

Protecting Minnesota Trees from Invasive Pests that can Move in Firewood

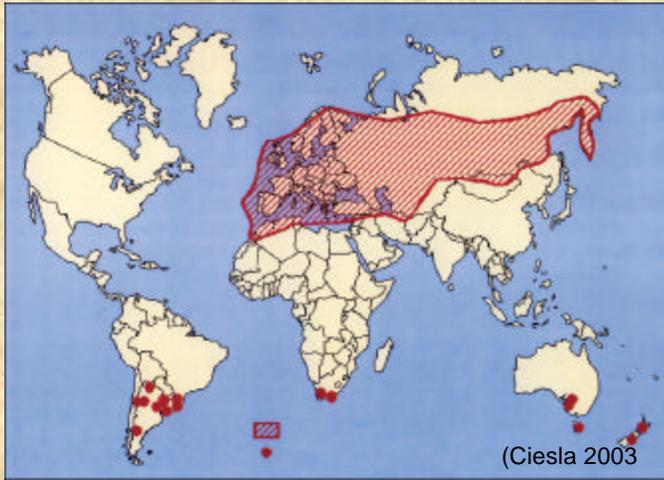
Prevention, Early Detection, Rapid Response



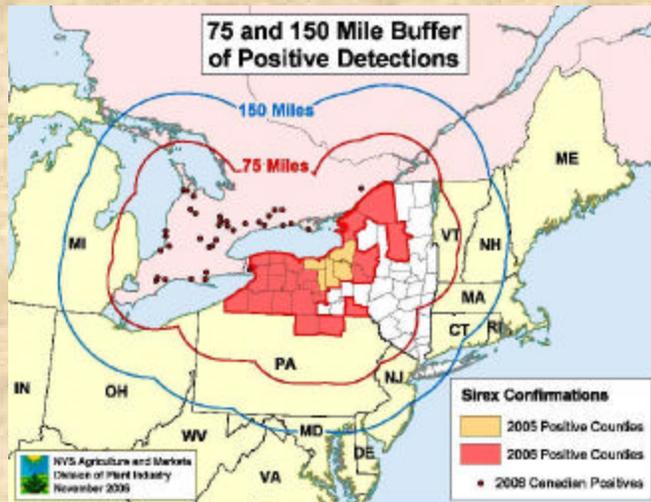
Invasive Species Exclusion Unit
Minnesota Department of Agriculture

Prevention: Pest Risk Assessment

Sirex noctilio (Sirex woodwasp)



Worldwide distribution



S. noctilio in North America

Consequences of Introduction

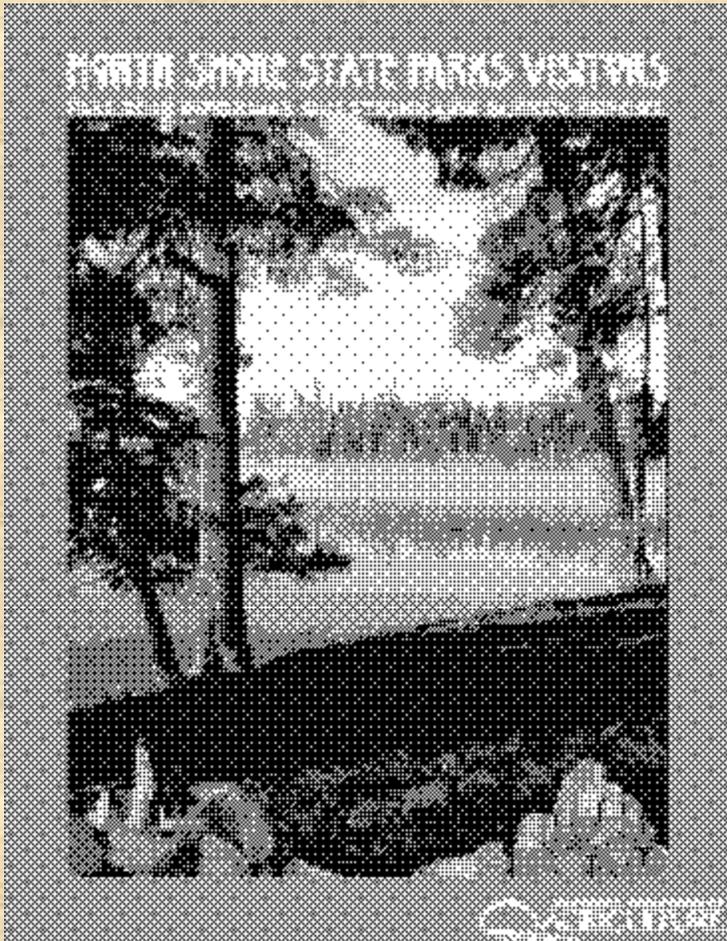
- Host Range/Specificity
- Climate Suitability
- Dispersal Potential
- Economic Impact
- Environmental Impact
- Management



Biomes of Minnesota

Likelihood of Establishment

Prevention: Outreach



Surveyed 309 people
at 8 State Parks

What do you bring into these areas?

- Tent 68%
- Lawn Furniture 49%
- **Firewood 43%**
- Boat/canoe 30%
- Camper/RV 25%
- Trailer 12%
- Barbeque 30%
- ATV 2%

Where do you get your firewood?

- Recreational area I visit 50%
- **Home 41%**
- Store near the recreational area 20%
- Store near my home 5%

Where do you live?

DNR survey results were similar

Prevention: Outreach

MDA Firewood Dealer Inspection & Survey



29 dealers

all types & sizes, statewide

Source	70% MN 20% other states
Export	11%
With bark	80%
Use for heat & recreation	80%

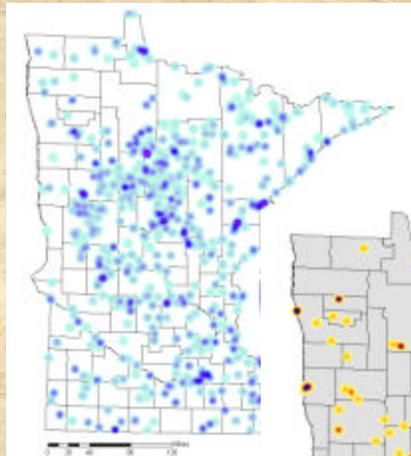
Little awareness of invasive
species but much interest

Little awareness of quarantines or
certification requirements

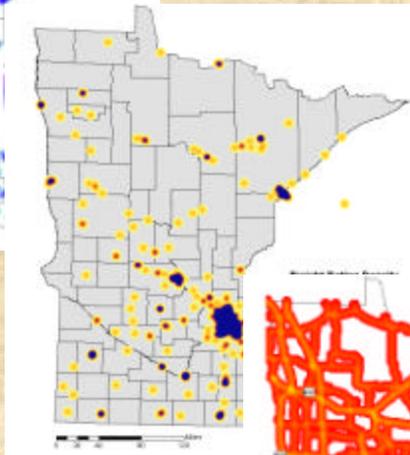
APHIS Firewood Dealer
Inspection & Survey

Early Detection: Emerald Ash Borer Mapping Risk

Inputs



Campgrounds

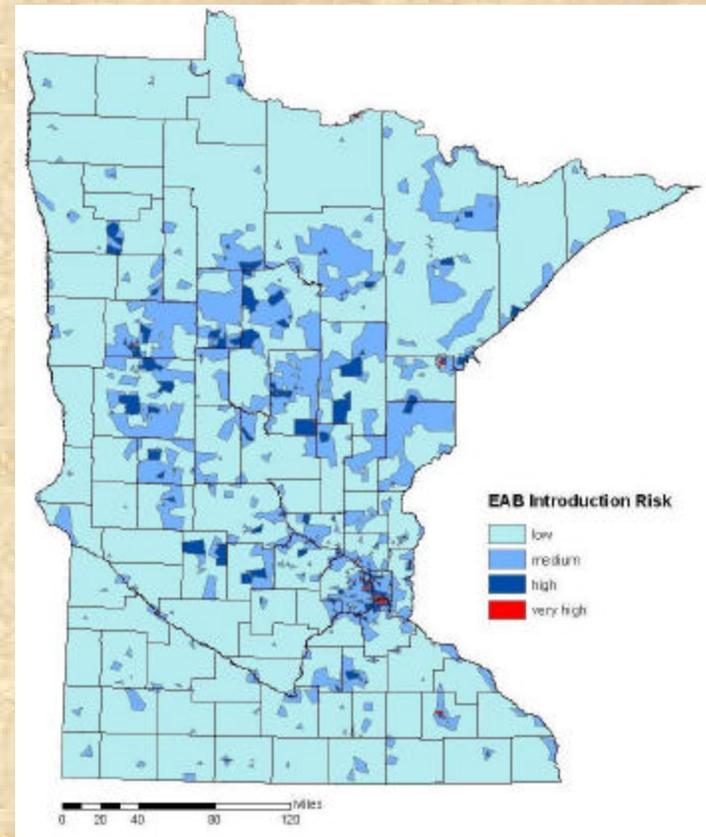


Freight



Roads

Output



Early Detection: Emerald Ash Borer Survey

2005: 90 trees

2006: 104 trees



Girdle



Completed girdle



Fell & remove bark

LUG, DOT, campgrounds

Early Detection: Gypsy Moth Survey

1973-2005

>325,700 traps

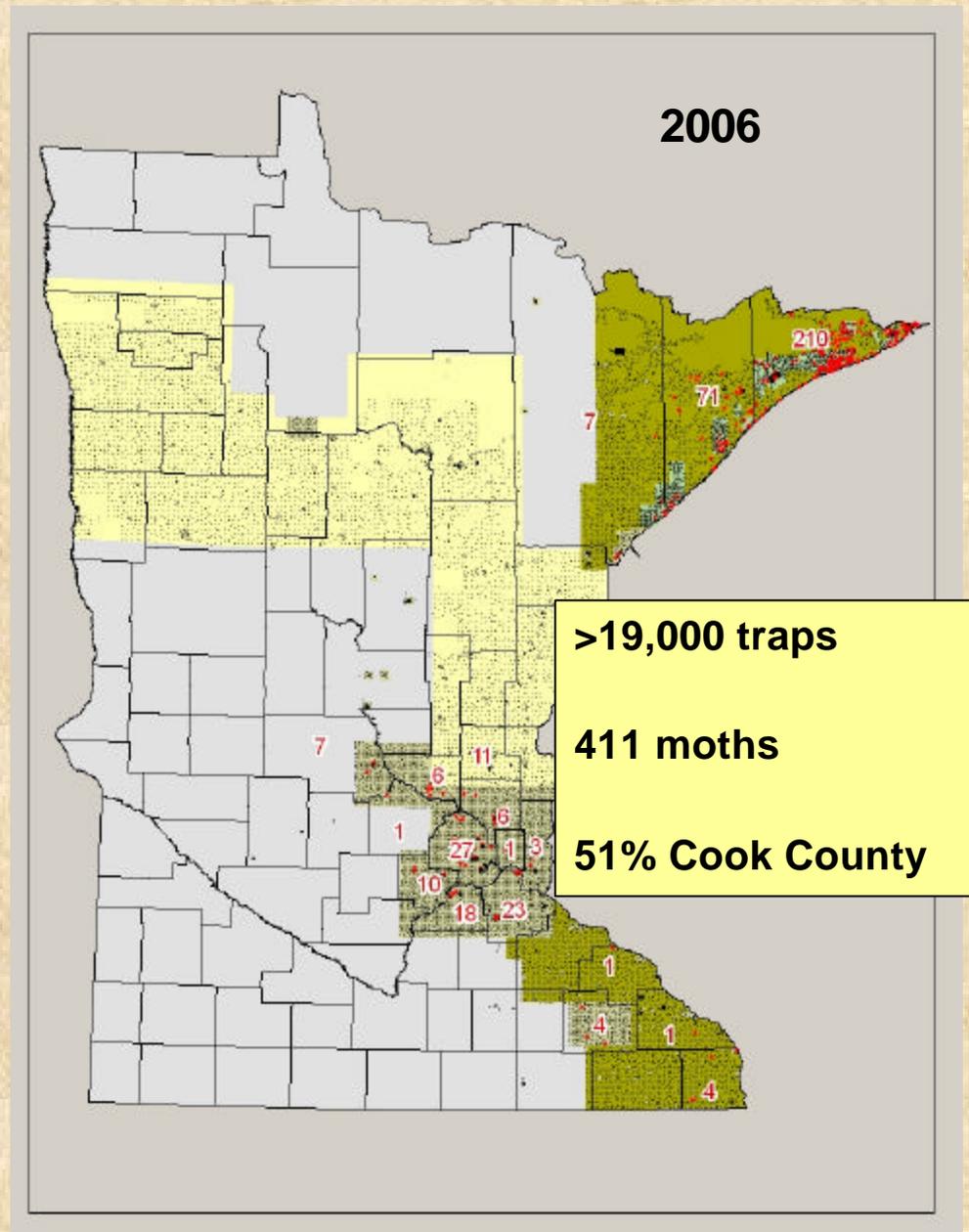
7,240 moths

66 sites treated

4,800 acres treated



USDA Forest Service, APHIS PPQ, DNR, Reservations, LUG, Private landowners



Early Detection: Other Surveys



Trapping

**New York State Department of
Environmental Conservation:
State Announces Efforts
to Control Spread of
Sirex Wood Wasp**

October 2006



**80-90% tree mortality
in a 15-year old
plantation from a
sirex outbreak. South
Australia - November
1989**

Rapid Response: Examples

Incident Command System

Eradication: Gypsy moth

Tower MN, 2005

LUG, USDA FS, State

Mitigate impacts before they happen

Biocontrol of Sirex

USDA FS, MDA ARMD

Contain or slow the spread:

EAB Response Plan

Feds, campgrounds, Wisconsin, Michigan

Interagency Firewood Group

- Created February 2006
- Advantages of interagency effort
- Authorities & goals of participating agencies
 - MDA
 - DNR
 - APHIS--PPQ
 - Forest Service State & Private Forestry
- Interagency Firewood Recreation Team
- Interagency Firewood Industry Team