

# **The Firewood Initiative of The Continental Dialogue on Non-Native Forest Insects and Diseases**

Frank Lowenstein, Jodie Ellis, and Ashley Walter

Continental  
Dialogue  
on Non-Native  
**Forest**  
Insects & Diseases

# What is the Continental Dialogue?

“Born” in 2006, The Continental Dialogue on Non-Native Forests Insects and Diseases (CD) is a coalition of non-profit organizations, for-profit corporations, government agencies, landowners, and academic scholars that have come together to abate the threat to North American forests from non-native insects and diseases.



...and growing.



## Continental Dialogue on Non-Native Forest Insects & Diseases

[What's New](#) | [Links & Resources](#) | [Contact](#)



[About the Dialogue](#)

[Steering Committee](#)

[Dialogue Documents](#)

[Dialogue Participant Login](#)

The **Continental Dialogue on Non-Native Forest Insects and Diseases** cultivates and catalyzes collaborative action among diverse interests to abate the threat to North American forests from non-native insects and diseases.

The impacts of non-native insects and diseases on America's forests have been profound, and the rates of introduction and establishment of new invaders have increased dramatically in recent years. The increase in introductions stems from a failure to adapt government interdiction efforts to changes in trade, particularly increased volume of trade, increased speed with which goods move from one continent to another, and increasing diversity of goods traded and ports of origin. Because this is a societal problem and not a biological problem, it can be solved.

The Dialogue is now working to implement a six part Action Agenda to achieve the vision. The [Action Agenda](#) was developed at a January 2007 meeting of a diverse group of continental leaders in the diverse industries, universities, non-profit groups, and government agencies. Actions under development include

## The Six Work Groups

- Prevent Introduction of New Pests and Diseases
- Limit the Spread of Pests and Diseases in the US

**FIREWOOD!**

# Why Focus on Firewood?

- One of several important pathways of spread
- Needs immediate action Agreement among many constituencies as to its importance
- A good opportunity to test approaches and influence of the Dialogue

# Types of Invasive Insects Found In Firewood

- Longhorned beetles (Asian longhorned beetle)
- Bark beetles (European elm bark beetle)
- Scale insects (beech scale)
- Adelgids (hemlock woolly adelgids)
- Flatheaded woodborers (emerald ash borer)
- Wood wasps (*Sirex noctilio*)
- Ants, termites, powderpost beetles, etc.
- “Shelter-seekers” (gypsy moths)



# Diseases Caused By Exotic Tree-Killing Pathogens

- Dutch elm disease
- Oak wilt disease
- Beech bark disease
- Butternut canker
- Sudden Oak Death



American elm trees

# Examples of EAB Infestations Resulting From Movement of Firewood

## EAB Finds in Michigan Parks and Campgrounds

- Private campground in Branch County
- Private campground in Cheboygan County
- Brimley State Park, Chippewa County
- Charles Mears State Park, Oceana County
- Straits State Park- Mackinac County
- Young State Park- Charlevoix County
- Sleeper State Park- Huron County
- Ludington State Park- Mason County
- Warren Dunes State Park- Berrien County
- Rifle River Recreation Area-Ogemaw County
- Mackinac State Forest- Montmorency County
- Veterans Memorial State Forest  
Campground- Benzie County

## ...In Indiana

- Private campground in Steuben County  
(State record)
- Private campground in LaGrange County
- Private campground in White County

## ...In West Virginia

- Private campground in Fayette County  
(State record)



*These 2 work groups independently came to the same conclusion:*

There is a desperate need for meaningful information and communication about firewood at many levels, including that of firewood dealers, firewood sellers, the public, and local, state, and federal agencies



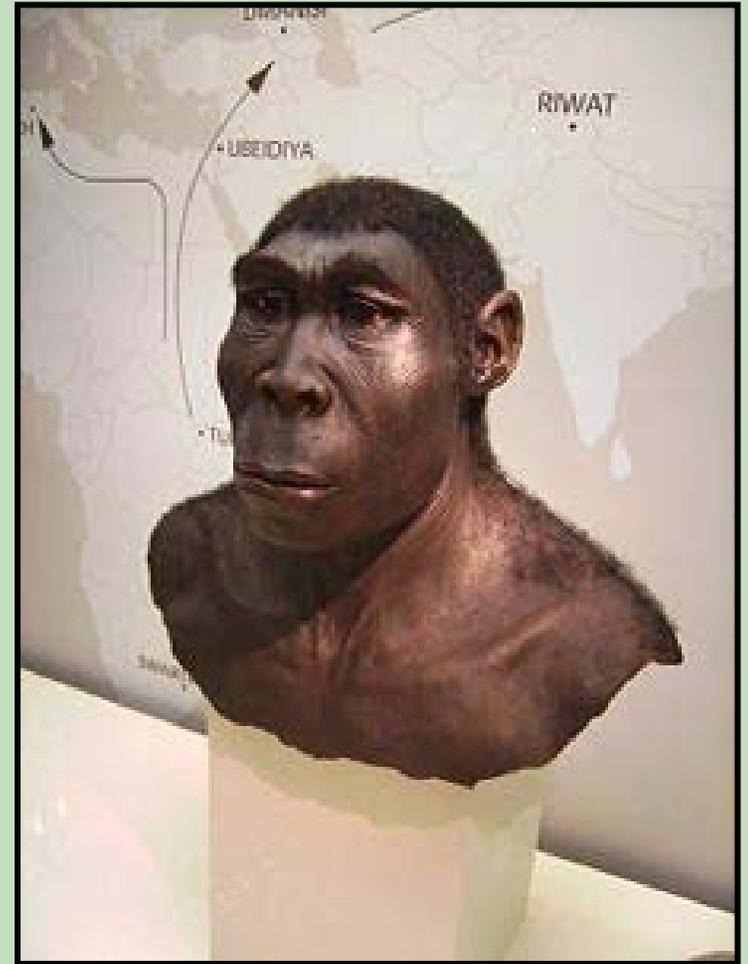
# The Overall Problem of Firewood and Invasive Species: What Do We Know and What Do We Not Know?



# Fire and Humans Go Back A Long Way...

The control of fire by early humans allowed humans to prosper.

There is evidence of humans using controlled fires as much as 790,000 years ago.



*Homo erectus*, the first hominid to control fire.

# Wood Remains A Useful Fuel Source

- Wood is still commonly used in developing countries as the primary energy source. *In our survey, 35% of adults surveyed burned wood once a year.*
- Wood is a renewable resource, especially if trees are grown in a modern, sustainable way.

# Problems With Firewood As A Commodity In A Global Economy



# Leading Exporters In The World (2003)

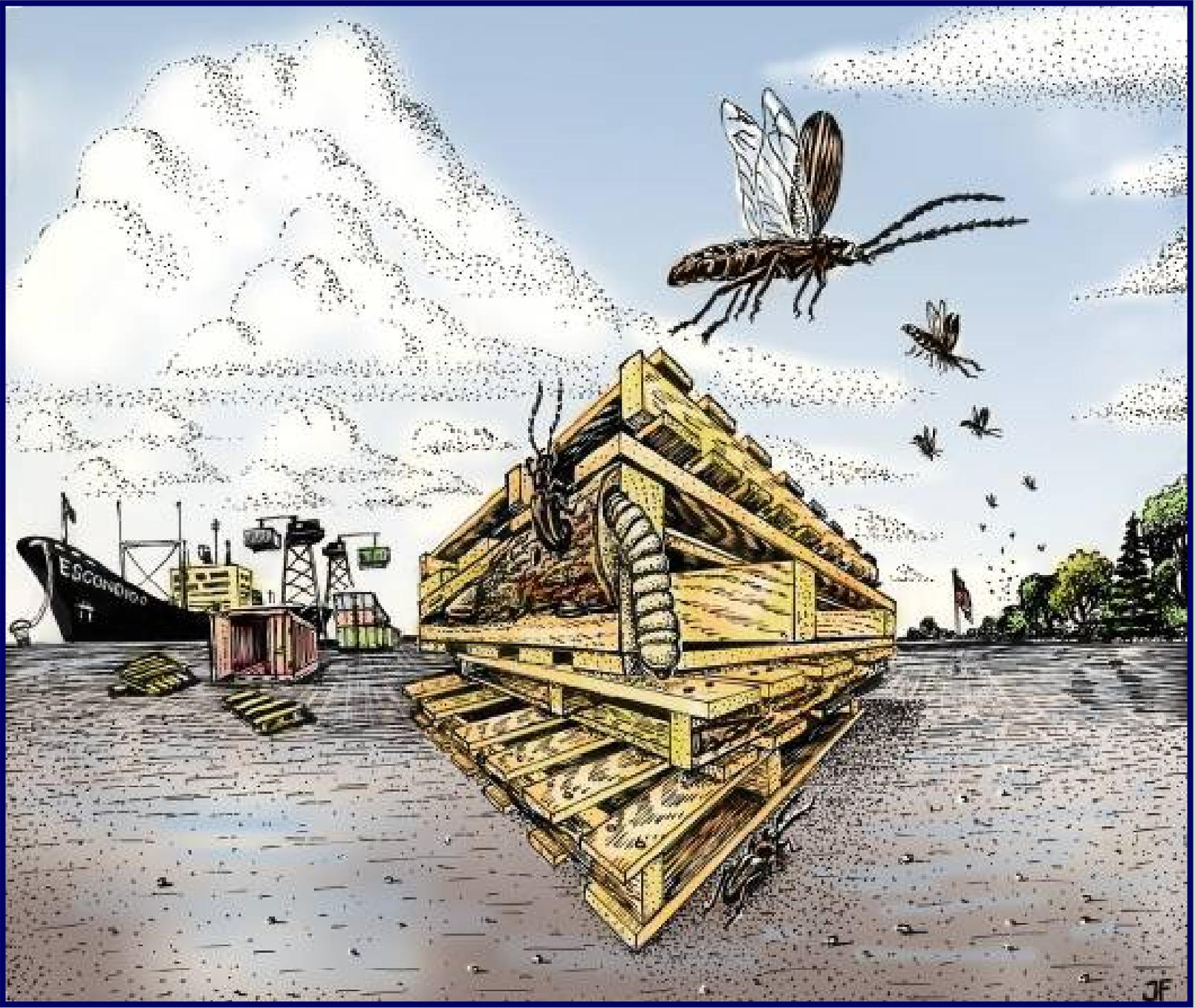
| Rank | Exporters      | Value in<br>billions US<br>dollars | Share | Annual<br>%Change |
|------|----------------|------------------------------------|-------|-------------------|
| 1    | Germany        | 748.3                              | 10.0  | 22                |
| 2    | United States  | 723.8                              | 9.6   | 4                 |
| 3    | Japan          | 471.8                              | 6.3   | 13                |
| 4    | China          | 437.9                              | 5.8   | 34                |
| 5    | France         | 386.7                              | 5.2   | 17                |
| 6    | United Kingdom | 304.6                              | 4.1   | 9                 |
| 7    | Netherlands    | 294.1                              | 3.9   | 20                |
| 8    | Italy          | 292.1                              | 3.9   | 15                |
| 9    | Canada         | 272.7                              | 3.6   | 8                 |
| 10   | Belgium        | 255.3                              | 3.4   | 18                |

# Leading Importers In The World (2003)

| Rank | Importers      | Value in billions US dollars | Share | Annual % change |
|------|----------------|------------------------------|-------|-----------------|
| 1    | United States  | 1303.1                       | 16.8  | 9               |
| 2    | Germany        | 601.7                        | 7.7   | 23              |
| 3    | China          | 413.1                        | 5.3   | 40              |
| 4    | United Kingdom | 390.8                        | 5.0   | 13              |
| 5    | France         | 390.5                        | 5.0   | 19              |
| 6    | Japan          | 382.9                        | 4.9   | 14              |
| 7    | Italy          | 290.8                        | 3.7   | 18              |
| 8    | Netherlands    | 262.8                        | 3.4   | 20              |
| 9    | Canada         | 245.0                        | 3.2   | 8               |
| 10   | Belgium        | 235.4                        | 3.0   | 18              |

By the end of the 1990s, \$6.2 trillion worth of goods were traded globally annually with 6 billion tons of merchandise being moved from place to place.



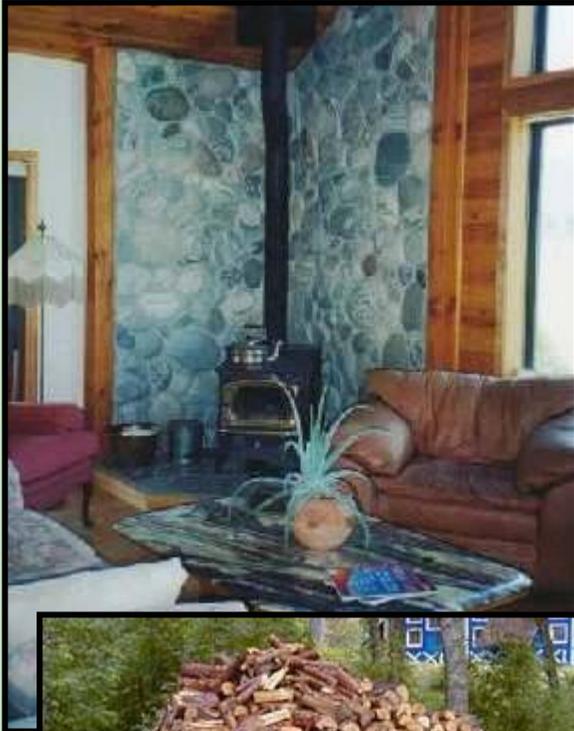


# What We Do Know...

**As long as there are forests,  
campers will always camp...**



# As fuel costs rise, heating with wood in primary and secondary homes rise.



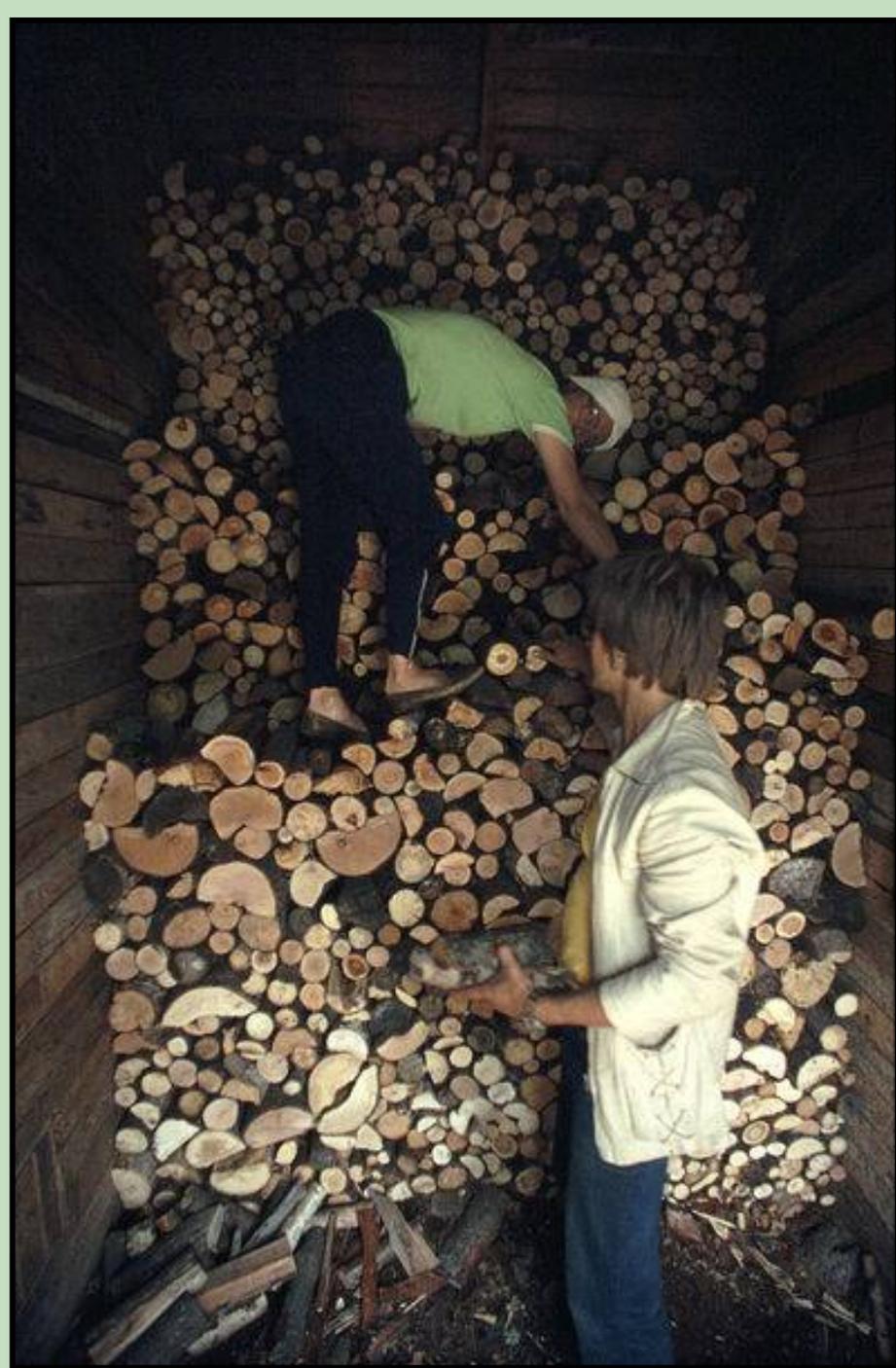
In the northern part of the Midwest, it takes ~ 13-23 cords of wood to heat an average one-story home during winter.





Approximately 12 cords of wood

# **Focusing In On The Source of Firewood: Firewood Producers and Sellers**



# Survey of Producers and Sellers of Firewood in Pennsylvania

- Interviews conducted by telephone between October and December 2007
- Businesses identified by Web search of telephone books and Web advertising using search term “firewood” alone and combined with “for sale”, “dealer”, “seller”, “campground”, “fireplace”, “wood burning”, “wood heating” and “heating”.
- These results are for Pennsylvania only.

# 1) Are most of your customers located within your state?

| <b>Most of Customers Located In State?</b> | <b>Affirmative Responses</b> | <b>Total Surveys</b> | <b>Percentage</b> |
|--|------------------------------|----------------------|-------------------|
| *Most are in state                         | 15                           | 25                   | 60%               |
| None are in state                          | 0                            | 25                   | 0%                |
| All are in PA                              | 9                            | 25                   | 36%               |
| Declined to answer                         | 1                            | 25                   | 4%                |

## 5. Where does the firewood you sell originate?

| Where Wood Originates  | Affirmative Responses | Total Surveys | Percentage |
|------------------------|-----------------------|---------------|------------|
| Land clearing company  | 6                     | 25            | 24%        |
| Lumber mills           | 6                     | 25            | 24%        |
| From own woodlot       | 3                     | 25            | 12%        |
| Tree Service Companies | 14                    | 25            | 56%        |
| Pallets                | 2                     | 25            | 8%         |
| Open Market            | 1                     | 25            | 4%         |
| Property Management    | 1                     | 25            | 4%         |
| Declined to answer     | 2                     | 25            | 8%         |

## 12. Who purchases the firewood you sell?

| Purchasers of Firewood | Affirmative Responses | Total Surveys | Percentage |
|------------------------|-----------------------|---------------|------------|
| Private Individuals    | 24                    | 25            | 96%        |
| Large retailers        | 0                     | 25            | 0%         |
| Small retailers        | 1                     | 25            | 4%         |
| Grocery store chains   | 1                     | 25            | 4%         |
| Declined to answer     | 2                     | 25            | 8%         |

# 13. How do your customers use the firewood they purchase from you?

| Firewood Use               | Affirmative Responses | Total Surveys | Percentage |
|----------------------------|-----------------------|---------------|------------|
| For resale                 | 0                     | 25            | 0%         |
| Home heating               | 21                    | 25            | 84%        |
| Campfires                  | 5                     | 25            | 20%        |
| Fireplaces<br>(atmosphere) | 16                    | 25            | 64%        |
| Industrial Use             | 0                     | 25            | 0%         |
| Declined to answer         | 2                     | 25            | 8%         |

**14a. On a scale of 1 to 5, with 1 being Not Likely and 5 being Highly Likely, rate the feasibility of the following treatment options for firewood at your facility:**

| Treatment              | 1 - Not likely (%) | 2 (%) | 3 (%) | 4 (%) | 5 – Highly likely (%) | Declined to answer |
|------------------------|--------------------|-------|-------|-------|-----------------------|--------------------|
| Heat Treatment         | 76                 | 0     | 0     | 0     | 0                     | 24                 |
| Remove bark            | 64                 | 4     | 4     | 4     | 0                     | 24                 |
| Store wood for 2 years | 44                 | 20    | 16    | 4     | 0                     | 24                 |
| Fumigation             | 68                 | 0     | 4     | 0     | 4                     | 24                 |

**15. On a scale of 1 to 5 with 1 being Not Concerned At All and 5 being Highly Concerned, rate the following statement:**

**Invasive species moved in firewood are threatening US forests.**

| Concern for US Forests | Affirmative Responses | Total Surveys | Percentage |
|------------------------|-----------------------|---------------|------------|
| 1 (Not concerned)      | 4                     | 25            | 16%        |
| 2                      | 1                     | 25            | 4%         |
| 3                      | 6                     | 25            | 24%        |
| 4                      | 2                     | 25            | 8%         |
| 5 (Highly concerned)   | 8                     | 25            | 32%        |
| Declined to answer     | 4                     | 25            | 16%        |

**16d. Please answer Yes or No: Do you think your customers would be willing to pay more for treated firewood if they perceived that such treatment meant better protection of US forests from invasive pests?**

| Customers Pay More?       | Affirmative Responses | Total Surveys | Percentage |
|---------------------------|-----------------------|---------------|------------|
| Yes                       | 1                     | 25            | 4%         |
| No                        | 10                    | 25            | 40%        |
| “A few (10 to 30%) would” | 6                     | 25            | 24%        |
| “No way!”                 | 1                     | 25            | 4%         |
| “Many but not all would”  | 1                     | 25            | 4%         |
| Declined to answer        | 6                     | 25            | 24%        |

# Focusing In On The Source of Firewood: Firewood Consumers



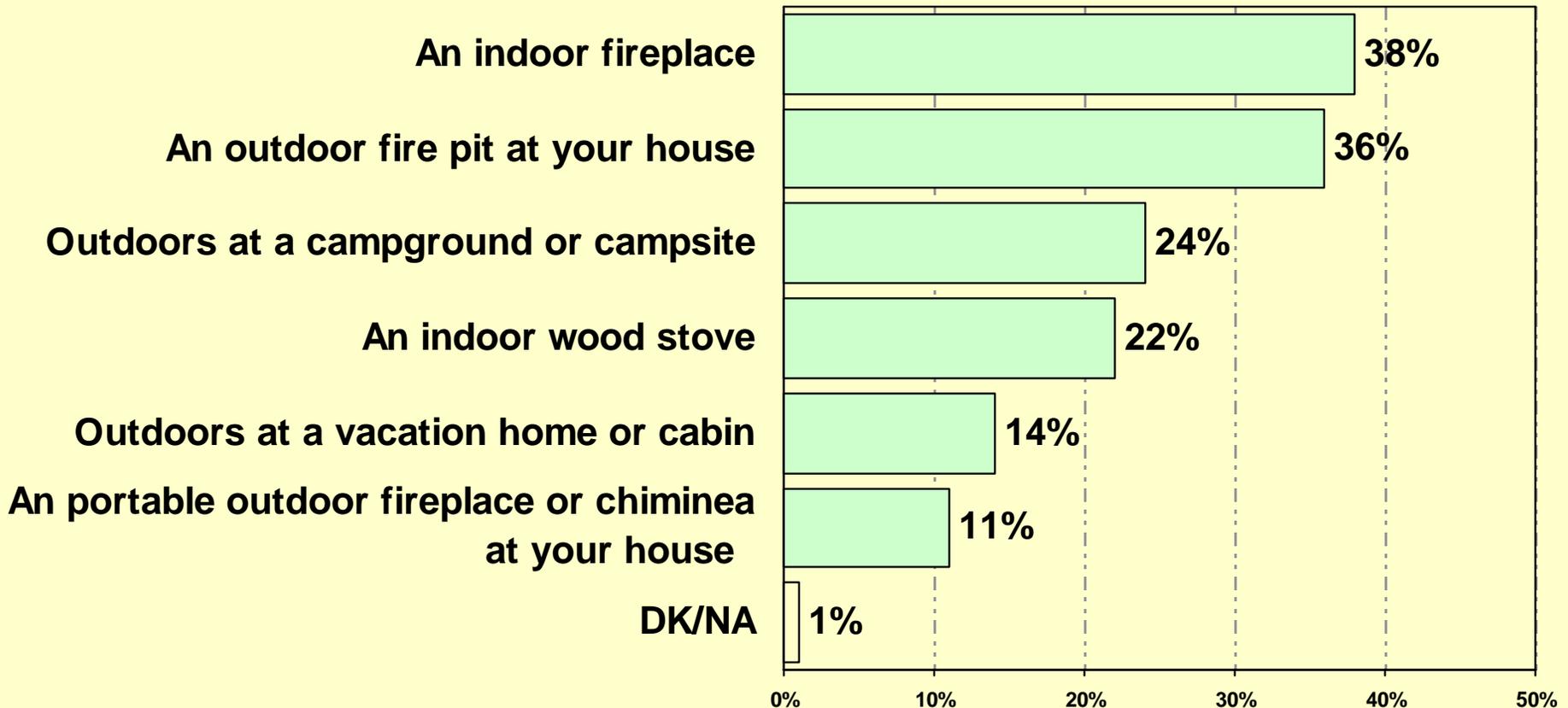
# Regional Firewood Use Survey

## Methodology

- Survey of 600 adults who burn firewood indoors or outdoors at least once per year
- 300 interviews each with residents of states in the Northeast and Upper Midwest
- Interviews conducted December 1-9, 2007
- Overall margin of sampling error of +/- 4.0%
- Preceded by four focus groups with firewood users in the Detroit and Boston areas

# The most frequent place for burning firewood is at home.

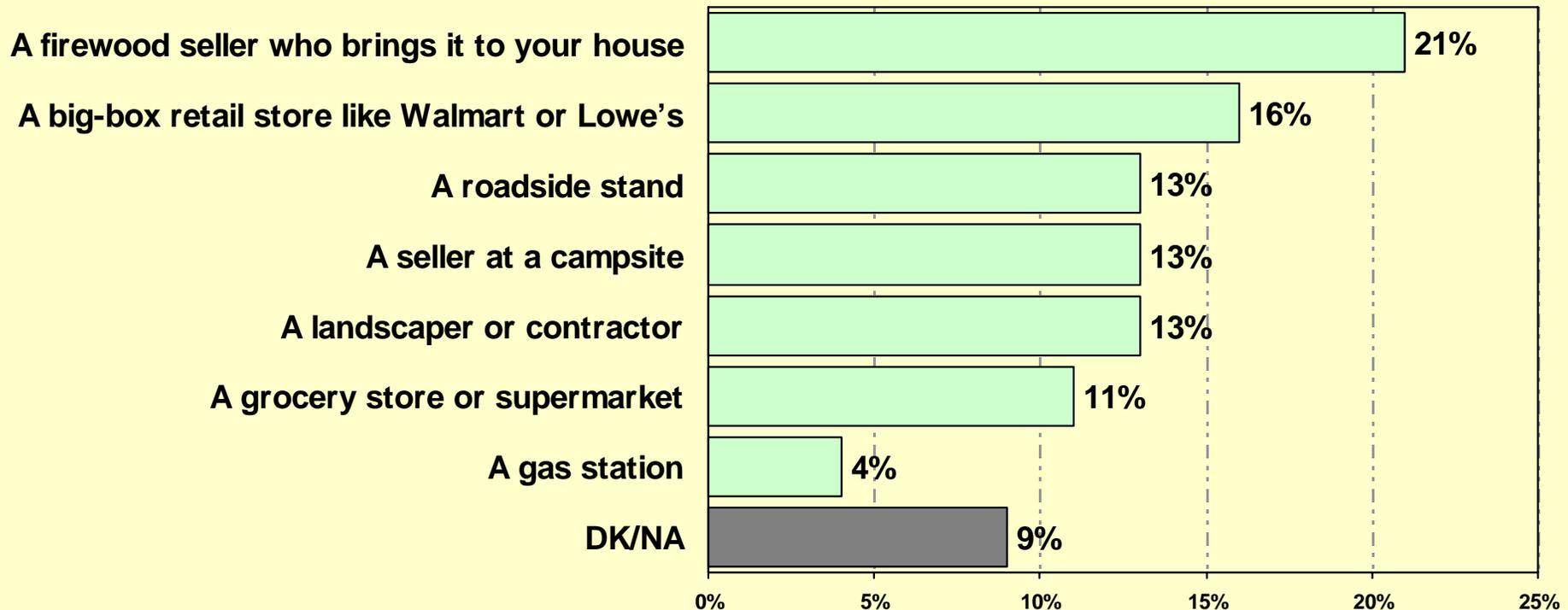
*In which of the following locations do you typically burn firewood in a typical year:*



# Respondents purchase firewood from a diverse variety of sources.

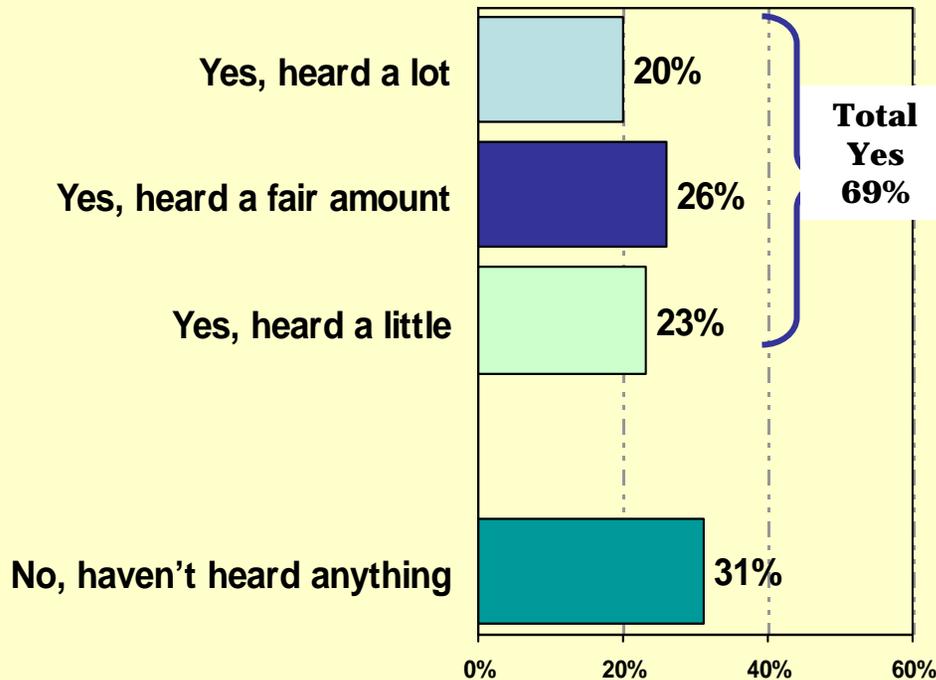
*(Asked only of the 38% who purchase firewood)*

*Where do you typically purchase your firewood?*

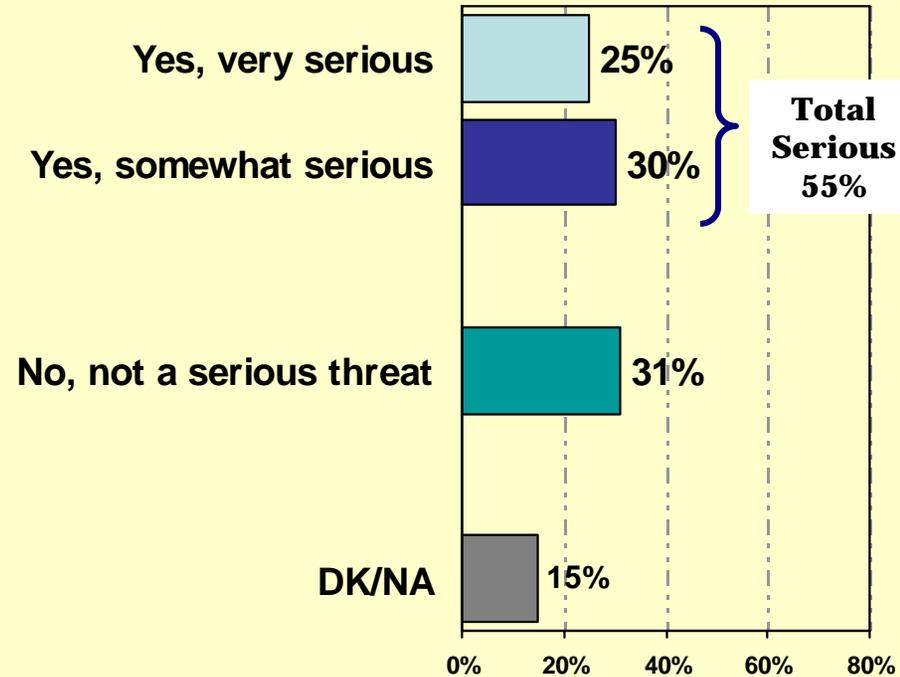


# Only a few firewood users see a great threat from forest pests and pathogens.

## Amount Heard About The Issue



## Perceived Local Seriousness of Threat

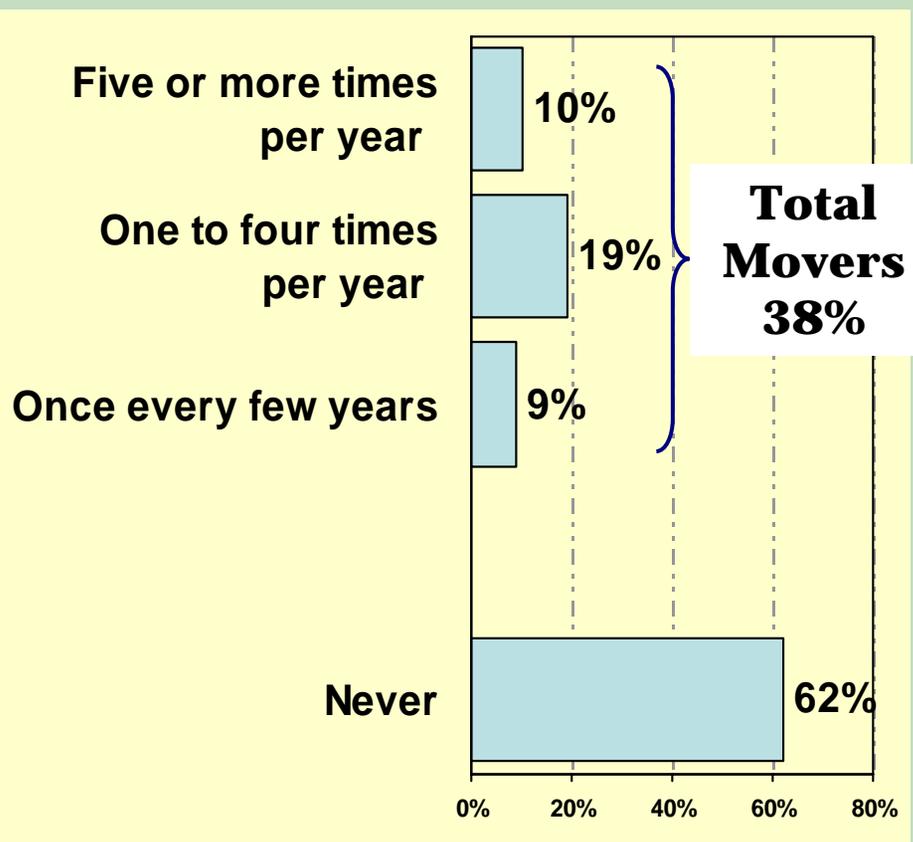


11. In different places across the country, there have been problems with non-native insects and diseases infesting or killing large numbers of trees. Have you heard anything about this issue?

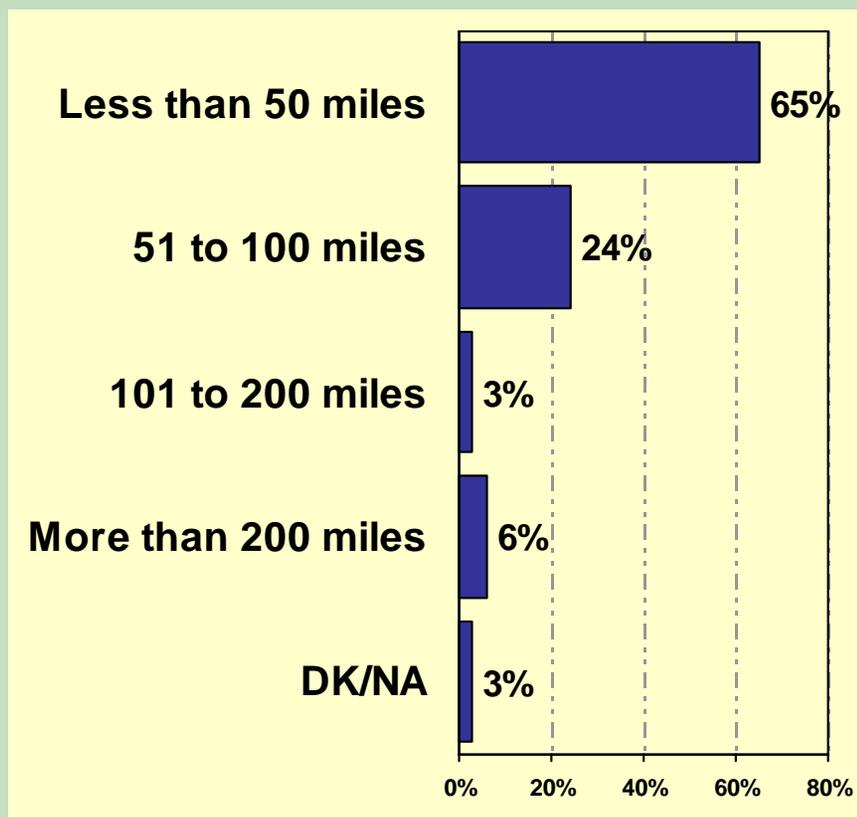
12. Based on what you have heard, are these types of insects or diseases a serious threat to trees in your area?

# Two in five firewood users move firewood at least occasionally.

## Frequency of Moving

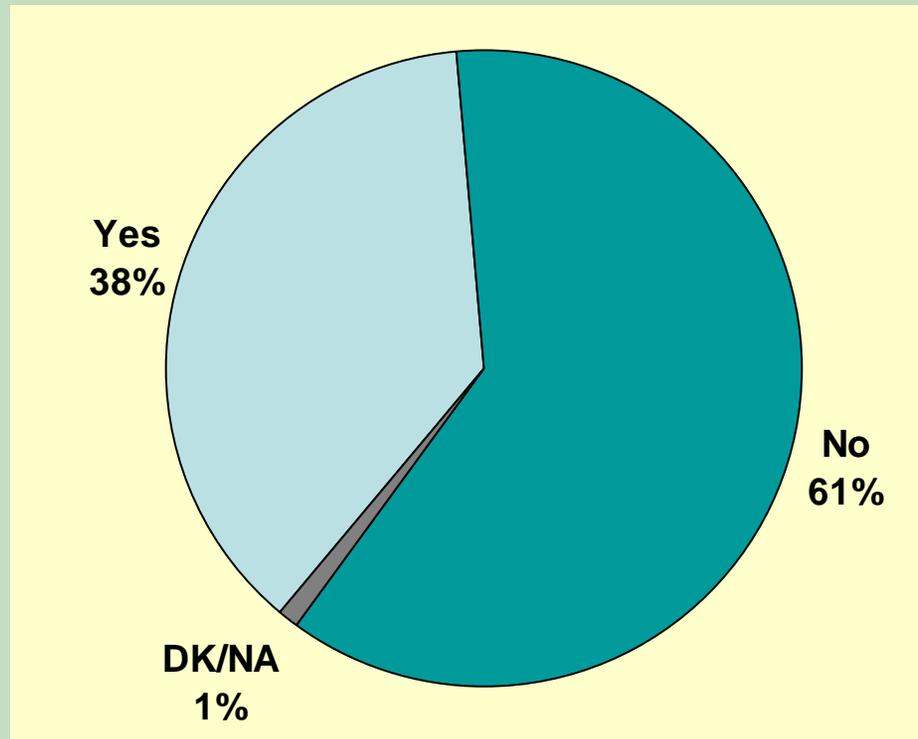


## Distance Moved (Among Movers)



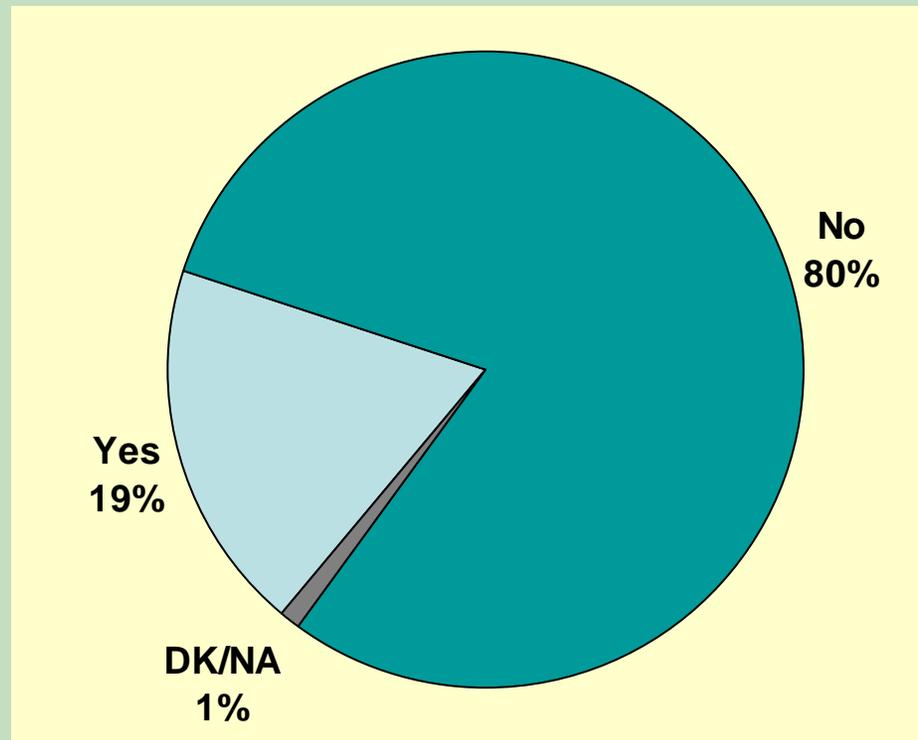
# About two in five have heard messages about moving firewood.

*Have you ever seen, heard, or read any information urging the public not to move firewood from place to place?*



# Only one in five say they are aware of laws or regulations limiting the ability to move firewood.

*Are you aware of any state laws or regulations in your area that limit the public's ability to move firewood from one location to another?*



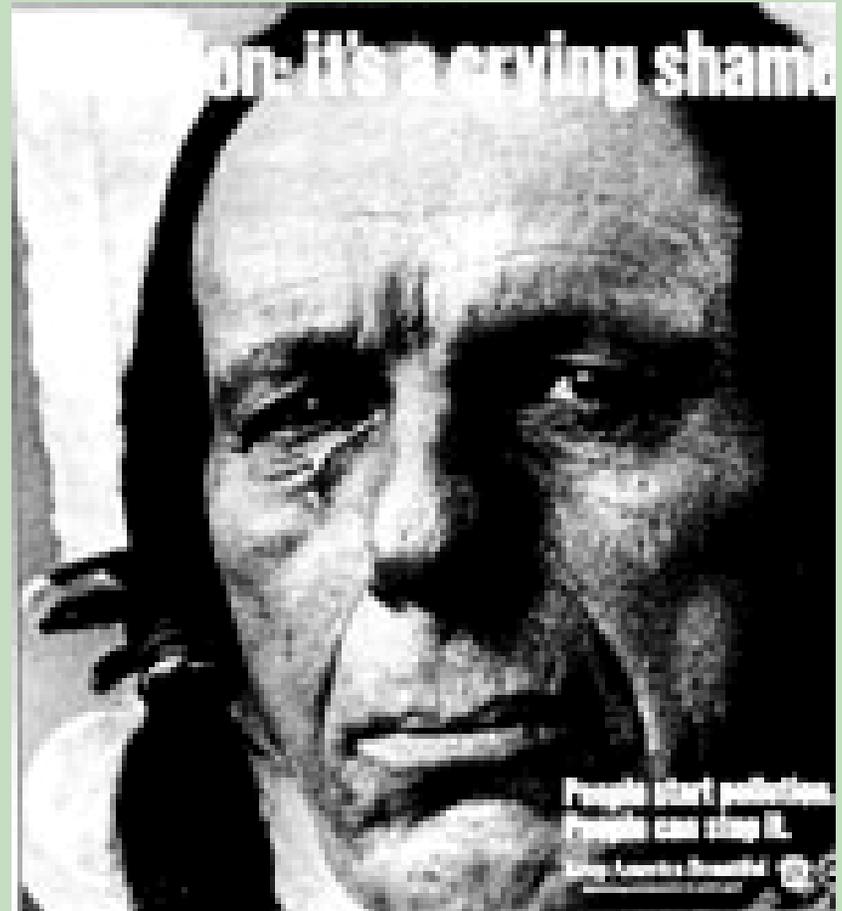
# The Continental Dialogue's Role: Devising Our Own Recipe

Mixing Information,  
Entertainment, and  
Marketing for the  
Good of Our Forests



# We Can Do Things that May be Harder for Others

- Reach out beyond the quarantine zone
- Mobilize public opinion and press coverage using paid advertising, humor, prize give-aways, and other creative means
- Affect firewood movement to abate multiple pests



# Benefits of Tackling the Firewood Problem

- Potential for the strong collaborations
- Early and visible role for the Dialogue
- An issue that many ordinary people can relate to, thus may bring forest pest issue out of obscurity

# Gathering Information

WHO  
ARE  
YOU?

- Registration to access website features
- Online surveys to monitor behavior
- Monthly updates of new information, plus urgent alerts of new pests or outbreaks

# What Do We Need to Accomplish (1)

1. Reach consumers moving firewood themselves or purchasing distant firewood with persuasive messages that change behavior
2. Capture information about consumers who have “bought” our message, so that we can continue to provide them with new, high quality information

## **What Do We Need to Accomplish (2)**

- 3. Help inspire and enable producers to protect their local forests**
- 4. Create a shared societal expectation to not move firewood**
- 5. Consider using the same model to provide information and influence behavior in other realms of the non-native insects and disease spread.**

# Challenges

- Firewood users found in all social classes and geographic areas.
- Media markets in likely target areas are among the most expensive in the country
- Outside of the quarantine zone for EAB, regulations governing firewood vary widely from state to state
- Firewood dealers have varied expectations and knowledge; many sell in multiple states



## ***Suggested Web site Menu***

### **Forest Pests in Your Neighborhood**

- Stories from the Frontline Neighborhoods
- A Tale of a Tree– 200 years and then...
- Bad Bugs Drive Up Taxes

### **Firewood and Invasive Forest Pests: The Problem**

- What's At Risk
- The Risk By Tree Species
- The Risk By State and City

### **What Is Being Done About The Firewood Problem?**

- Nationally
- By State

## **You Can Make a Difference Positive Actions for:**

- Campers
- People Who Heat With Firewood
- Hunters
- For Firewood Professionals
- Small Businesses
- Large Businesses
- Woodland Management
- Firewood Dealers

## **Information From Federal Agencies:**

- USDA APHIS PPQ
- USDA Forest Service

## **Voluntary Compliance Programs**

- Wisconsin's Working Model
- A Basic Package For States

# ***Marketing the website!***

- Use advertising to drive people to the website
  - Viral video
  - Social networking
  - Ads in outdoor catalogs
  - Ads on state park and campground websites
  - Google preferred placement ads
  - TV, newspaper, or radio ads in key markets
- Use a consumer-oriented approach to gather information for future marketing



In February we hired Greg Kihlstrom of Carousel 30, a firm specializing in Web site Design & Development, Video & Motion Graphics, and Identity & Print Design to develop the new firewood website.

We are now in the “discovery phase” of Web site development.

Anticipated launch is June 2008.

