What is the best time of year to use prescribed fire to control invasive bush honeysuckle?
A case study from the Upper Midwest

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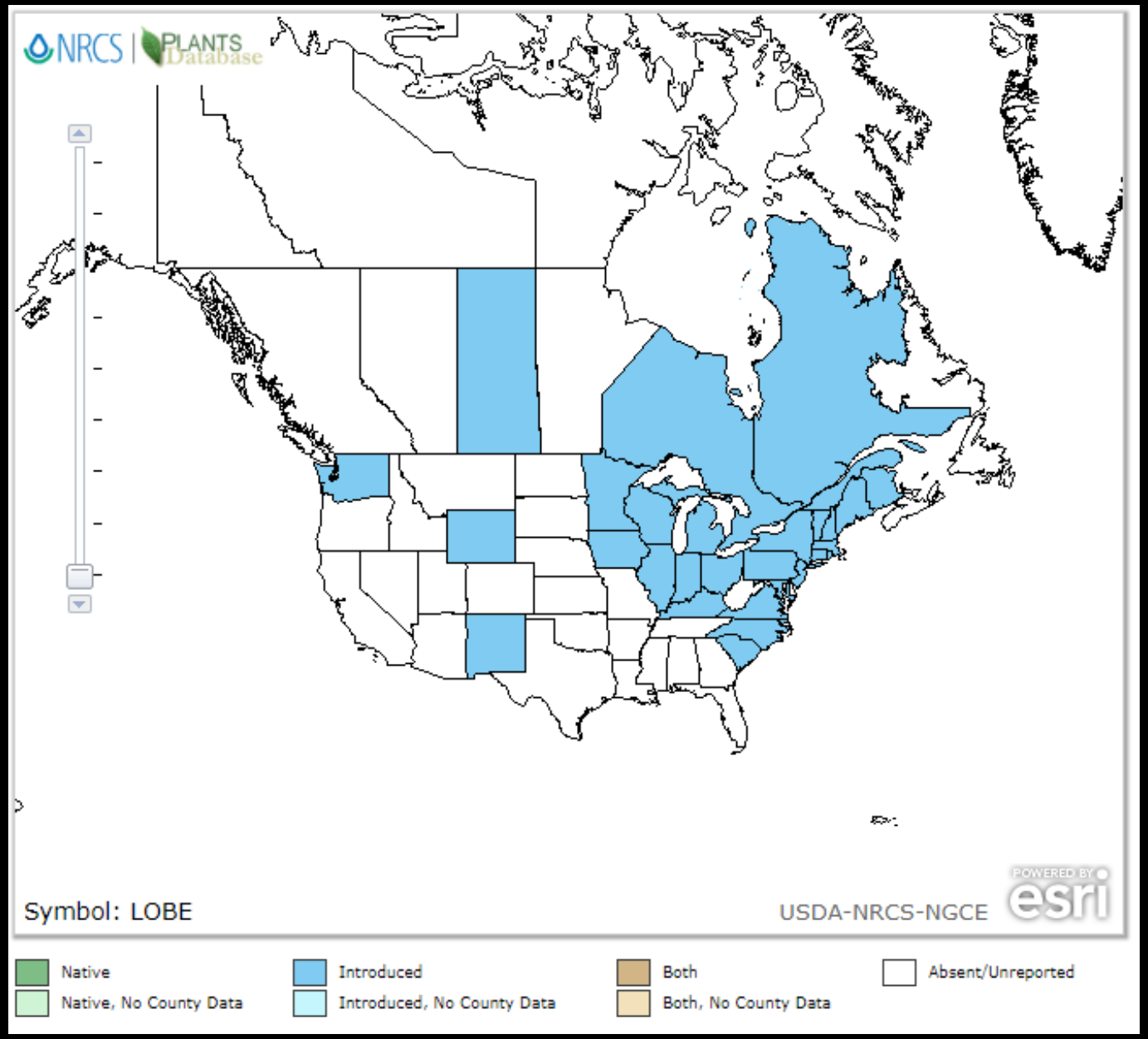
Lonicera morrowi, 8 ft

*L. tatarica,*10 ft

L. x *bella,* 20 ft

Can create a “hybrid swarm” by crossing with the parent plants (*L. morrowii* and *L. tatarica*).

L. x bella range



L. x bella hybridized from
L. tatarica (native to Central Asia) and
L. morrowii (native to Japan)

L. x bella appears to have a competitive advantage over native species in the Midwest by

leafing out earlier,
staying green longer,
having high shade tolerance, and
g**reater seed production**

Identification

Opposite leaves, oval or oblong
Hollow woody stems
Fruit: orange to red berry

Species comparisons: Left: *L. morrowii*, Center: *L. x bella*, Right: *L. tatarica*

L. x bella, flowers can become yellow with age

Berries are paired, usually red when mature (range from yellow to orange to red)

Why should we care?

Regulatory compliance

Ecosystem change

Birds

Studies have shown that northern cardinals (*Cardinalis cardinalis*) and American robins (*Turdus migratorious*) have higher nest predation rates nesting in honeysuckle than nesting in native shrub species

“Traditional” methods

Boring

Jed Meunier, WI DNR

Tim Kuhman,
Edgewood College

Brad Strobel, USFWS

Treatment Summary:

4 seasons	SP (n = 20), EG (n = 20), LG (n = 20), FA (n = 20) one control (n = 20)
2 torching duration	15 seconds & 30 seconds
2 temperatures	(1) 125-175° C, ~ 5 psi @ 18” & (2) >246° C, ~ 10 psi @ 18” (257- 347 & > 475°F)
3 species	buckthorn (Madison), bush honeysuckle (Driftless), & oak (Central Sands)
1 stem size class	1-2.5 cm diameter (@ 15cm height)

20 bushes x 2 torching durations x 2 temps = 80 bushes (per season)

Spring (SP) - month of **April** (coinciding with the traditional spring burn season)

Early growing (EG) season - **June** 15-30th

Late growing (LG) season - **August** 15-31st

Fall (FA) - **October** 17th to November 7th (prior to snowfall but after oak leaf drop)



Results

“Kill class”

0 = no apparent damage

1 = <25% “dead”

2 = 25-75% dead

3 = 75-99% dead

4 = 100% dead

Results

“Kill class”

0 = no apparent damage

1 = <25% “dead”

2 = 25-75% dead

3 = 75-99% dead

4 = 100% dead

Results

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Results

“Kill class”

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1 = <25% “dead”

2 = 25-75% dead

3 = 75-99% dead

4 = 100% dead

Results

“Kill class”

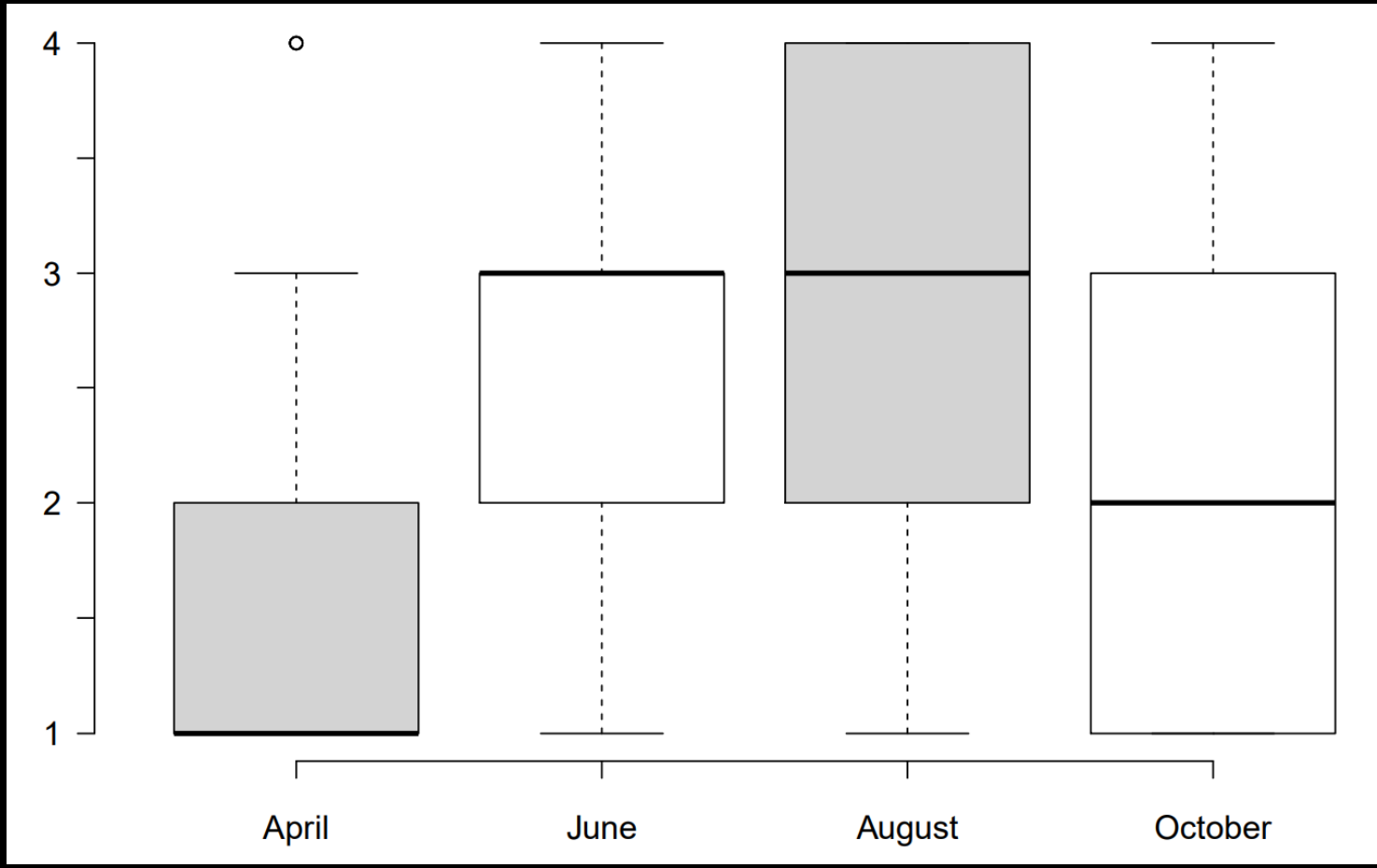
0 = no apparent damage

1 = <25% “dead” (without leaves on branches)

2 = 25-75% dead

3 = 75-99% dead

4 = 100% dead



Effect of season on “kill class”

Results

What time of year had the best kill?
# of resprouts

“Kill class”
0 = no apparent damage
1 = <25% “dead”
2 = 25-75% dead
3 = 75-99% dead
4 = 100% dead

	Kill class (ave)	Resprouts (ave)	Resprouts (range)
April	1.8	5.3	14
June	2.7	3.1	10
August	3.0	2.0	7
October	2.2	5.7	25

Results

Number of bushes by “Kill class” and season

	1	2	3	4
	<25% dead	25-75% dead	75-99% dead	100% dead
April	42	20	11	6
June	9	27	27	17
August	1	25	31	23
October	24	27	13	15

Results

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Conclusion