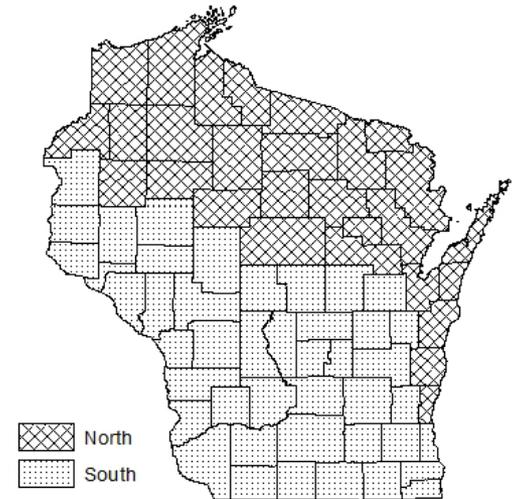
Seasonal Oak Harvesting Recommendation

Harvesting restricted period due to oak wilt

North: April 15 to July 15

South: April 1 to July 15

- # of Exceptions: 6
- # of Modifications: 3





Exceptions

1. The stand is being converted to a non-oak type
2. Oak is not considered to be an important component of the stand's future





Exception 3

Basal area of oak is less than 15 square feet per acre

3A. 16 to 20 square feet (after evaluation of the stand conditions)



Painting stumps with low BA

- Immediate application of wound dressing to the last 3 growth rings
- Revised guide: Optional
 - 2007 Guide: Required



Exception 4

The stand where white oak (*Q. alba*) is the only oak species present



Photo: Mark Guthmiller



Exception 5

Overstory removal if adequate regeneration is attained

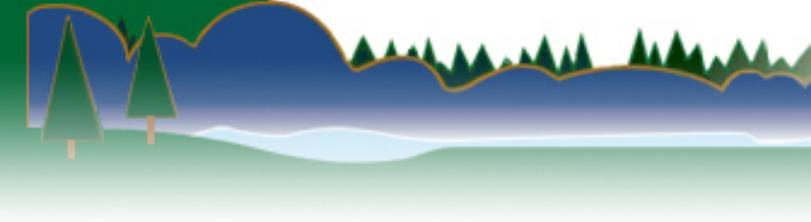
- by seed-origin seedlings of any oak species and any type of regeneration of non-oak species
- by seed-origin seedlings of any oak species, supplemented by coppice regeneration of *Q. alba*





Case study

- First step in a shelterwood regeneration to regenerate oak
- The target residual density is 50-60 square feet of basal area (50% crown cover)
- Understory plants (sugar maple/ash) will be killed
- Once an adequate oak regen is established, the remaining trees will be harvested

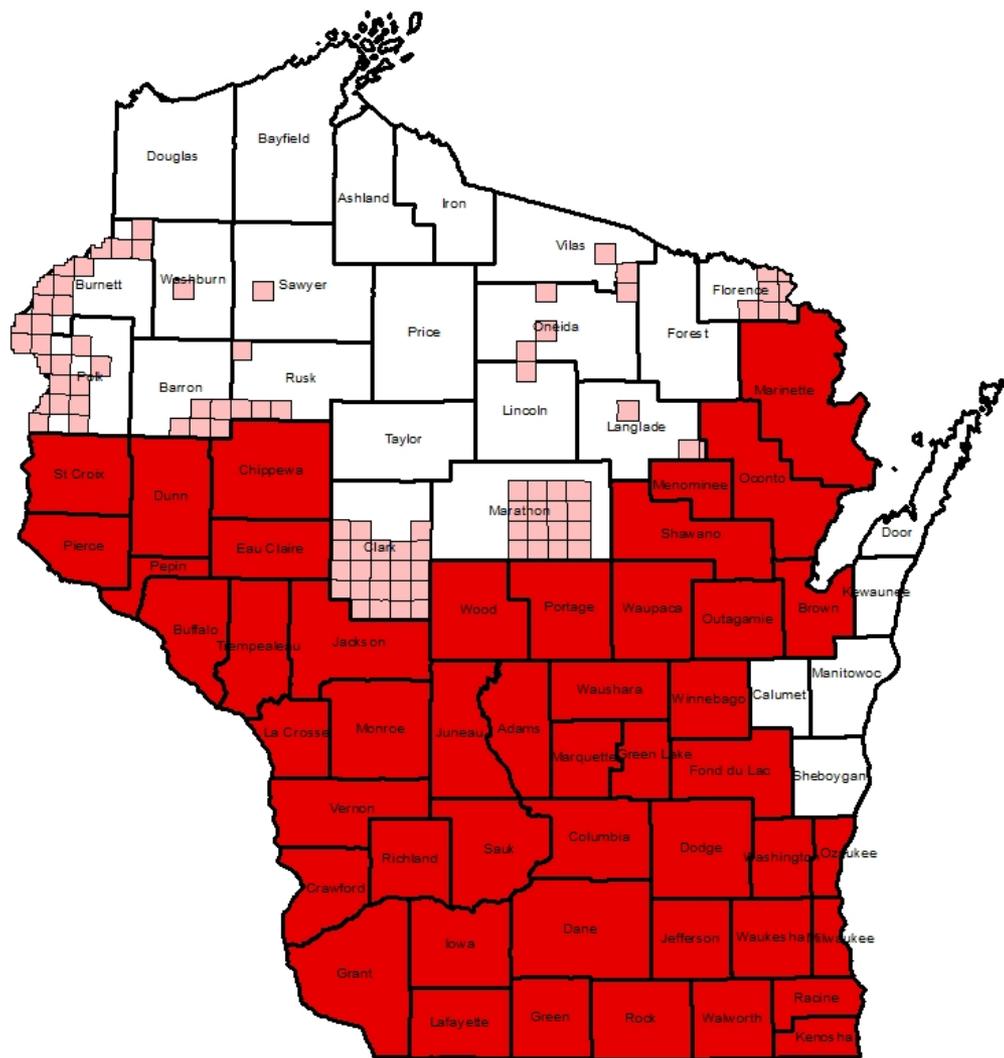


Exception 6

The stand is in a county where oak wilt is present but uncommon

Areas outside of counties in red, especially areas in white

Distribution of oak wilt in Wisconsin
(as of September 17, 2015)



Legend

- generally infested counties
- townships with oak wilt



Modification 1

Basal area of oak is slightly more than 20 square feet per acre due to scattered, large-diameter oaks

Compare with Exception 3

Basal area of oak is less than 15 square feet per acre

[3A. 16 to 20 square feet]



Modification 2

Salvage harvesting

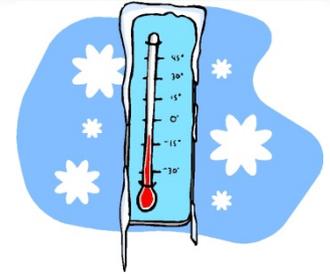
- Stand is exposed to high potential loss on residual trees
- Stand needs to be harvested quickly to capture wood value



Photo by: Bill McNee



Modification 3



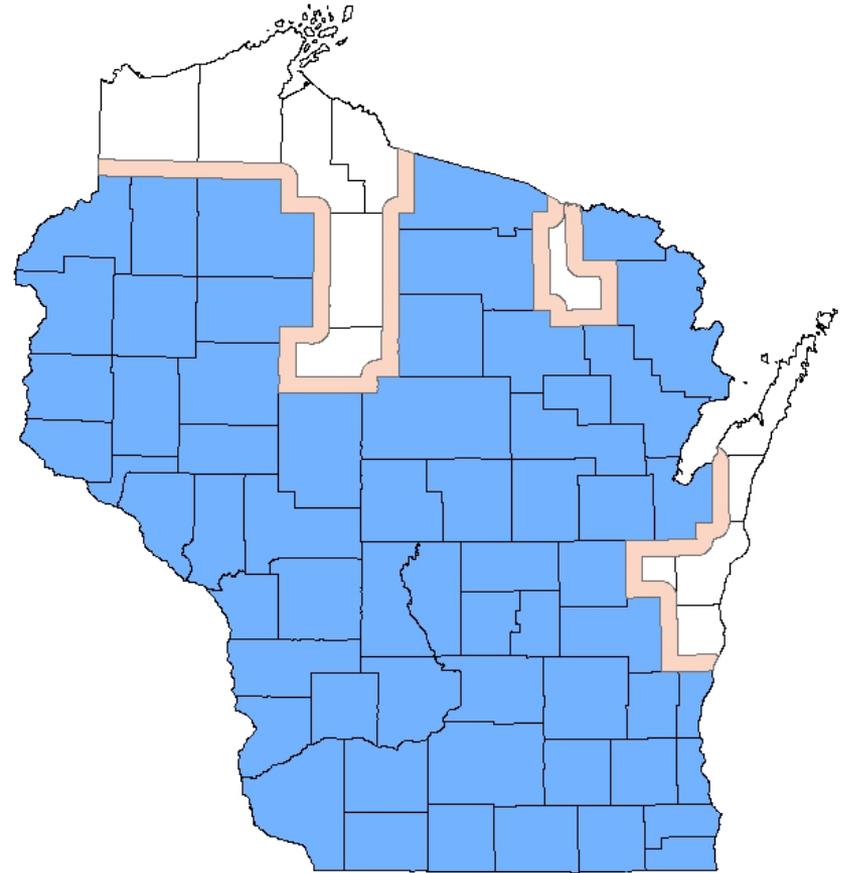
Unusual weather patterns in early spring

- March 2012 (early spring)
 - March-early April 2014 (late spring)
- Rule of thumb for vector emergence:
“Temperatures above 60F for 7 consecutive days”

Chapter 4

- If oak wilt is present in your stand

Areas in blue and tan in the map and oak wilt is present in your stand





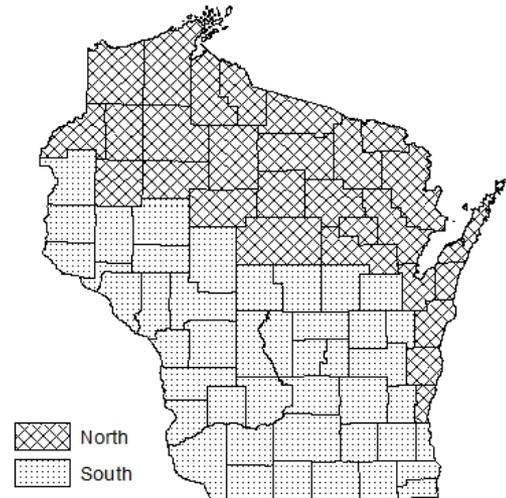
Seasonal Oak Harvesting Recommendation

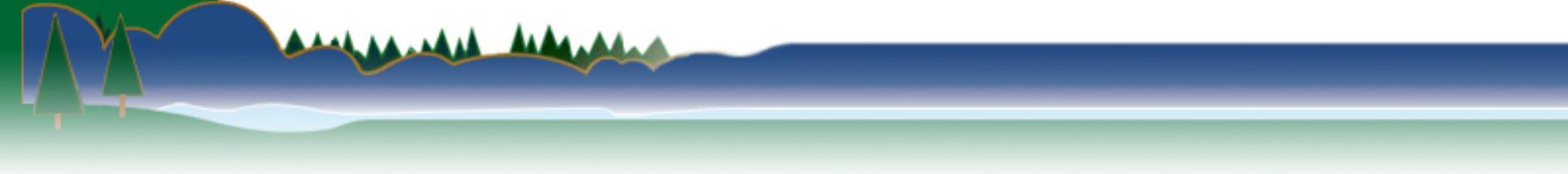
Harvesting restricted period due to oak wilt

North: April 15 to July 15

South: April 1 to July 15

- # of Exceptions: 6
- # of Modifications: 4





Differences between Chapter 3 and Chapter 4

- Basal area threshold
- Overstory removal

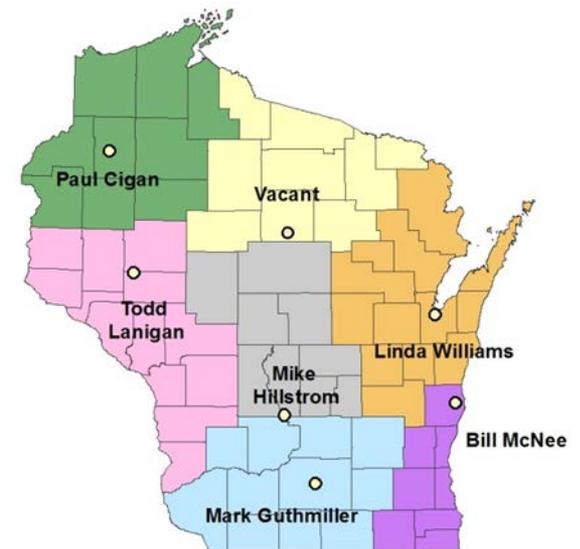


Chapter 4: Exception 6

- Oak wilt is widespread if all of the following apply:
 - Multiple dispersed oak wilt pockets (more than one pocket per 5 acres) AND
 - in a stand of black and/or northern pin oak AND
 - on sandy soils AND
 - with flat terrain AND
 - while conducting a regeneration harvest

Future work

- Continue to disseminate information
- Monitor how the guidelines are implemented
- Monitor sites with exceptions/modifications
- Evaluate new information



Questions?

