



# Early Detection, Delayed Reaction Repercussions of Amur Cork Tree and Wild Chervil

Upper Midwest Invasive Species Conference, 10/18/16 – La Crosse, WI Christopher Gaetzke – LCIP Chair



# ***Who is LCIP?***

- + We are a local non-profit organization that is controlling invasive plants through education and outreach with the use of **Civic Governance model**
- + LCIP has developed a partnership of governmental, NGO, non-profits, private sector and state CISMAs to increase invasive species awareness and action
- + LCIP covers Chippewa, Dunn, Eau Claire, Pepin and Pierce Counties in WC Wisconsin



# Case studies on two invasive plants spreading in our area

## Amur Cork Tree

- Invasive tree that is expanding by human traffic and birds
- Newly listed in NR40 in 2015 as a prohibited tree
- Found in Adams, **Dunn** and Waukesha counties in WI
- Found in IL, MA, NY, PA, VA
- Native Habitat: Northern China, Korea and Japan
- First discovered in USA in 1856, become a nuisance in the 1930s in NY botanical gardens
- Introduced to Dunn County in 1984 by resident that distributed to neighbors



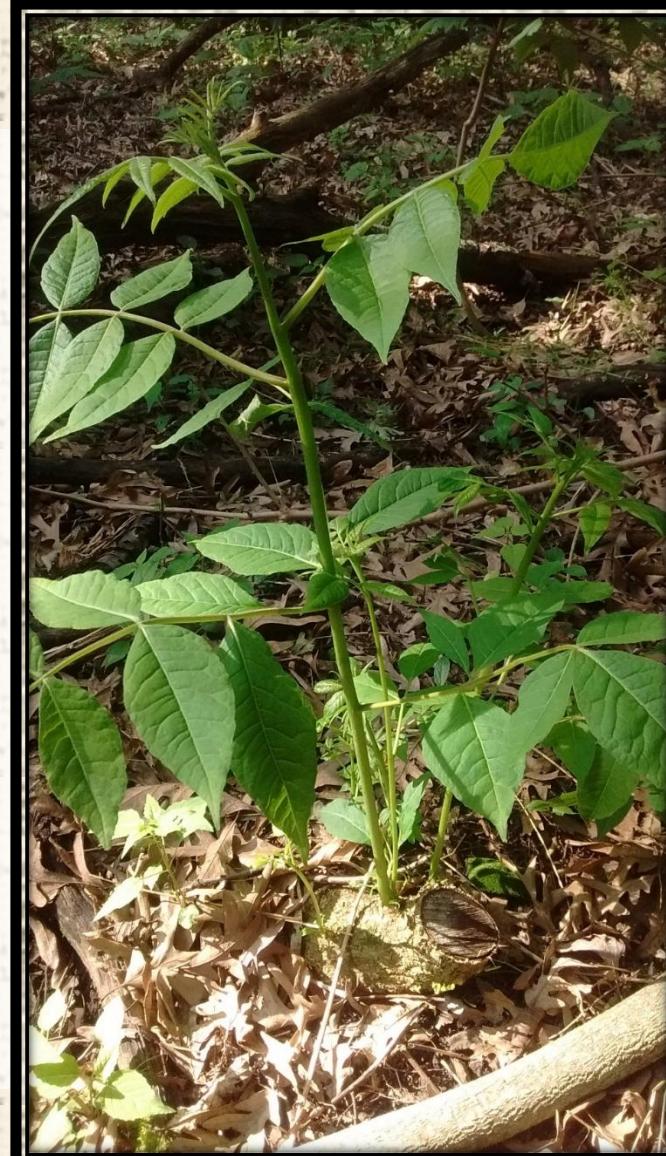
## Wild Chervil

- Invasive forb that is expanding its infestation by miles per year
- Listed in NR40 as a split prohibited and restricted
- Found in Barron, Chippewa, Dunn, Polk and St. Croix counties in West Central WI
- Found in 19 other states in USA and 5 Canadian provinces
- Native Habitat: Europe, Western Asia and Northwestern Africa
- First discovered in USA in MA in 1919 as an ornamental plant
- Recorded in this area around 2000 and been rapidly spreading through road maintenance practices



# Amur Cork Tree

- Found tree in 2015 during a site visit
- Reported findings to WDNR
- Acquired funding from WDNR for trial treatments of female plants
- Spreading the news over social media, letters, TV stations and newspapers
- In process of getting projects on the ground
- Worked with the City of Menomonie and UW Stout for first control



# Amur Cork Tree



- Invades woodlands, open woods and yards
- Grows up to 8' per year
- Female trees produce seed as early as 6 years old
- Shade out all native species



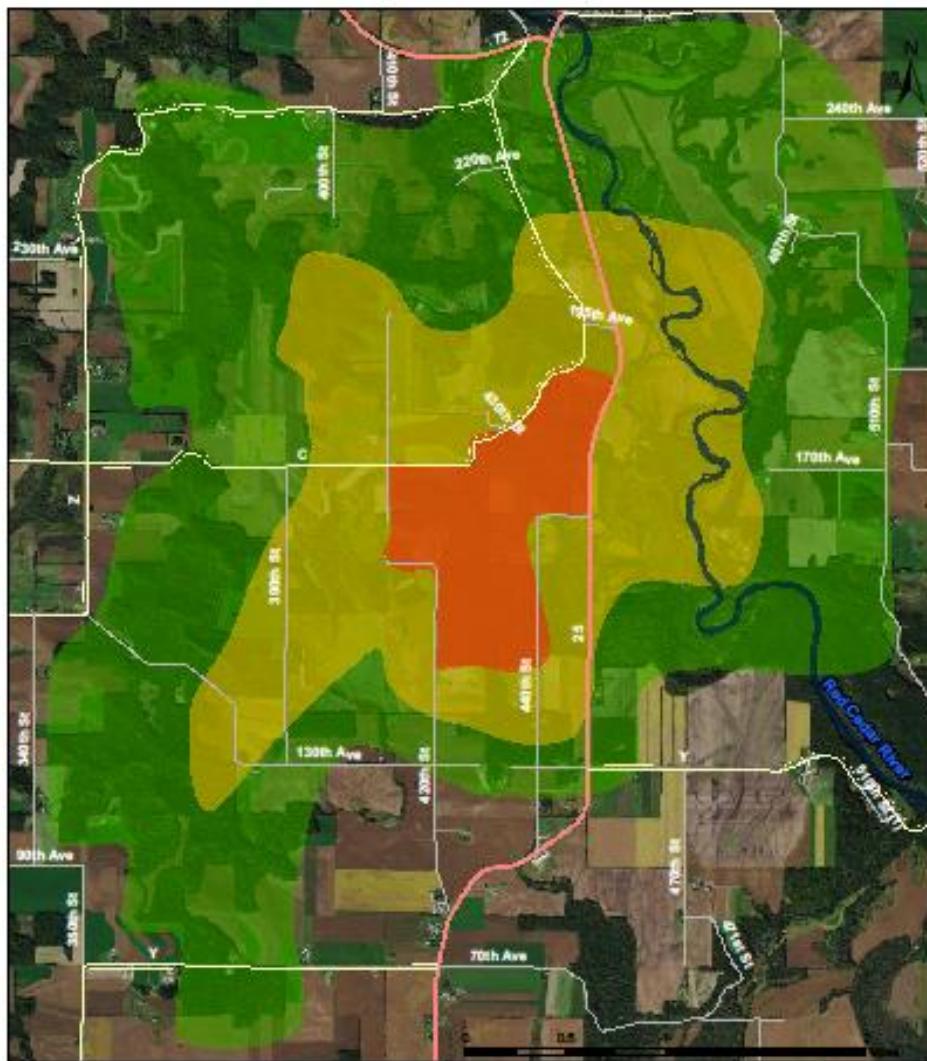
# Amur Cork Tree



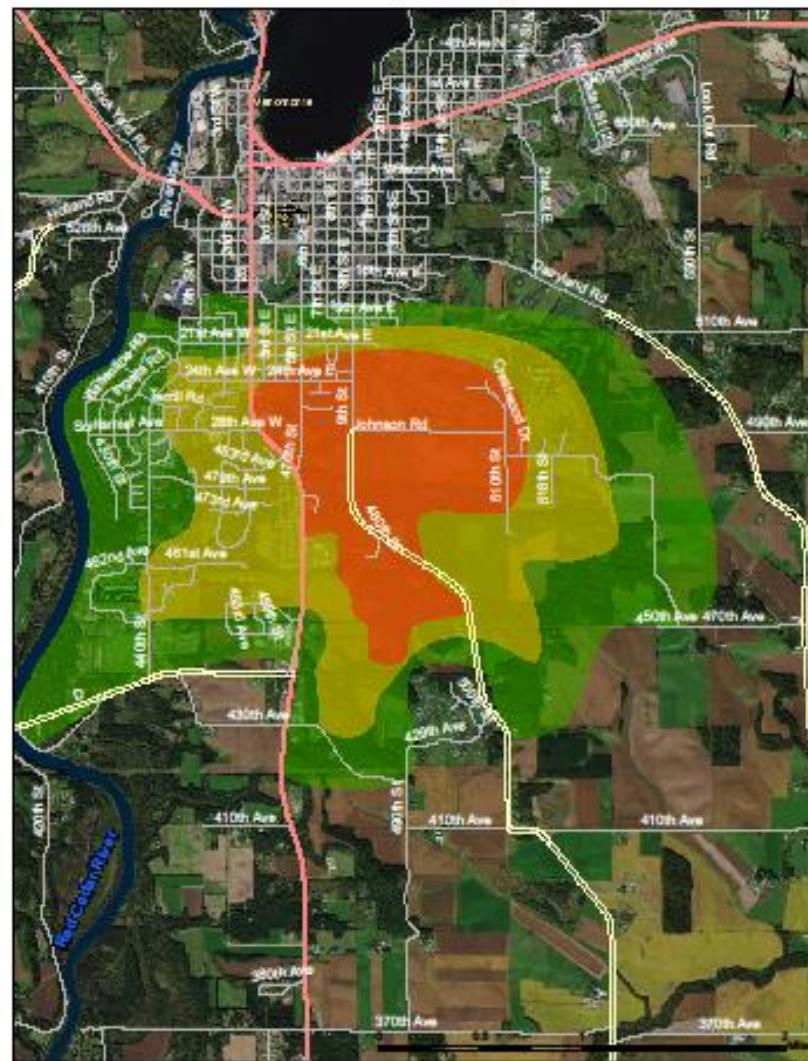
- Found multiple trees that were 24-32" diameter at the base that were 30-32 years old
- Densities have been found to range from 250-550 trees/acre
- Grow faster in managed pine plantations than hardwood forests

# Amur Cork Tree (*Phellodendron amurense*) in Dunn County

South of Downsville



Menomonie



Amur Cork Tree is a newly listed prohibited invasive species that is quickly being discovered to have already spread into public and private land. Because the species is prohibited, it is required to be removed from all land affected. There have been several sites already identified both near the south end of Menomonie and south of Downsville. This map shows the areas at immediate risk of the spread of this highly invasive tree so that LCIP can help fund the removal.

# Letter sent to 1,200 landowners



LCIP  
LOWER CHIPPEWA  
INVASIVES PARTNERSHIP

Summer 2016

Dear Landowner,

We would like to introduce you to your local Cooperative Invasive Species Management Area, the Lower Chippewa Invasives Partnership, Inc. (LCIP) based out of Menomonie, WI. We are a non-profit organization with a mission to control invasive plants by fostering partner cooperation and community action within Chippewa, Dunn, Eau Claire, Pepin and Pierce counties.

Our latest concern in your neighborhood is the newly listed, Wisconsin DNR (WDNR), NR40 (Invasive Species Rule) prohibited invasive tree, Amur Cork Tree. This highly invasive, fast establishing tree is located in two areas near you in Dunn County. We believe the cork tree can be controlled before it outcompetes all other trees and shrubs. Since this tree is listed as a prohibited species you are required by state law to remove the female, seed-producing trees from your property. LCIP will be surveying your area in order to specifically assess the extent of the infestation.

There are separate male and female trees that have different control techniques and protocols. This invasive tree grows up to 6 feet at year, is able to reproduce through seed production at 6 years old and will grow to the canopy level of your woodlot. This vigorous growth rate can eventually out compete the native forest species ability to regenerate leaving you only Amur Cork Trees dominating all other trees.

There is good news for this local epidemic. LCIP has been working with WDNR and the Natural Resources Conservation Service (NRCS) to secure funding for control. LCIP has also been working with the Menomonie based company, 4-Control, Inc. on herbicide trials to see what works best for the least cost. Through our findings and meetings, we now will have the knowledge and funding to help most affected landowners on a cost sharing basis. Unfortunately, the only way to eliminate this tree after it becomes mature is to use specific herbicides in a variety of different, targeted methods. To find out more about this invasive plant see the back of this letter to learn all about this highly aggressive tree from Eastern Asia.

If you have Amur Cork Tree on your property or want to know if you have this tree, you can contact LCIP at the information below for a site visit to discuss control options and follow up monitoring.

Regards,

Chris Gaetzke  
Chair, Lower Chippewa Invasives Partnership, Inc.  
800 Wilson Ave, Room 330  
Menomonie, WI 54751  
lcinvasives.org  
715-231-6540

**SEE BACK OF LETTER FOR FACTS AND INFORMATION TO PLAN FOR CONTROL EFFORTS**

## AMUR CORK TREE (*Phellodendron amurense*)

Legal Classification in Wisconsin: Prohibited Invasive Species  
Ecological Threat

- Suppresses and displaces native plant populations
- Adaptable to many soil types, but preferring moist, well-drained soil
- Grows in both full sun and under dense shade
- Reproduces by both seed and by resprouting from stem stumps
- Alters soil microorganisms and surrounding vegetation
- Planted throughout the United States; tolerant of urban areas

### Identification

*Height and form:* 30-45' tall; short trunk and broad branches.

*Leaves & stems:* Older trunks have distinct thick corky or spongy outer bark; cutting into the bark reveals bright yellow inner bark. Large, opposite pinnately compound leaves with 5-11 leaflets, smell somewhat of citrus or disinfectant when crushed. Leaflets are entire and dark green, turning yellow in fall. Can resprout from cut-stumps.

*Flowers:* Both male and female flowers are greenish-yellow, inconspicuous in size and found in clusters. June blooming.

*Fruits & seeds:* Trees are dioecious, producing fruit only on female plants. Fruits are drupes (fleshy fruit with a single stone), green in color from mid to late summer, turning black in fall. Fruits remain on trees into winter and may be dispersed by birds.

### Control

- Control should prioritize removal of female (fruiting) trees • Cork tree resprouts vigorously if not treated with herbicide after cutting.
- Follow up with replanting of desirable species appropriate for the site after 2 years of complete control.

*Some control options include:*

- All trees larger than 3" can be treated with cut stump, basal bark, girdle, or hack and squirt methods using systemic herbicides such as Garlon 4 Ultra, Milestone, Arsenal and horticultural (bark) oil. Contact LCIP for best rates.
- Seedlings can be controlled with a targeted foliar spray of cetylpyridal (1 oz/gal) or 2,4-D + triclopyr (3-4%) in mid-summer.

**To report an invasive species, please visit**

<http://dnr.wi.gov/topic/Invasives/report.html> and follow the reporting instructions. Then contact LCIP!

### Techniques of Control

*Basal Bark:* Apply triclopyr (dilute to 12.5% with horticultural oil, or more dilute for trees with base less than 2" diameter) in a 6-15" wide band around the entire trunk of the tree and at the root collar at the base of the stem. Only suitable for smaller trees that don't yet have corky bark. Avoid this treatment when temperatures are above 80°.

*Cut Stump:* Using loppers, chainsaw, or other suitable tool, cut down the tree. Apply Garlon 4 Ultra diluted to 20% in horticultural oil to the entire cambium (area just inside the bark) using a sponge or handheld sprayer. Avoid this treatment when temperatures are above 80°.

*Girdling:* Carefully cut a band of bark around the entire tree (1-2" wide for smaller trees, 6-8" wide for larger trees). This disrupts the flow of sap between the roots and the crown of the tree. Follow with herbicide application as outlined in the cut stump treatment to prevent resprouting.

*Hack + Squirt:* Similar to girdling. Using a hatchet, chainsaw, or other suitable tool, cut a continuous ring of overlapping notches through the bark around the tree trunk within 18" of the base.

USDA-NRCS EQIP and WDNR Forest Invasive GRANTS (funding for control by local contractors and citizens)  
CONTACT: **Kathy Stahl, LCIP Treasurer 715-962-4010**



# Amur Cork Tree Trials 2016

Treatments sprayed on April 1, 2016

All treatments were basal bark applied with an 18 inch ban below the first row of branches

Property located 1 mile south of Menomonie, WI

Observations taken on June 24, 2016

#	Herbicide	Surfactant used	Flag Color	Effectiveness after 85 days	Herbicide Cost Oz.	Bark Oil Cost Gal.	Total Cost Gal. mixed
1	<b>20% Garlon 4 Ultra</b>	<b>80% Bark Oil EC</b>	<b>Orange</b>	<b>100%</b>	<b>\$0.79</b>	<b>\$15.60</b>	<b>\$32.70</b>
2	15% Garlon 4 Ultra & 1% Vanquish	84% Bark Oil EC	Orange/Green	50-60%	0.79 & 0.70	\$15.60	\$29.16
3	2% Vanquish	98% Bark Oil LT	Green/Pink	Could not find	\$0.70	\$15.60	\$17.09
4	20% Progeny & 1% Milestone & 1% Arsenal	78% Bark Oil LT	Pink	Could not find	\$0.58 & \$3.19 & \$0.68	\$15.60	\$31.98
5	20% Progeny	80% Bark Oil EC	Green	90%	\$0.58	\$15.60	\$27.34
6	<b>5% Milestone</b>	<b>95% Bark Oil EC</b>	<b>Yellow</b>	<b>100%</b>	<b>\$3.19</b>	<b>\$15.60</b>	<b>\$35.24</b>
7	<b>2% Arsenal</b>	<b>98% Bark Oil EC</b>	<b>Yellow/Green</b>	<b>100%</b>	<b>\$0.68</b>	<b>\$15.60</b>	<b>\$17.04</b>
8	20% Progeny & 1% Milestone	79% Bark Oil EC	Pink/Yellow	70%	\$0.58 & \$3.19	\$15.60	\$31.27
9	<b>20% Progeny &amp; 1% Arsenal</b>	<b>79% Bark Oil EC</b>	<b>Orange/Yellow</b>	<b>100%</b>	<b>\$0.58 &amp; \$0.68</b>	<b>\$15.60</b>	<b>\$28.06</b>

AMUR CORK TREE STUDY 8-18-16 (MARY GALE PROPERTY MENOMONIE, WI)								
Plot #	Volunteer Count	Type of control	Equip Used	Size of Plot (sq feet)	Photo Taken	Start Time	End Time	Herbicide mixture
1	3	Cut Stump or Hand Pull	Loppers & Gloves	52' x 52' 6.25% of an Acre		9:40	10:30	20% Garlon 4 Ultra & 80% Bark Oil LT

Feedback: Was not sure on exact times

List Trees: White Oak, Sugar Maple, Black Cherry (Mixed Hardwoods)

List Shrubs: Elderberry and Prickly Ash

List Groundcover: Wood Nettle

Diameter at breast height (DBH) (inches)

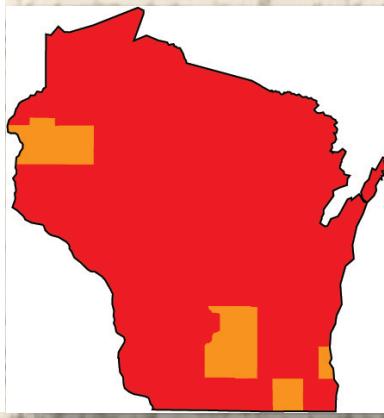
#	0-1"	1-2"	2-4"	4-8"	8-12"	12" +	Growth Rings at base	Control Method Used (C=cut, P=Pull)
1	x						?	P
2	x						?	P
3		x					3	C
4	x						3	P
5	x						3	C
6		x					6	C
7	x						3	C
8	x						3	C
9		x					8	C
10	x						6	C
11	x						3	C
12		x					3	C
13		x					7	C
14		x					8	C
15		x					6	C
16	x						3	C
17		x					8	C
18	x						3	C
19	x						3	C
20	x						2	P
21	x						1	P
22	x						3	P
23		x					10	C
24	x						3	P
25	x						3	P
26	x						3	C
27	x						2	P
28	x						2	P
29		x					3	C
30		x					3	C
31	x						2	P
32	x						2	P
33	x						3	P
34		x					3	C
TOTAL	22	12	0	0	0	0		
Grand Total	34	Trees/Acre	544					



# Wild Chervil



- Invades roadsides, open woods, fields and pastures
- It is a host to parsnip yellow fleck virus which infects carrots, celery, and parsnips
- It has been planted as an ornamental and is found in some European wildflower seed mixes



# Wild Chervil



- Wild Chervil is covering roadsides and entering woodlots and waterways in Barron, Chippewa and Dunn Counties
- Recommend pull young plants or treat with Escort XP for large infestations

# EDUCATION

Stakeholder meeting in Tilden on Wild Chervil



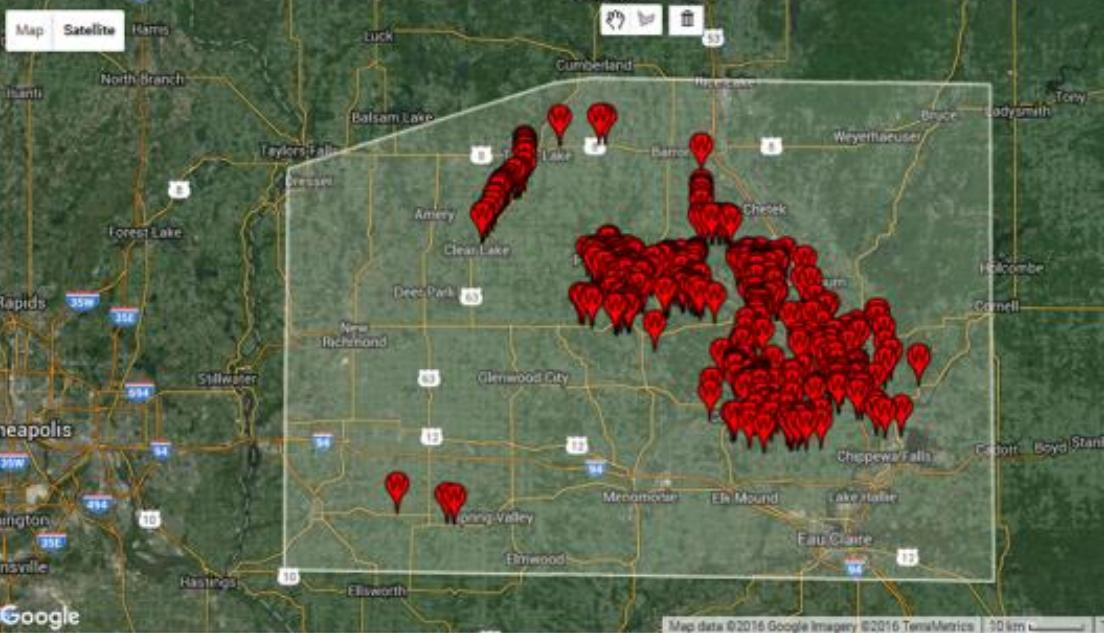
# Wild Chervil

- We are acting on reports from a citizen in Chippewa county with a multi-year grant from WDNR to try suppressing plant with chemical solution of Escort XP/Vanquish with drift control
- Worked with local and state governments, townships and citizens to develop a plan to start control measures

# Wild Chervil Identification

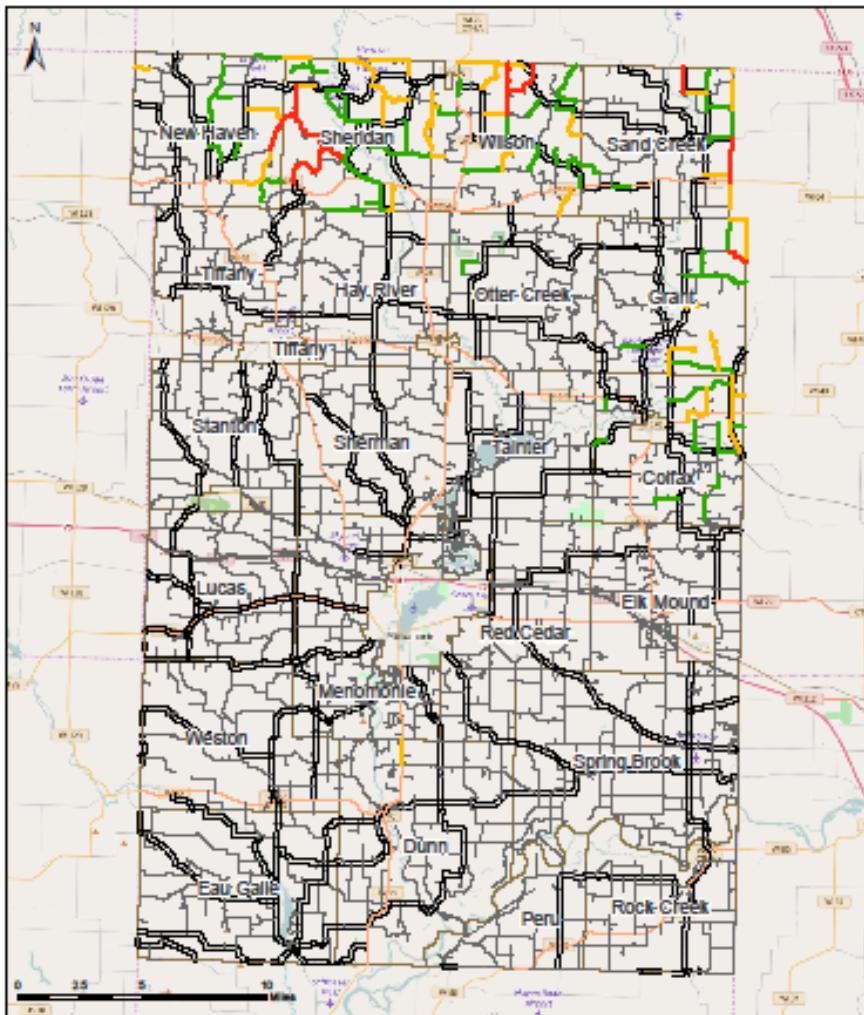
- Starts as a rosette with fern like leaves for at least a year. Flowers 2<sup>nd</sup> year with pinnately compound, fernlike triangular leaves.
- Flowers late in spring with white 5 notched petals
- Flowers form flat umbrels

GLEDN Map Updated 6-9-16

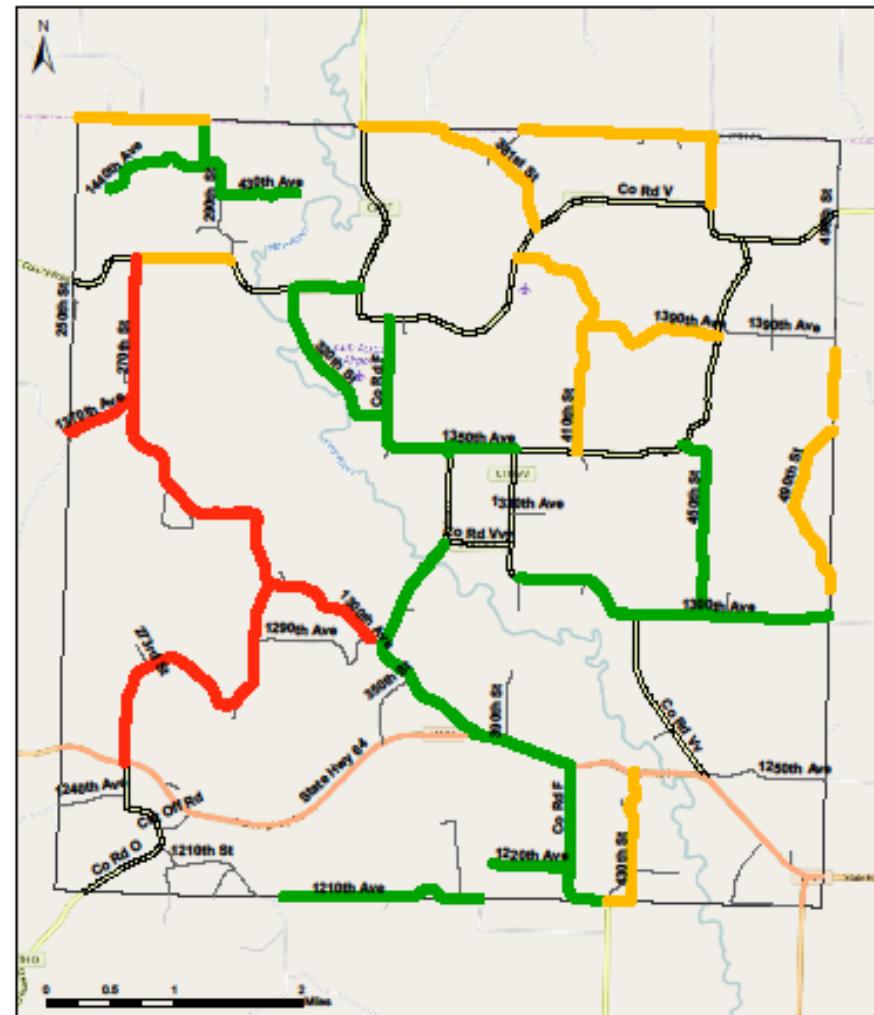


## Wild Chervil (*Anthriscus sylvestris*) in Dunn County

### Dunn County



## Sheridan Township



## Legend

### Plant Density

Legend:

- >25% (Red)
- 5-25% (Yellow)
- <5% (Green)

### Road Type

— State Highway — Town Road  
— County Road

This map was created using the EDDMapS mobile data collection application GLEDN. Points were entered with both the mobile application and highlighting physical road maps by hand. Data was collected over the course of one week via pairs in a vehicle. Wild Chervil is an invasive plant currently of high concern in Dunn County as well as surrounding Barron and Chippewa counties. The purpose of this map is for use in controlled spraying along infected roadways by both the County Highways Department and affected townships.

# Wild Chervil Action

- Chippewa County purchased chemical from 4-Control and sprayed Escort XP mixture on 289 acres of State, County and Township roads
- Dunn County contracted 4-Control to treat HWY 64, some County HWYs for a total of 1.5 acres with Escort XP/Vanquish with drift control mixture
- Working with townships to take next steps for treating 8 townships that have been surveyed to have this plant for 2017 action

Chippewa County Wild Chervil Spraying 2016

Date	Escort - oz	Liberate - Qt	Water - Gal
5/23/16	32	8	800
5/24/16	32	8	800
5/26/16	32	8	800
5/31/16	26	7	650
6/1/16	41	10	1050
6/2/16	39	10	950
6/6/16	34	9	850
6/7/16	49	12	1225
6/9/16	4	1	100
Total	289 oz	73 Qt	7225 Gal
	\$3468.00	\$547.00	
Escort	\$12.00 Per Ounce		
Liberate	\$30.00 Per Gallon		
	Total \$4,015.00		

# Wild Chervil Results

- Initial results have shown that Escort XP and Vanquish have shown significant control of this plant
- Monitoring will continue in spring of 2017 to make sure chemical is worth using in 2017 on the roads not treated
- Thank WDNR for providing the first two years of funding to get this project moving toward containing the spread of this plant from the rest of the state



# Getting the News Out to the People

## LEADER-TELEGRAM

### Volunteers rooting out invasive species

Tree threatening ecosystem in areas of Dunn County

posted: August 19, 2016 12:00a CST

by / Pamela Powers. [bio](#) | [email](#)

MENOMONIE — The battle against an invasive species in Dunn County started Thursday as volunteers eradicated some Amur cork tree on property near Menomonie.

The invasive tree, listed as such in 2015, so far is located largely in two areas in Dunn County.

Volunteers with the nonprofit Lower Chippewa Invasives Partnership based in Menomonie were cataloging and removing Amur cork trees found on Mary Gale's property on 510th Street south of Menomonie. The other property is south of Menomonie near Highway Y.



The fast-growing Amur cork tree takes over the wooded canopy, crowding out other tree species, said Chris Gaetzke, chairman of the Lower Chippewa Invasives Partnership.

Amur cork trees were introduced to the area about 32 years ago as a fast-growing ornamental tree from Asia.

The tree is fairly easy to spot because of its thick, corklike, spongy bark when mature. It also has a bright yellow inner bark, Gaetzke said.

"We are trying to stop the plant before we have our next buckthorn," Gaetzke said. "The Amur cork tree tends to grow up to 6 feet in height a year."

Amur cork trees grow in both shaded and sunny lots.

Birds eat the berries from female trees and then help spread the seed.

Volunteer Jim Anderson of Menomonie came out to help Thursday.

"We want to get the battle early," he said. "It's important for us to identify and control this species."

Letters have been sent to 1,200 landowners, encouraging them to be on the lookout and eradicate the invasive species, Anderson said.

## WQOW TV News interviews

## Dunn County News, EC Leader Telegram articles

## Facebook and Website postings

### Amur Cork Tree

*Phellodendron amurense*

Legal Classification in Wisconsin: Prohibited Invasive Species  
Male cultivars are exempt and are allowed

#### Ecological Threat

- Suppresses and displaces native plant populations.
- Adaptable to different soil types, but preferring moist, well-drained soils.
- Grows in both full sun and under dense shade.
- Reproduces by both seed and by resprouting from stumps.
- Alters soil microorganisms and surrounding vegetation.
- Planted throughout the United States; tolerant of urban stress.

#### Identification

Height and form: 20-45' tall; short trunk and broad branches.  
Leaves & stems: Older trunk have thick corky or spongy outer bark; cutting into the bark reveals bright yellow inner bark. Large, opposite pinnately compound leaves with 3-11 leaflets; small whorls of leaves or distinct whorls when crushed. Leaflets are entire and dark green, turning yellow in fall. Can resprout from cut-stumps.

Flowers & seeds: Male and female flowers are greenish-yellow, inconspicuous in size, and found in clusters. Flowers blooming.

Fruits & seeds: Trees are dioecious, producing fruit only on female plants. Fruits are drupes (fleshy fruit with a single stone), green in color from mid to late summer, turning black in fall. Fruits remain on trees in winter and may be dispersed by birds.



#### Control

• Control should prioritize removal of female (fruiting) trees first by girdling combined with herbicide application.

• Cork tree resprouts vigorously if not treated after cutting.

• Follow up with replanting of desirable species appropriate for the site.

#### Some control options include:

• All trees larger than 2" can be treated with cut stump, basal bark, girdle, or hack and squirt methods using systemic herbicides such as triclopyr, glyphosate, or 2,4-D + triclopyr and herbicultural oil.

• Girdling can be controlled with a targeted foliar spray of glyphosate (1 oz/gal) or 2,4-D + triclopyr (3.4%) in mid-summer.

To report an invasive species, please visit <http://dnr.wi.gov/topic/invasives/report.html> and follow the reporting instructions.



#### Techniques

**Basal Bark:** Apply triclopyr (diluted to 12.5% with herbicultural oil, or more dilute for trees with base less than 2" diameter) in a 6-12" wide band around the entire trunk of the tree and at the root collar at the base of the stem. Only suitable for smaller trees that don't yet have corky bark. Avoid this treatment when temperatures are above 80°F.

**Cut Stump:** Using loppers, chainsaw, or other suitable tool, cut down the tree. Apply 2,4-D + triclopyr diluted to 12.5% in herbicultural oil to the entire cambium (area just inside the bark) using a sponge or handheld sprayer. Avoid this treatment when temperatures are above 80°F.

**Girdling:** Carefully cut a band of bark around the entire tree (1-2" wide for smaller trees, 3-8" wide for larger trees). This disrupts the flow of sap between the roots and the crown of the tree. Follow with herbicide application as outlined in the cut stump treatment to prevent resprouting.

**Hack + Squirt:** Similar to girdling. Using a hatchet, chainsaw, or other suitable tool, cut a continuous ring of overlapping notches through the bark around the tree trunk within 12" of the base. Follow with herbicide application as outlined in the cut stump treatment.



# How are we successful?



## Governing Document for the Lower Chippewa Invasives Partnership

**LCIP Identity Statement:** LCIP is an organization that reaches goals toward invasive species awareness and control by using Civic Governance as a new approach to educate and organize the civic infrastructure needed to produce a basis to govern for the common good and sustain democracy as a just system.

**LCIP Mission Statement:** To control invasive plants by fostering partner cooperation and community action.

**Concept:** Civic governance offers an opportunity to address complex, challenging problems through an authentic citizen engagement process that promotes productive results. This approach depends on a non-partisan, citizen-centered, transparent environment that builds trusting relationships. LCIP recognizes the importance of citizen engagement in addressing invasive species issues in their jurisdiction of Chippewa, Dunn, Eau Claire, Pepin and Pierce counties. Essential to the success of this approach is the recognition that each person is a citizen and a policy maker, regardless of what organization they represent or position they hold. Civic governance encourages all stakeholders to suspend judgment, exercise civic imagination, and cultivate their leadership while leveraging resources to find solutions to invasive species issues in their jurisdiction. This approach ensures long-term sustainable action toward the common good of invasive species management.

**Process:** As members of LCIP work together as a civic organizing entity, they also work within their personal jurisdictions and with their personal constituencies to foster civic governing principles outside LCIP, among others in the organizations jurisdiction. Working one-on-one with key stakeholders, members begin to learn about other points of view in order to shape the next steps in addressing a particular problem and in finding shared solutions to the shared problems of invasive species management.

LCIP meets monthly to ensure progress is being made toward reaching our goals. Meeting locations move around the jurisdiction to fit the needs of the members. Agendas are sent out before the meeting giving members time to reflect and prepare for each meeting. "Individual Check Ins" is a part of every meeting, where each member discusses developments and actions within their jurisdiction related to invasive species and LCIP. At the end of every meeting, an evaluation is done by each member, rating the meeting on a scale of 1-5, with 5 being the best. The ratings are based on how well the meeting stayed on agenda, if the goals were met and a level of satisfaction with the progress being made. A summary of the meeting is written afterward in an outcomes document that is distributed to all members before the next meeting.

Decision-making by LCIP is based on these civic standards\*:

- All those impacted by the problem are stakeholders and help define the problem in light of civic principles and the realities of their situation.
- All stakeholders are accountable for contributing resources (leadership/time, knowledge, constituencies & dollars) to solve the problem.
- All stakeholders are engaged in decision-making and policy-making that contributes to the common good.
- All stakeholders implement policies grounded in civic principles in the places where they have the authority to act.

**Participants:** Any interested citizen that has a desire to expand their capacity to govern, influence public policy and resolve complex problems for the common good of invasive plant management and education are welcome and desired.

\*These standards and other portions of this document come from a Civic Governance Policy Document, produced by Civic Organizing, Inc., 2013

# LCIP PARTNERS

- The only way you can get community action is through partnerships



UNIVERSITY OF WISCONSIN  
WISCONSIN POLYTECHNIC UNIVERSITY



WEST WISCONSIN  
LAND TRUST



UNIVERSITY OF WISCONSIN-RIVER FALLS



# The Power of Citizen Volunteers!!

- **Without the collaboration of citizens we will never meet our goals of educating, informing and controlling invasive plants. THANK YOU SUPPORTERS!!!**





For more information contact us at:

Chris Gaetzke  
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715-231-6540

[cgaetzke@co.dunn.wi.us](mailto:cgaetzke@co.dunn.wi.us)

Mame Gale  
Vice Chair  
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[lcinvasives.org](http://lcinvasives.org)

**Search: Lower Chippewa Invasives Partnership  
on FACEBOOK**



ANY  
QUESTIONS?  
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