



Phytophthora ramorum
and
the Great Divide

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Overview

- *P. ramorum*, the early years
 - East vs. West
- Science catches up to regulations
 - A new world order
 - NPDN's role
- Where do we go from here?



A Brief History of (Pathological) Time

1993

- New *Phytophthora* found in EU nurseries

1995

- Tanoaks dying in CA

2000

- The same *Phytophthora* is isolated from California tanoaks

2001

- SOD found in Curry County and a California nursery
- The Great Satan gets a name
- State and international quarantines



Time goes on...

2002

- Oregon
 - Eradication effort in Curry County
 - Nursery survey
- California certification surveys
- Regulatory activities
 - Interim federal regulation is adopted
 - International quarantines
- NPDN is born!



And on...

2003

- New detections

- Nurseries in US
 - West Coast states
 - Canada (British Columbia)
 - EU/A1 in North America
- European landscapes

- Regulatory activities

- CA, OR revise state regulations
- USDA develops Confirmed Nursery Protocol

- NPDN's focus?

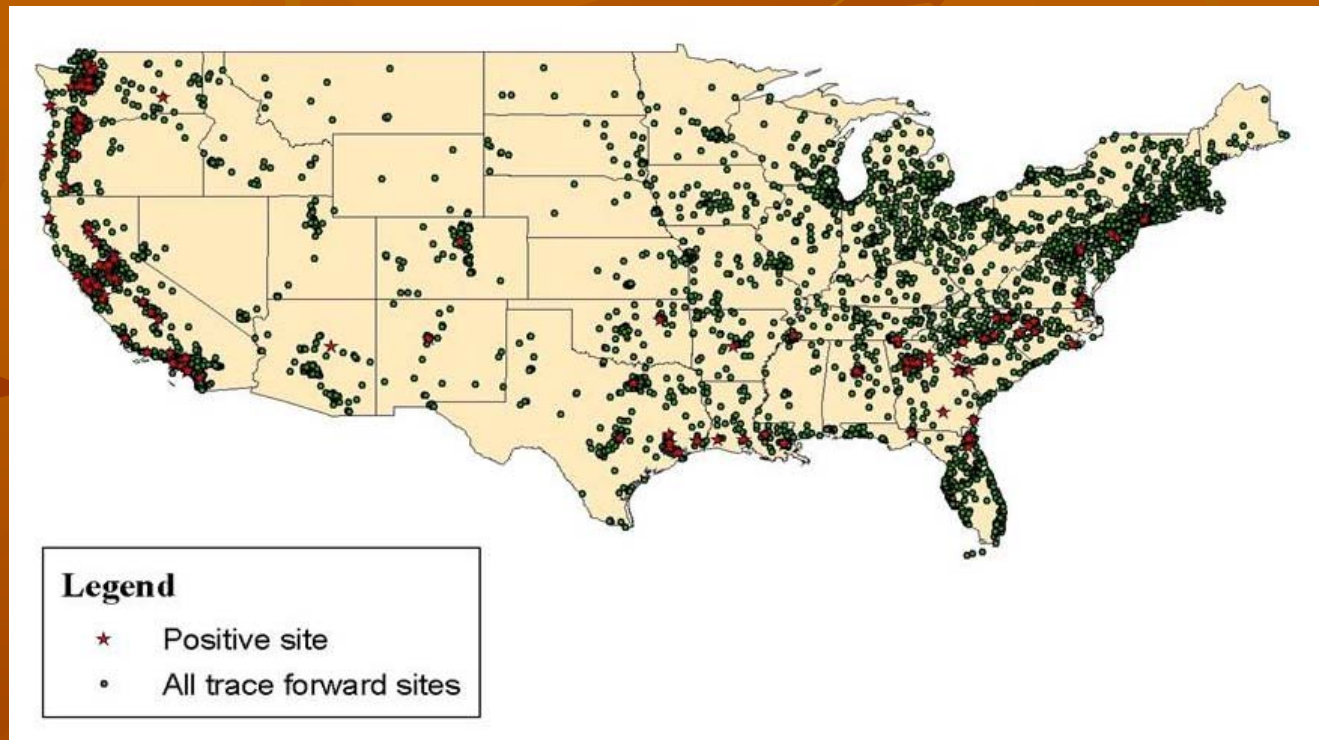


What, not *P. ramorum*???



Images from www.invasives.org and
wikipedia

And then, ka-BOOM!!!

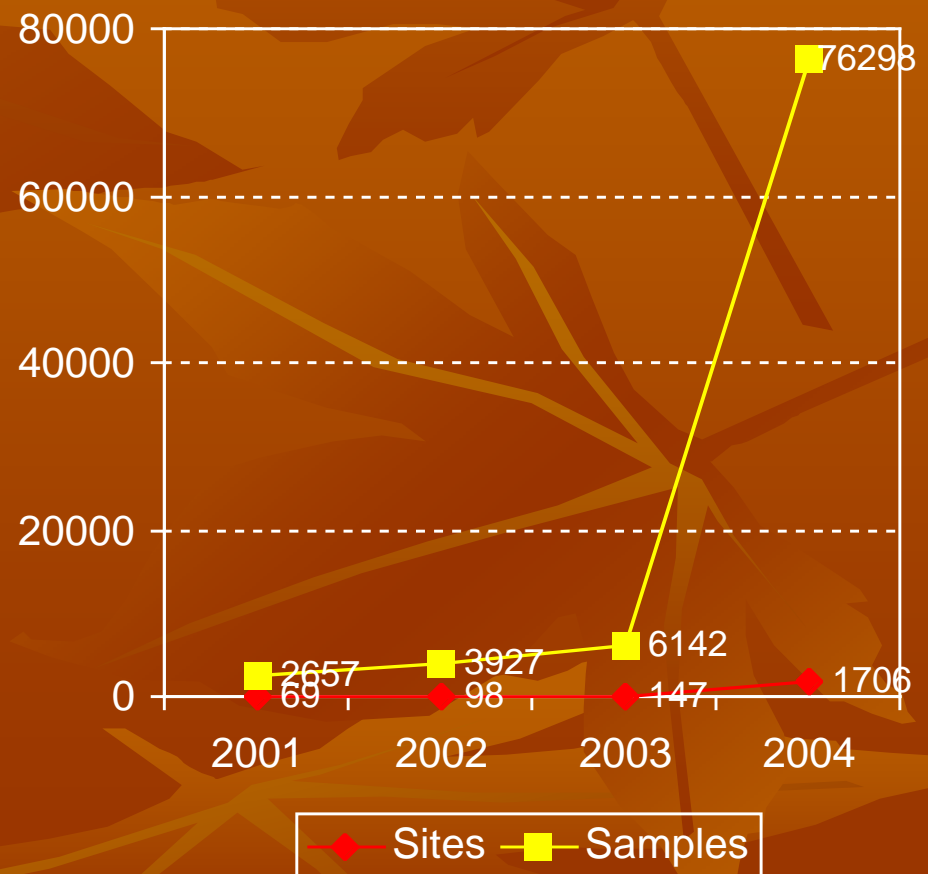


- Detected in large, wholesale nurseries in CA & OR in 2004
- First national survey is conducted
 - 176 positive sites in 22 states (mostly nursery stock)
- Canadian surveys
 - Positive trace outs & other nurseries in BC

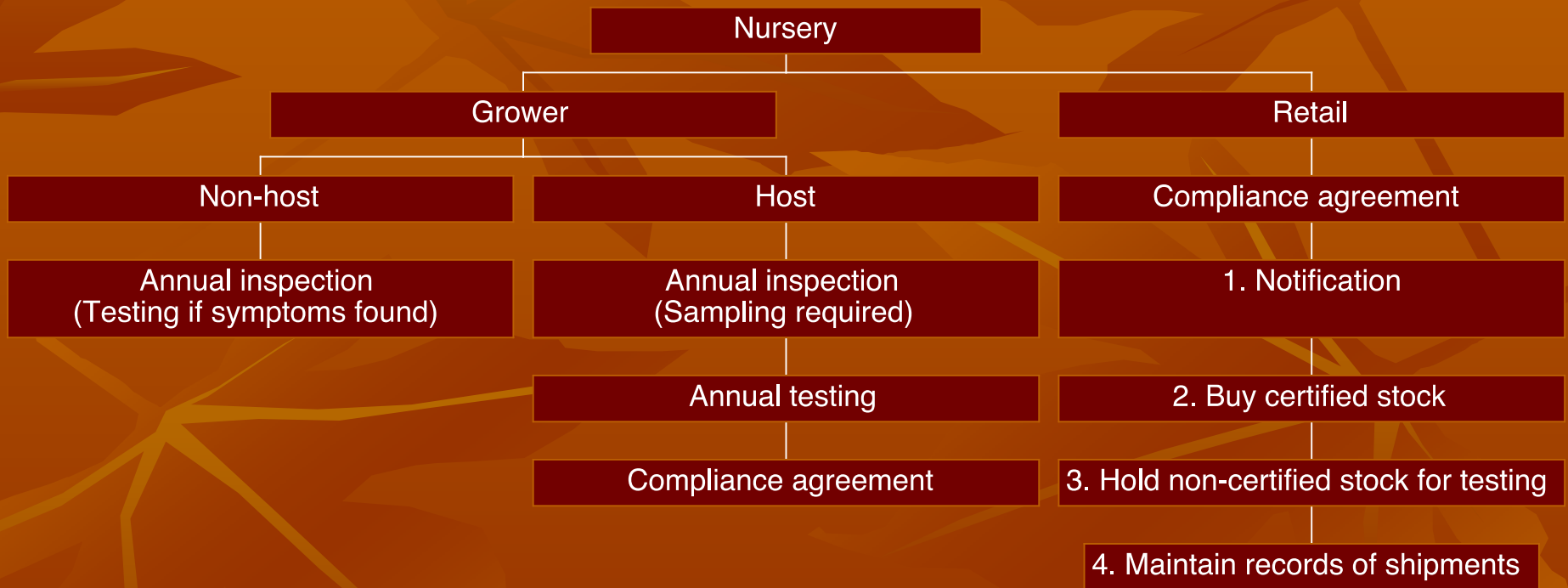
The Great Divide is born

- 15 states adopt different quarantines
 - Oak forests at risk
- USDA Federal Order of 12/21/2004
 - Effective 1/10/2005
 - All West Coast states
- Impact on state labs
 - 1200% increase in workload
 - AAAAAUGH!!!

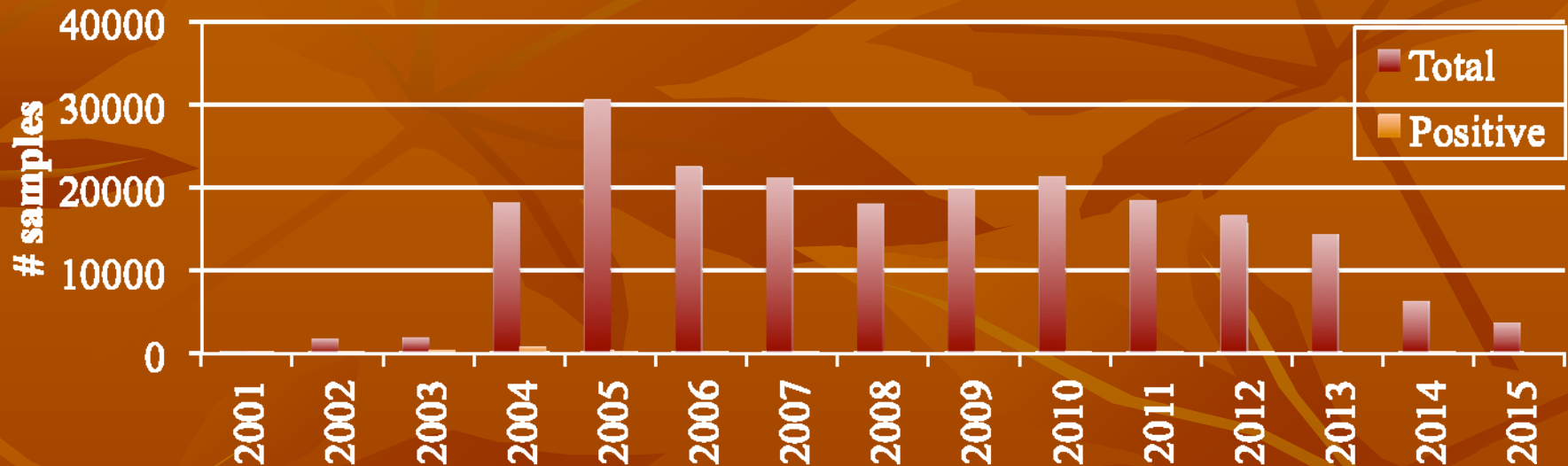
Oregon Commodities Survey



USDA *P. ramorum*-free program



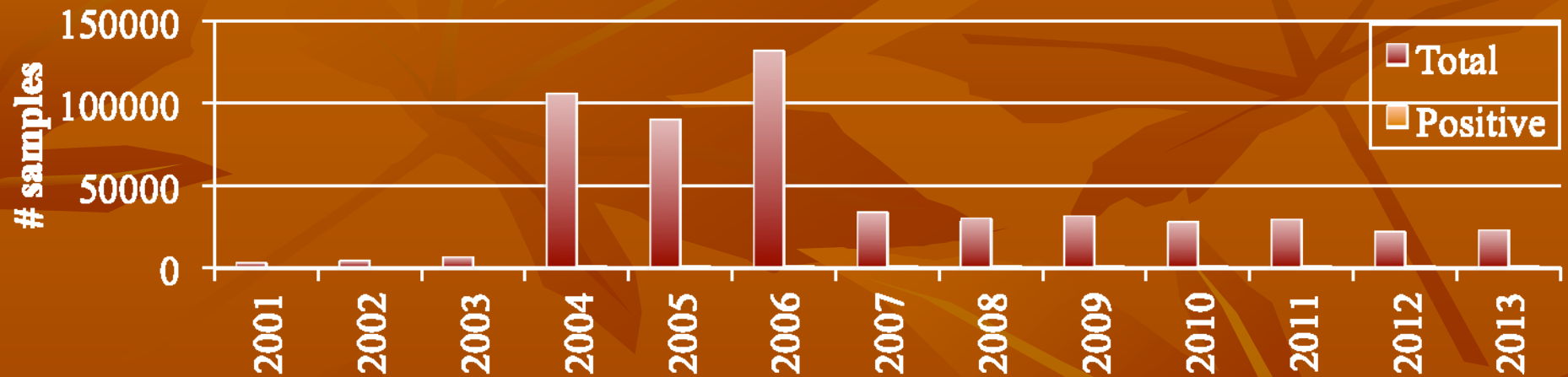
California until 2013



- 2001 to 2003 - 2 staff
- 2004 to 2013
 - 5.5 FTE full time (0.5 FTE ELISA specialist, 1.0 FTE scientist, 3 technicians, 1 sampler)
 - 6 part-time temporary workers

Data from C. Blomquist, CDFA
(Thanks Cheryl!)

Oregon until 2013



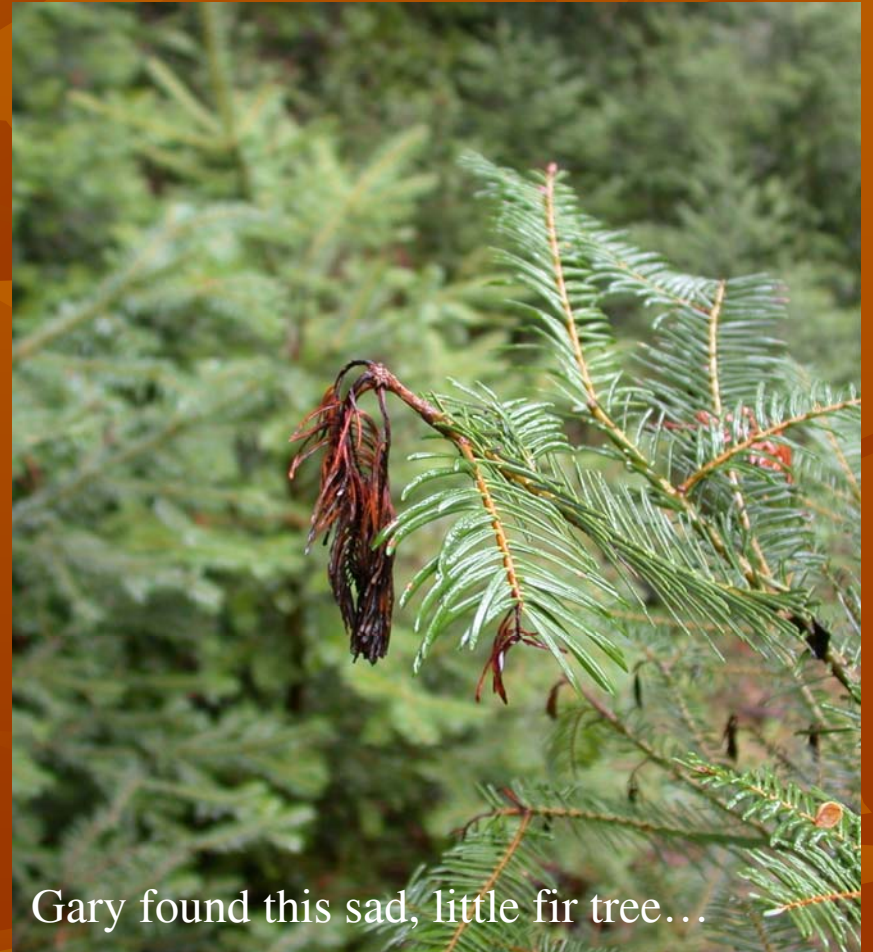
- 2001 to 2003 - 1.0 FTE full time
- 2004 to 2006
 - 4.0 FTE full time (pathologist, nursery inspector, 2 plant disease specialists)
 - 13-16 seasonal samplers and lab techs
- 2007 to 2013
 - 3.0 FTE full time (0.5 pathologist, 0.5 nursery inspector, 2 specialists)
 - 6 seasonal samplers and lab techs

WSU Plant Diagnostic Lab

- Original NPDN funds for WA
 - “First Detector” work stations
 - Microscope, camera, and compendia
 - Several counties
 - DDDI database (ongoing)
- *P. ramorum* activities
 - Main focus is landscape situations
 - Test via ELISA with positives sent on to NPDN hub lab
 - Triage paper for Master Gardeners

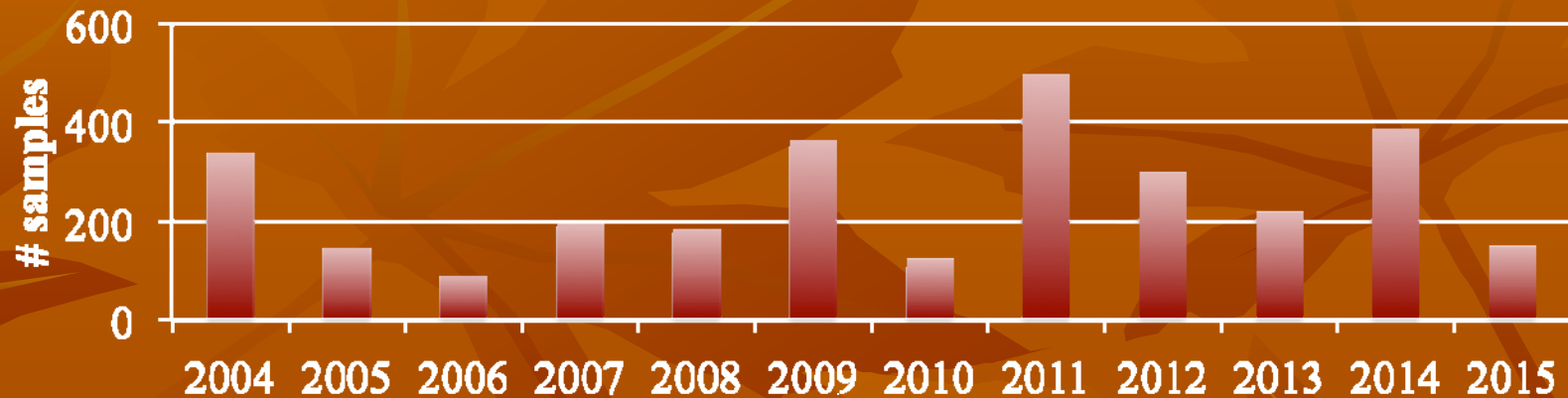
WSU Biocontainment Facility

- First opened in 2005
 - 600 ft² lab
 - 200 ft² biocontainment growth chamber
 - WSU committed \$250,000 to facility
- NPDN funds
 - Supported 0.5 FTE until 2007
 - Funding now used for diagnostic training



Gary found this sad, little fir tree...

OSU Plant Clinic



- Funds originally received because of soybean rust
- *Phytophthora ramorum* since 2004
 - Have processed a total of 2,964 samples
 - 11% of samples processed
 - Samples received from
 - Trace out investigations
 - Homeowners
- First Detector training

Beavers are Pac-12 Champs!!!



Image from osubeavers.com

They blinded me with science...

- 2007
 - Non-HAP nurseries no longer require inspection
- Intervening years
 - Testing methods standardized
 - Proficiency panels
 - Hazards identified
- 2014
 - Focus on positive nurseries
 - Enhanced surveys
 - Hazard assessments



Impact on state labs

State	2014		2015	
	Total	Positive	Total	Positive
Oregon	5,408	68	7,615	107
California	6,173	2	3,564	0

- Oregon
 - 2.0 FTE full time (1 plant disease specialist, 1 nursery inspector)
 - 2 seasonal positions (1 lab technician, 1 data specialist)
- California
 - 1.75 FTE full time (0.25 ELISA specialist, 0.5 scientist, 1.0 technician)
 - 2 seasonal positions (samplers)

Impact on NPDPN labs

- Functions remain largely unchanged
 - First Detector
 - Landscape samples
 - Trace out events
- Diagnostic training opportunities
 - STAR-D Quality Management System
 - USDA APHIS proficiency panels



One unhappy rhododendron

Our continuing mission...

- Federal program is now science-based
- State labs survey West Coast nurseries
- NPDN functions
 - Labs test landscape samples
 - First Detector training
 - Trace-out investigations
 - Diagnostic training and lab accreditation



All it needs is the phaser attachment...

Any questions?

