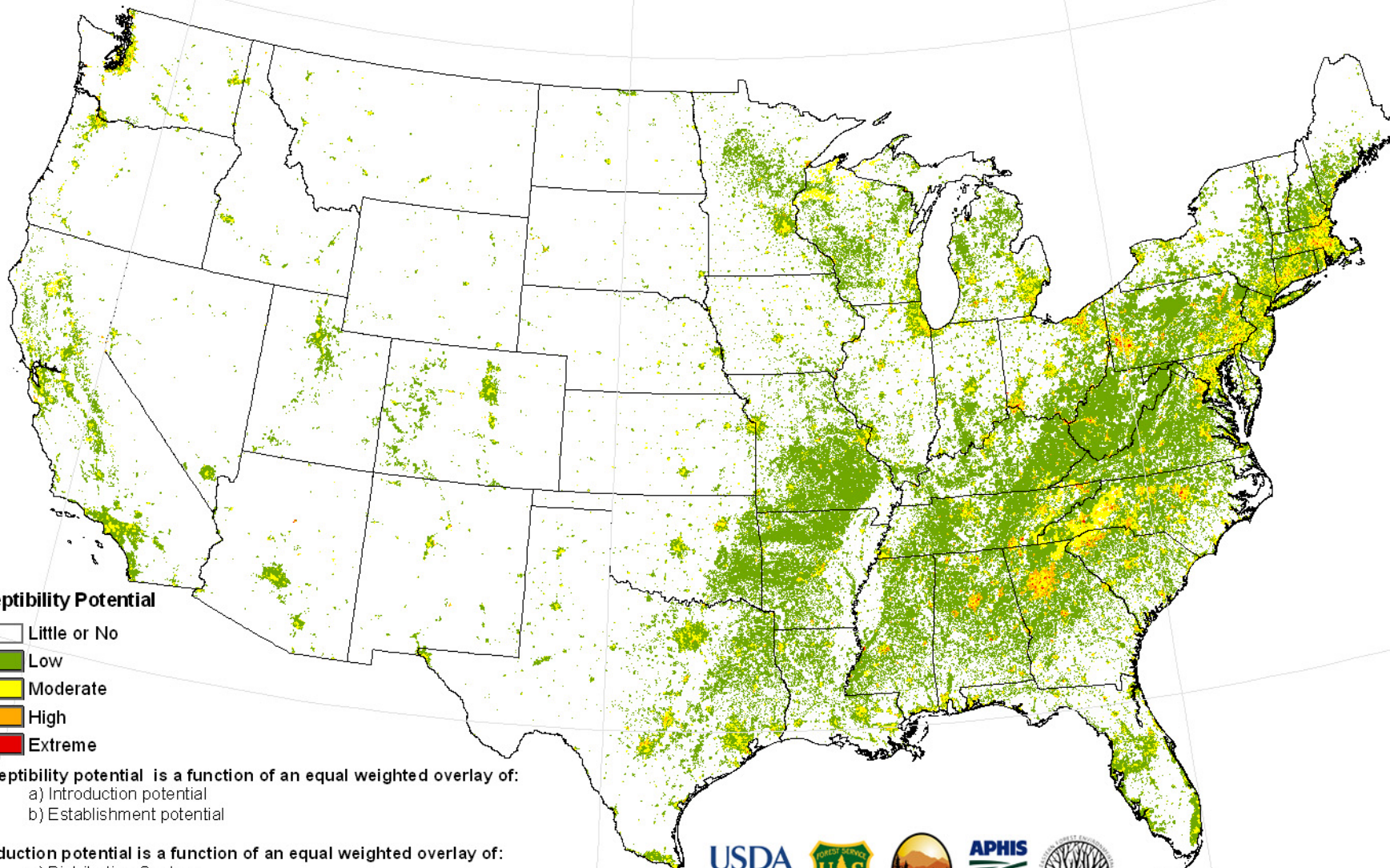


# Susceptibility Potential

## *Agrilus sulcicollis* (Lacordaire) -- European Oak Borer 1/27/2011



### Susceptibility Potential

- Little or No
- Low
- Moderate
- High
- Extreme

Susceptibility potential is a function of an equal weighted overlay of:

- a) Introduction potential
- b) Establishment potential

Introduction potential is a function of an equal weighted overlay of:

- a) Distribution Centers
- b) Markets
- c) Ports of Entry

Establishment potential is a function of an equal weighted overlay of:

- a) Oak Host from FIA
- b) Severe Drought (from 2007 - 2009)
- c) Urban Forest from NLCD (Deciduous or Mixed)



0 80 160 320 480 640 800



Albers Equal Area Conic Projection

Map produced by FHTET, IL  
 Fort Collins, CO on 1-27-2011  
 File: susceptibility\_model2\_sulcicollis.mxd  
 Project: *Agrilus* sp.

## Summary of Susceptibility Potential for *Agrilus sulcicollis* (Lacordaire)

European Oak Borer; January 27, 2011

Website URL: [http://www.fs.fed.us/foresthealth/technology/invasives\\_agrilussulcicollis\\_riskmaps.shtml](http://www.fs.fed.us/foresthealth/technology/invasives_agrilussulcicollis_riskmaps.shtml)

The Susceptibility Potential Surface for *Agrilus sulcicollis* (*A. sulcicollis*) was produced for the Conterminous United States (CUS) in 1 square kilometer (km<sup>2</sup>) units by the U.S. Forest Service, Forest Health Technology Enterprise Team's (FHTET) *A. sulcicollis* Invasive Species Steering Committee. The product's intended use is to develop a detection strategy for *A. sulcicollis*. Supporting information was taken from Haack et al. (2009)<sup>1</sup> and Jendek and Grebennikov (2009)<sup>2</sup>. The Susceptibility Potential Surface was produced by combining the *A. sulcicollis* Introduction and Establishment Potential Surfaces in an equal-weighted overlay. The final data were partitioned into five classes using Jenks' Natural Breaks. Table 1 shows 162,205,500 hectares of forest are susceptible to attack from *A. sulcicollis*. The datasets used in the Introduction and Establishment analyses can be seen in Tables 2 and 3, respectively.

**Table 1:** *A. sulcicollis* Susceptibility Potential

Category	Number of km2 Grid	Hectares	Percent
Low	1,308,503	130,850,300	80.67%
Moderate	266,747	26,674,700	16.45%
High	44,817	4,481,700	2.76%
Extreme	1,988	198,800	0.12%
Total	1,622,055	162,205,500	100.00%
Little or No	6,168,698	616,723,300	

### Steering Committee

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### Contractor Support

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**Table 2:**  
Introduction Variables

Variables
Ports of Entry
1. PRISM: Parameter-elevation
Distributions Centers

**Table 3:**  
Establishment Variables

Variables
Oak Host (FIA)
Drought (2007 – 2009)
Urban Forest (Deciduous or mixed)

### References:

1. Haack, Robert A.; Petrice, Toby R.; Zablony, James E. 2009. First report of the European oak borer, *Agrilus sulcicollis* (Coleoptera: Buprestidae), in the United States. *Great Lakes Entomologist*. 42: 1-7.
2. Jendek, E. & Grebennikov, V., 2009: *Agrilus sulcicollis* (Coleoptera: Buprestidae) a new alien species in North America. *Canadian Entomologist*, 141: 236-245.
3. PRISM. 2011. Parameter-elevation Regressions on Independent Slopes Model. <http://www.prism.oregonstate.edu/>.