

Potential Damage from Emerald Ash Borer



“Urban Forests,
Human Health,
and
Environmental
Quality ”

A research work
unit of the USDA
Forest Service
Northern
Research
Station

SUNY ESF,
1 Forestry
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5 Moon Library
Syracuse,
New York
13210-2778

For more
information,
contact
[Dave Nowak](mailto:dnowak@fs.fed.us)
dnowak
@fs.fed.us



Principal Investigators:

David Nowak, Daniel Crane, Jack Stevens, and Jeffrey Walton* (USDA Forest Service, Northern Research Station) *Currently at Paul Smith's College, Paul Smiths, New York

Research Collaborators:

Doug Allen and Latif G. Kaya (SUNY College of Environmental Science and Forestry);
Linda Ordiway (USDA Forest Service Northern Research Station)



Emerald ash borer
Photo by Howard Russell, Michigan State University

Emerald ash borer (EAB) (*Agrilus planipennis*), a wood borer native to Asia, first entered Michigan from China at least fifteen years ago and has subsequently been found in at least thirteen states and Ontario, Canada. For more information on the emerald ash borer, please visit USDA Forest Service Northern Research Station's EAB web page at <http://www.nrs.fs.fed.us/disturbance/eab/>. For non-urban forests potential risk data are presented for known hosts --- ash trees (*Fraxinus* spp.)

Information on potential damage to urban and non-urban forests have been compiled based on insect and disease host preferences and field data from urban areas and the USDA-Forest Service Forest Inventory and Analysis

(FIA) (<http://fia.fs.fed.us/>) data.

For non-urban forests potential risk data are presented for known hosts -- ash trees (*Fraxinus* spp.)

These data are based on FIA (trees \geq 1 inch in diameter at breast height (4.5 ft) (DBH)) data extracted in 2002 in conjunction with host preference data. Data are given by county and state for:

- number of potential trees affected,
- percent of tree population,
- percent of basal area, and
- compensatory value of potential affected trees.

Methods on compensatory value are given in:

Nowak, D.J., J. Pasek, R. Sequeira, D.E. Crane, and V. Mastro. 2001. Potential effect of *Anoplophora glabripennis* (Coleoptera: Cerambycidae) on urban trees in the United States. *Journal of Economic Entomology*. 94(1): 116-122.

available online at
<http://nrs.fs.fed.us/pubs/1983>

Within the value formula, location factor was set to 0.1 and condition factor was set to 0.8 for the analysis of non-urban forests.

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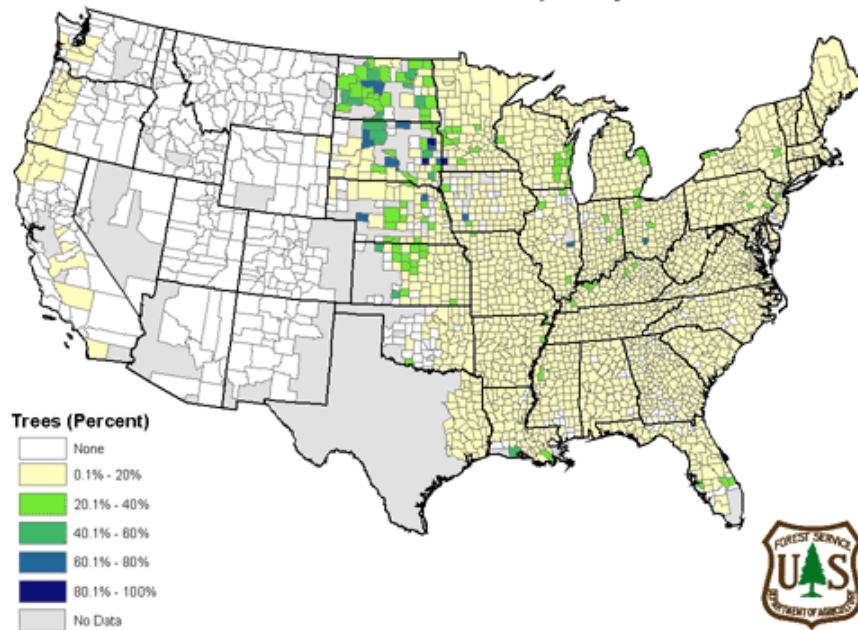
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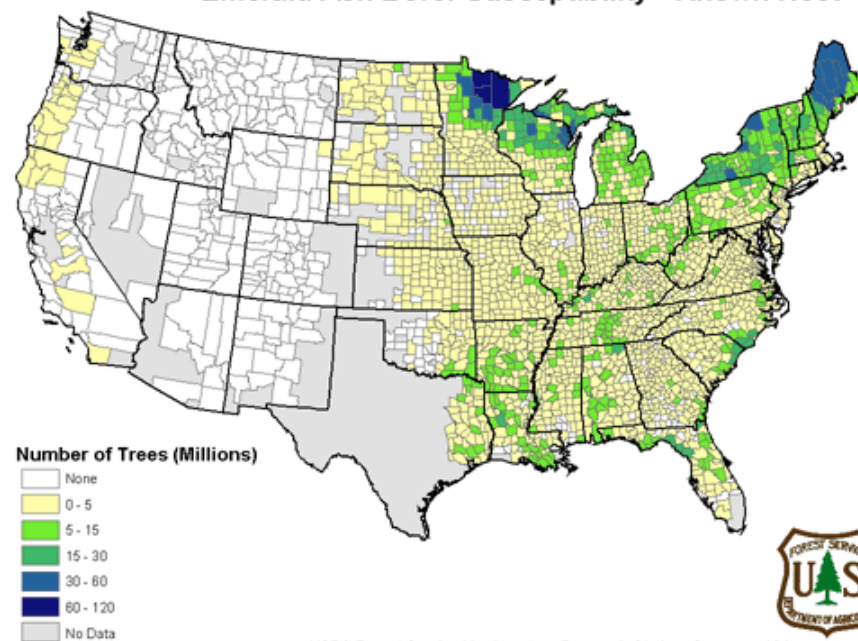
Emerald Ash Borer Susceptibility - Known Host



USDA Forest Service Northeastern Research Station, Syracuse, NY

Map of
Percent of
Trees on
Timberland
Potentially
Infested by
Emerald
Ash Borer.
[Known
Host]

Emerald Ash Borer Susceptibility - Known Host



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Number of
Trees on
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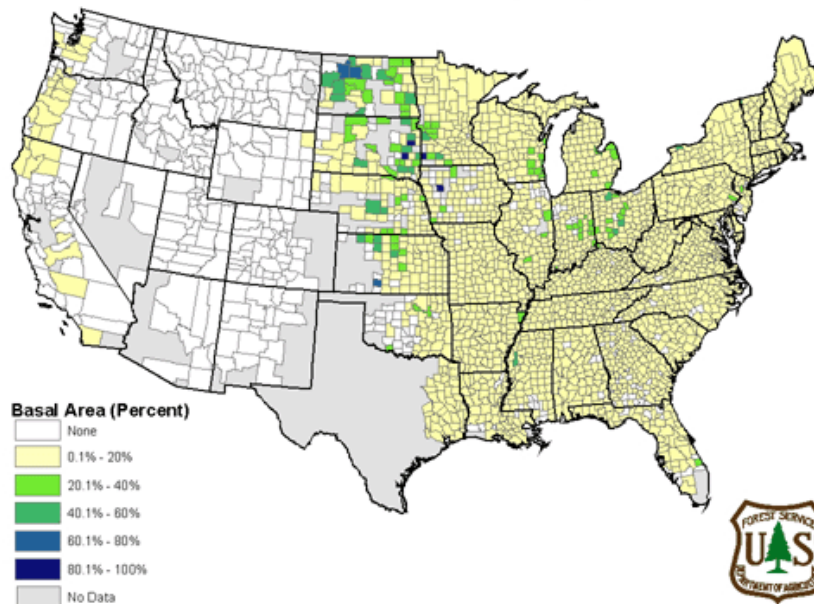
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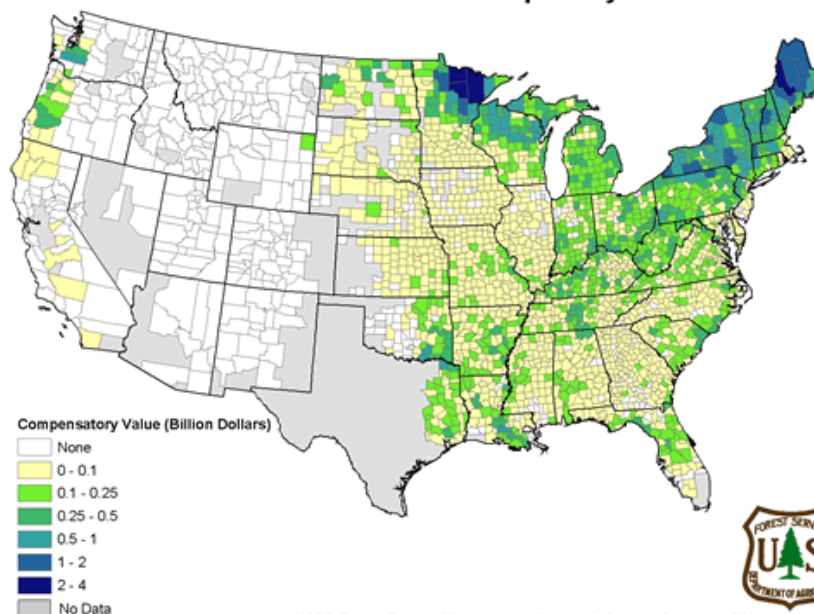
Emerald Ash Borer Susceptibility - Known Host



USDA Forest Service Northeastern Research Station, Syracuse, NY

Map of Percent
Basal Area on
Timberland
Potentially
Infested by
Emerald Ash
Borer.
[Known Host]

Emerald Ash Borer Susceptibility - Known Host



USDA Forest Service Northeastern Research Station, Syracuse, NY

2003/02/19

Map of
Compensatory
Value on
Timberland
Potentially
Infested by
Emerald Ash
Borer.
[Known Host]

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Percent of Trees On Timberland
Potentially Infested with EAB

State	Known Host	State	Known Host
AK	ND	NC	1.9
AL	1.4	ND*	24.8
AR	2.3	NE*	9.8
AZ*	0	NH	2.2
CA*	0	NJ	2.6
CO*	0	NM*	0
CT	2.7	NV*	0
DC	ND	NY	7.9
DE	0.2	OH	6.2
FL*	3.3	OK*	2.1
GA	1	OR*	0.1
HI	ND	PA	3.5
IA*	4	RI	1
ID*	0	SC	2.1
IL*	5.5	SD*	2.9
IN*	6.1	TN	3.1
KS*	7.7	TX*	2.2
KY	4.2	UT	0
LA*	3.2	VA	1.5
MA	3.4	VT	3.5
MD	1.5	WA*	0.1
ME	2.2	WI	6.4
MI	6.1	WV	2.3
MN*	7.3	WY*	0.1
MO	2.9	U.S.	2.6
MS	1.6		
MT*	0		

Number of Trees On Timberland
Potentially Infested with EAB

State	Known Host	State	Known Host
AK	ND	NC	271,300,000
AL	223,400,000	ND*	46,900,000
AR	283,000,000	NE*	29,700,000
AZ*	0	NH	76,100,000
CA*	2,800,000	NJ	25,800,000
CO*	0	NM*	0
CT	22,400,000	NV*	0
DC	ND	NY	767,300,000
DE	600,000	OH	279,400,000
FL*	253,300,000	OK*	77,200,000
GA	151,900,000	OR*	8,600,000
HI	ND	PA	299,700,000
IA*	33,000,000	RI	1,700,000
ID*	0	SC	180,100,000
IL*	131,300,000	SD*	16,000,000
IN*	146,900,000	TN	261,600,000
KS*	47,000,000	TX*	148,900,000
KY	291,600,000	UT	0
LA*	254,800,000	VA	169,100,000
MA	52,200,000	VT	108,400,000
MD	22,300,000	WA*	9,000,000
ME	364,500,000	WI	628,100,000
MI	692,900,000	WV	150,400,000
MN*	616,600,000	WY*	1,900,000
MO	213,400,000	Total	7,553,000,000
MS	191,900,000		
MT*	0		

ND = No data available. * = Incomplete data for state.

2/19/2003

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**Percent Basal Area on Timberland
Potentially Infested with EAB**

State	Known Host	State	Known Host
AK	ND	NC	1.6
AL	1.3	ND*	22.5
AR	2	NE*	8.3
AZ*	0	NH	2.7
CA*	0	NJ	4.8
CO*	0	NM*	0
CT	3.9	NV*	0
DC	ND	NY	6.4
DE	0.8	OH	7.4
FL*	2.7	OK*	2.8
GA	0.9	OR*	0.1
HI	ND	PA	4
IA*	3.6	RI	1.9
ID*	0	SC	1.7
IL*	5.5	SD*	2.4
IN*	7.1	TN	3
KS*	8	TX*	1.8
KY	3.6	UT	0
LA*	3.1	VA	1.5
MA	3.2	VT	3.7
MD	2.1	WA*	0.2
ME	2	WI	5.5
MI	4.6	WV	2.2
MN*	6.3	WY*	0.1
MO	2.3	U.S.	2.2
MS	1.8		
MT*	0		

**Compensatory Value (\$) On Timberland
Potentially Infested with EAB**

State	Known Host	State	Known Host
AK	ND	NC	6,820,000,000
AL	4,260,000,000	ND*	3,550,000,000
AR	7,400,000,000	NE*	1,380,000,000
AZ*	0	NH	4,540,000,000
CA*	210,000,000	NJ	2,730,000,000
CO*	0	NM*	0
CT	1,940,000,000	NV*	0
DC	ND	NY	32,950,000,000
DE	80,000,000	OH	15,070,000,000
FL*	4,970,000,000	OK*	5,680,000,000
GA	3,790,000,000	OR*	1,330,000,000
HI	ND	PA	16,420,000,000
IA*	1,200,000,000	RI	180,000,000
ID*	0	SC	4,260,000,000
IL*	3,400,000,000	SD*	1,150,000,000
IN*	13,010,000,000	TN	9,240,000,000
KS*	3,110,000,000	TX*	5,520,000,000
KY	15,430,000,000	UT	0
LA*	6,900,000,000	VA	8,060,000,000
MA	3,100,000,000	VT	5,920,000,000
MD	1,860,000,000	WA*	1,620,000,000
ME	12,090,000,000	WI	15,620,000,000
MI	18,920,000,000	WV	9,060,000,000
MN*	18,350,000,000	WY*	200,000,000
MO	6,750,000,000	Total	282,250,000,000
MS	4,190,000,000		
MT*	0		

ND = No data available. * = Incomplete data for state.

2/19/2003