

Insect and Disease Risk Map

Update on
Revision and Review
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Frank Krist
January 31, 2006

Insect and Disease Risk Map Revision

Goal: The development of a National communication tool that is supported at the regional and state level. The effort should be dynamic and provide for strategic level planning at the National, ecoregional and State levels.

Objectives:

- Involve partners in development of risk modeling approach.
- Involve partners identifying vegetation types and/or most important disturbance agents.
- Update specific pest models.
- Enhance spatial precision of the National Risk Map.
- Link with other risk mapping efforts (e.g. fire).
- Provide information for Healthy Forest Initiative and Healthy Forest Restoration Act.



National Oversight Team

- Borys Tkacz – FHM:
Team Leader
- Joe Lewis – FHP
- Greg Reams – FIA
- Frank Sapio – FHTET
- Terry Shaw – R&D
VMPR
- Paul Bradford - EMC
- Karen Ripley - WA
- Dave Heinzen – MN
- Don Rogers – NC
- Mike Hilbruner–R&D
VMPR
- Tom Bobbe - RSAC

Regional Team Co-Leaders

- Northeast – Jim Steinman & Dave Struble
- Northcentral – Manfred Mielke & Roger Meck
- South – Jim Brown & Don Rogers
- Interior West – Jeri Lyn Harris & Mike Kangas
- West Coast – Allison Nelson & Karen Ripley

Key Points

- Risk of mortality is defined as: "The expectation that 25% or more of the standing live volume greater than 1"DBH will die over the next 15 years, including background mortality".
- Risk map is based on common data and standard modeling framework.
- Risk assessment process can be used at various resolutions depending on data and model applicability.

Multi-Criteria Modeling Process: Five Steps

Goal: Simulate Areas At Risk of Experiencing 25% Mortality Over 15 Years

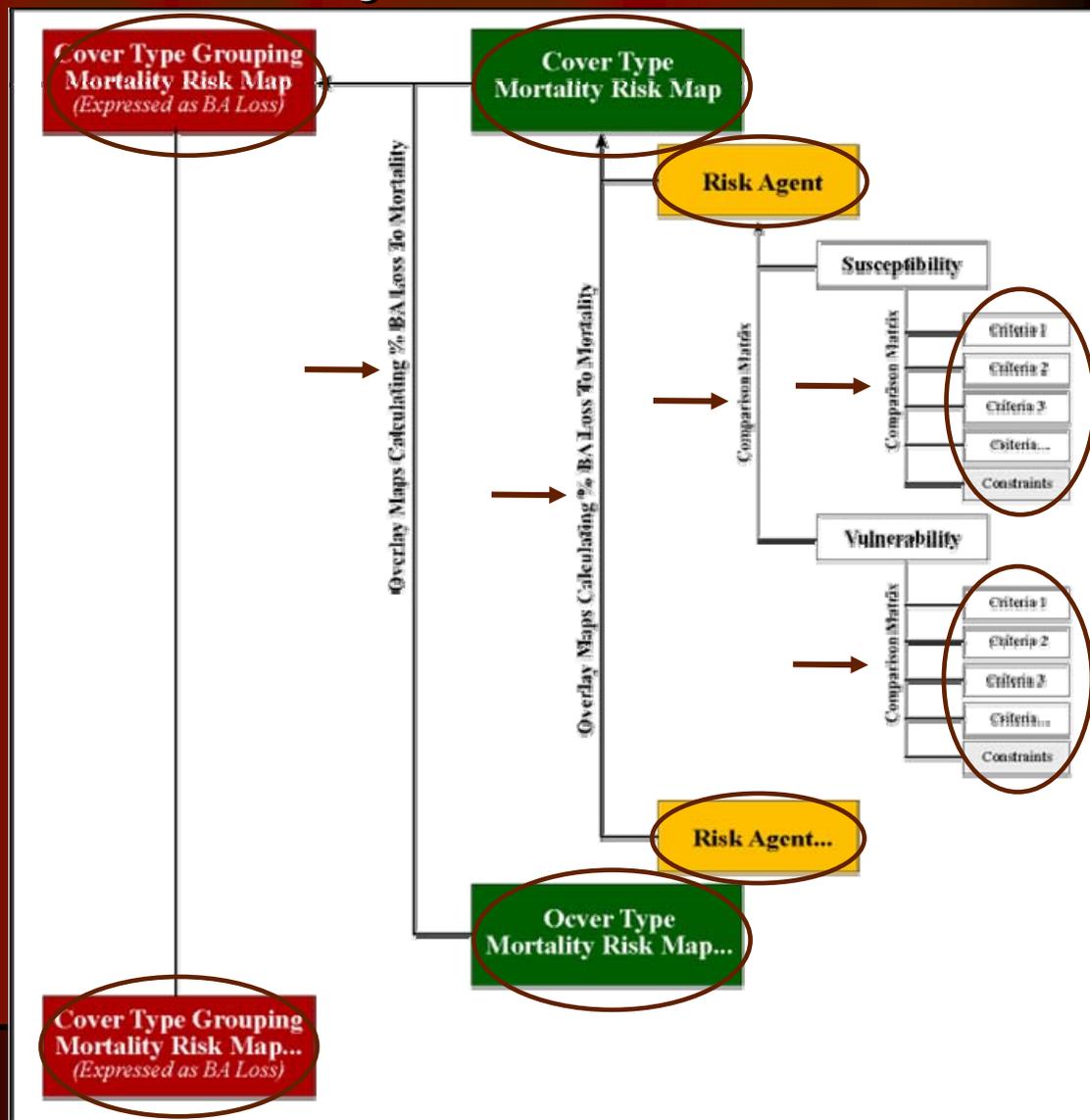
#1 Identify Tree Species and Risk Agents

#2 Identify, Rank, and Weight Risk Agent Criteria

#3 Standardize Criteria Values And Combine Resultant Maps

#4 Convert Values To BA Loss And Sum Them By Cover Type Group

#5 Flag Pixels with Greater Than 25% Simulated BA Loss



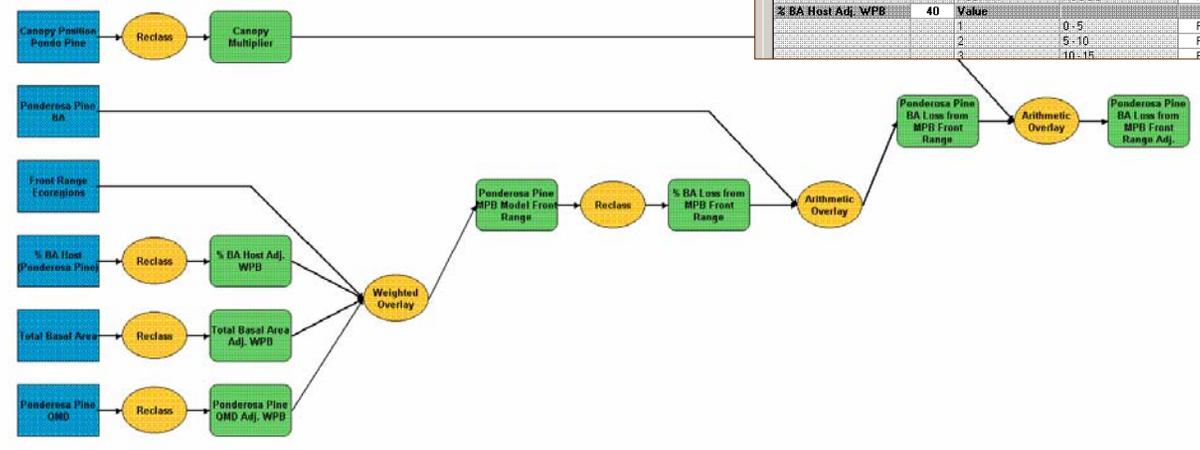
Corporate Software, Local Knowledge

Weighted Overlay

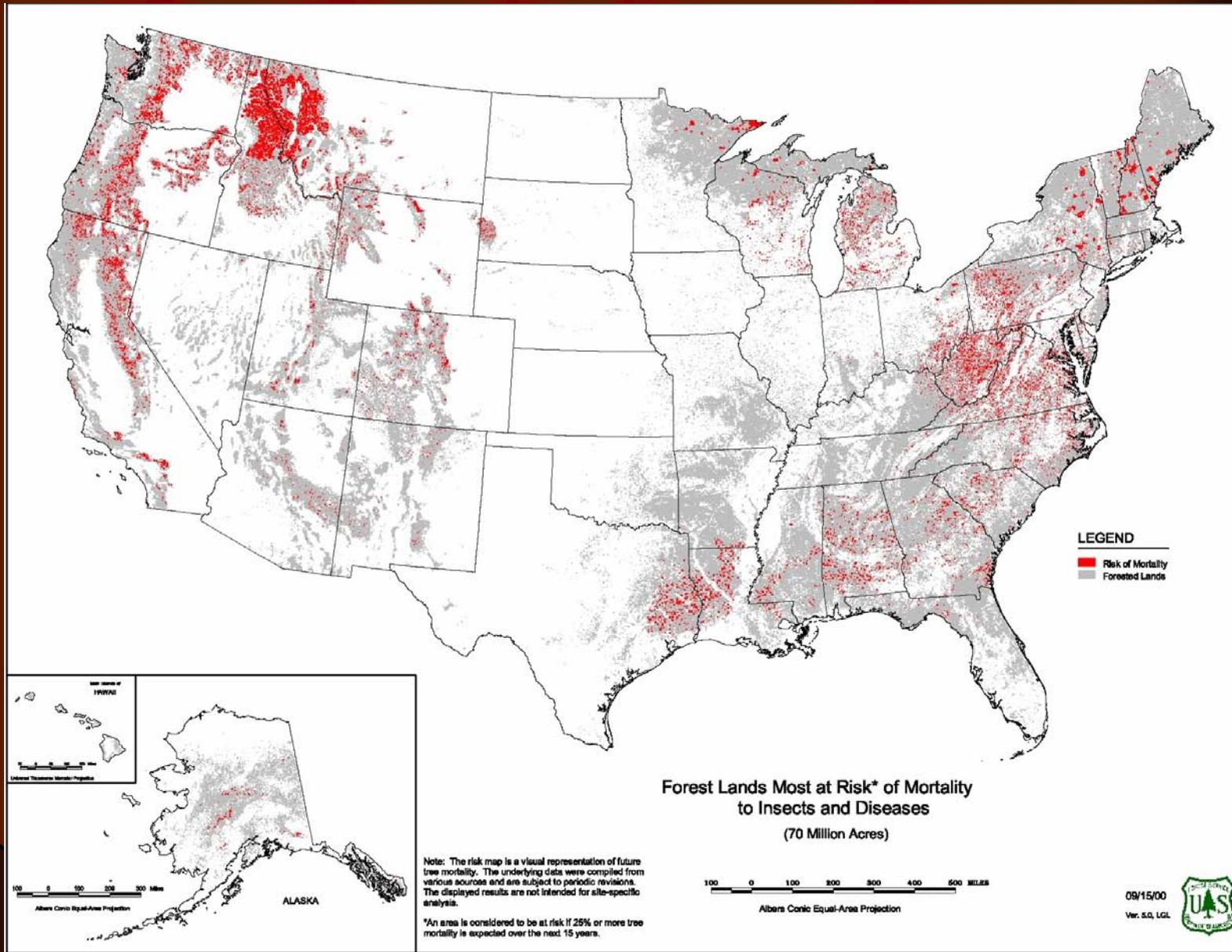
Define the weighted overlay table

Specify the Percent (%) Influence for each theme and a Scale Value for each input Field value. Scale Values will be multiplied by the % Influence value before they are added to other themes. To edit a % Influence value, click on it and type a new one. To edit a Scale Value, click on it, then use the dropdown list or type a value. Cells with a Restricted value are not added to other themes and retain the Restricted value in the output theme. To add a new input theme, click the Add Theme button. To delete an input theme, click on its name, then click the Delete Theme button.

Input Theme	% Inf	Input Field	Input Label	Scale Value
Ponderosa Pine QMD Adj	40	1	0-2	Restricted
		2	2-3	0
		3	3-4	0
		4	4-5	0
		5	5-6	0
		6	6-7	2
		7	7-8	4
		8	8-9	6
		9	9-11	8
		10	11-12	10
		11	12-13	10
		12	13-100	10
			NODATA	No Data
Total Basal Area Adj. WPB	20	Value	No Data	Restricted
		1	0-55	Restricted
		2	55-70	0
		3	70-75	1
		4	75-80	2
		5	80-85	3
		6	85-90	4
		7	90-95	5
		8	95-100	6
		9	100-105	7
		10	105-110	8
		11	110-115	9
		12	115-120	10
		13	120-125	10
		14	125-400	10
			NODATA	No Data
Fr_pndecoreg	0	Value	No Data	Restricted
		1	1	0
			NODATA	No Data
% BA Host Adj. WPB	40	Value	No Data	Restricted
		1	0-5	Restricted
		2	5-10	Restricted
		3	10-15	Restricted



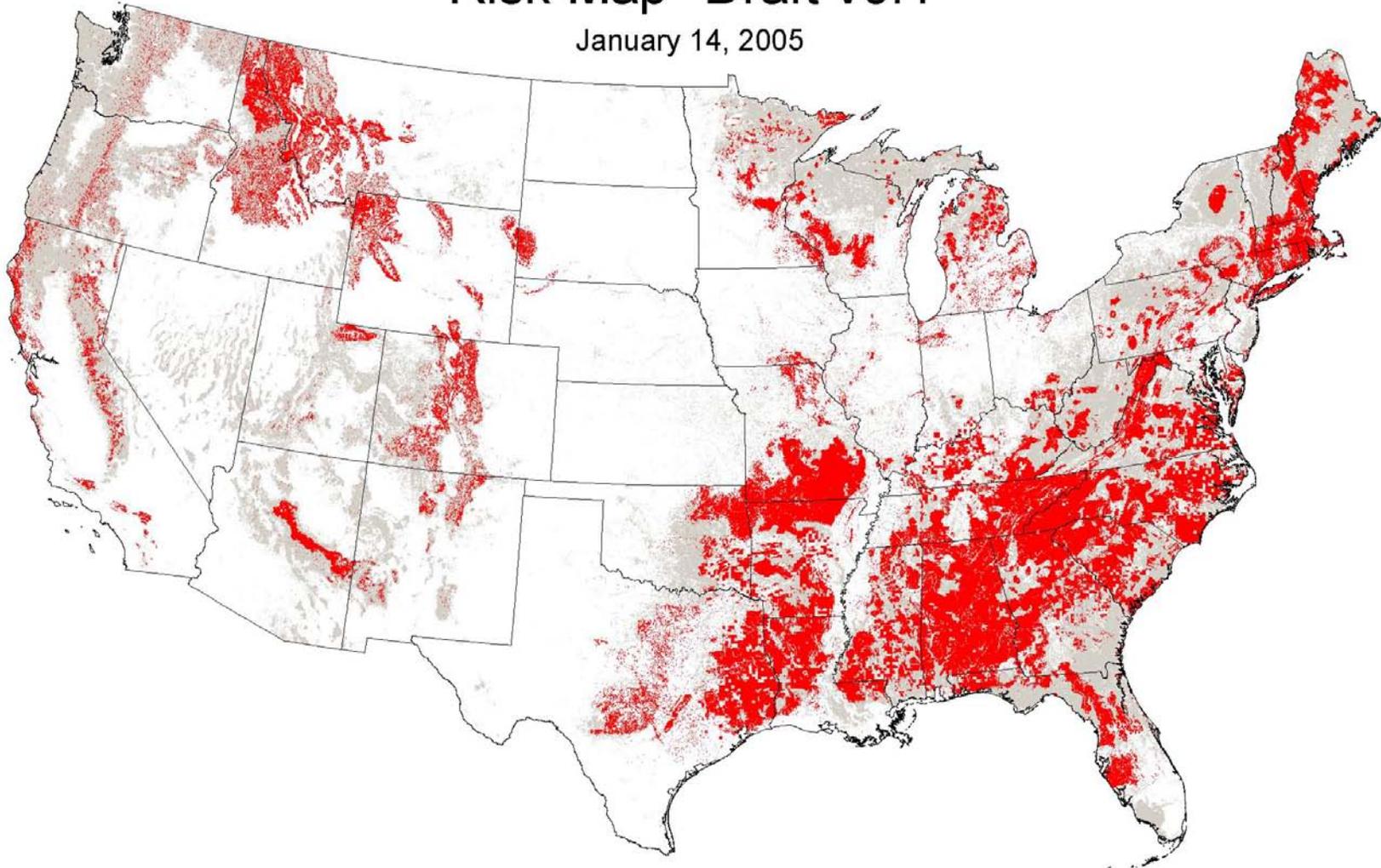
Current I&D Risk Map



2005 FHM WG Meeting

Risk Map* Draft v0.1**

January 14, 2005



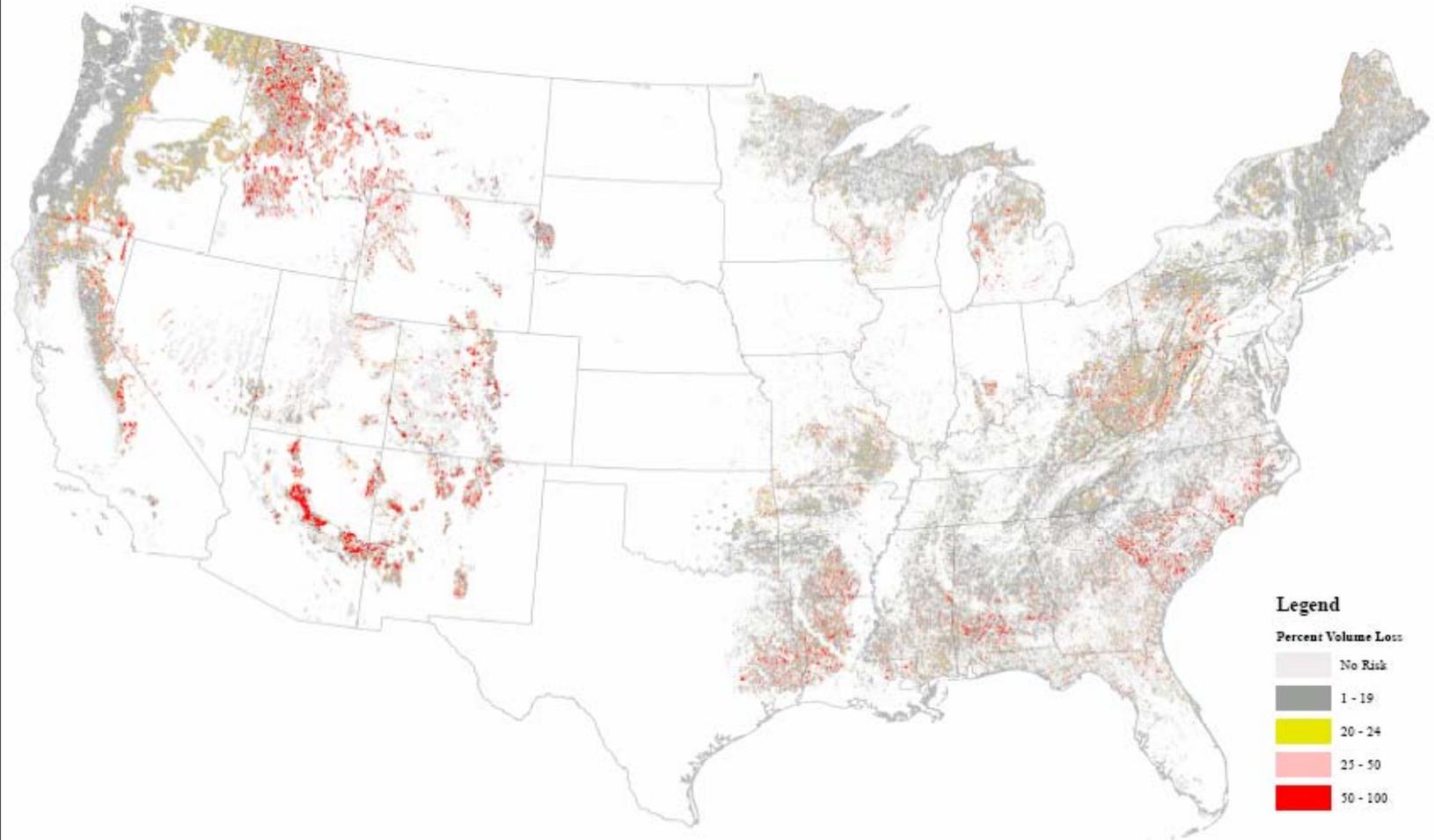
*An area is considered to be at risk if 25% or more mortality of the live volume of a forest species is expected over the next 15 years.

**This is an early draft of the riskmap and it will change significantly over time. Wide participation in the risk mapping effort is encouraged.

LEGEND

- Risk of Mortality
- Forested Lands

Participant Review



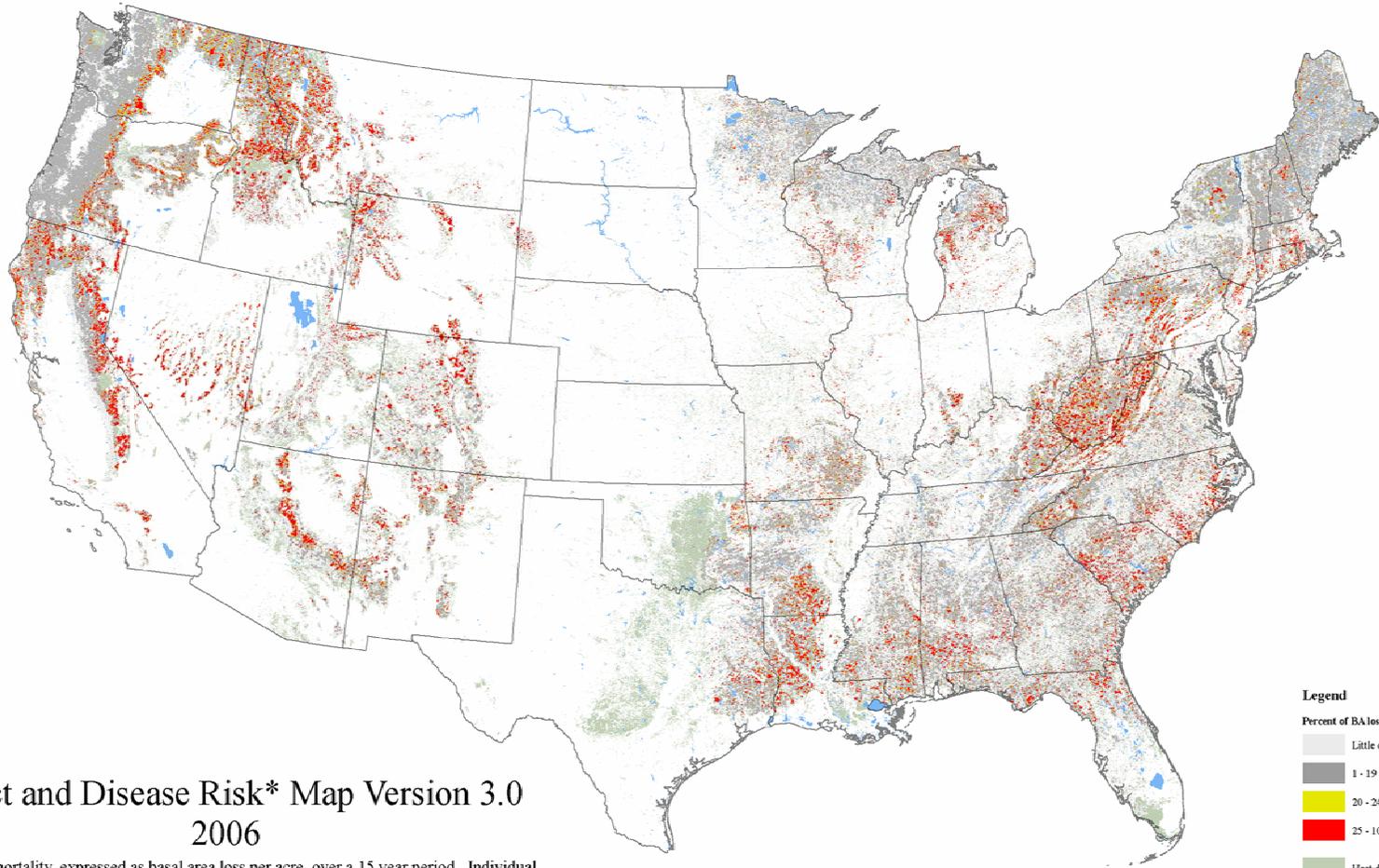
Risk* Map Version 2.0

*Risk of losing volume over a 15 year period.

Draft

Printing Date: October 27, 2006

Today



Insect and Disease Risk* Map Version 3.0 2006

*Risk of mortality, expressed as basal area loss per acre, over a 15 year period. Individual tree basal area is defined as the cross section area of a tree stem in square feet measured at breast height (4.5' above ground).

** Due to p2/p3 plot availability and forest parameter interpolation techniques

Legend

Percent of BA loss to mortality

- Little or No Risk
- 1 - 19
- 20 - 24
- 25 - 100
- Host data gaps**

Draft

Printing Date: January 25, 2006

Review & Revision Plan

- Version 1 Jan 2005: presented at FHM WG meeting in Miami.
- Version 2: Oct. 27, 2005 out for participant review with written comments due by Nov. 30.
- Version 3: presented at FHM WG Meeting in Charleston, SC.
- Peer Review. Mar. 15 – Apr. 15, 2006. Version 3 and draft report out to external reviewers.
- Version 4 will be final map. May 15, 2006 presented to FS/NASF Leadership, then in publication process.