

P4: THE PINE PANDEMIC PREPAREDNESS PLAN

SUMMARY

The P4 outlines the steps needed to recognize and stop outbreaks of currently unknown new invasive pests or diseases causing significant injury to pine trees throughout the southern U.S. This plan was co-developed by a group of stakeholders with interests in protecting, managing, and conserving pine resources including private landowners, foresters, forest product and investment companies, universities, and state and federal agencies in the South. Implementation of the P4 will allow forest health specialists and scientists to work with extension agents, land managers, and landowners to address emerging invasive pests and diseases rapidly and efficiently.

The four central aspects of the plan are:

I. COMMUNICATION

This plan starts by building on existing stakeholder communications networks. Communication is key to coordination of activities to identify and control emerging invasives as quickly and efficiently as possible. The P4 calls for establishment of a communications network to:

- Immediately report any potential threat to southern pines to forest health specialists in state, federal, or academic units to prevent uncontrolled spread.
- Coordinate communication between landowners, managers, researchers, and others.

II. DETECTION AND DIAGNOSIS

It is critical to rapidly detect dying or dead trees and accurately identify the cause (including a new pest or disease) if control and management efforts are to be successful.

- Standard protocols should be used for evaluating and reporting damage and mortality of pines.
- Forest health specialists will be engaged to review reports and inspect sites as necessary.
- A real-time database (linked to the existing databases e.g., USDA Forest Health Monitoring) will be used to track abnormal damage and mortality in pines and communicate new pests and diseases.
- Information will be shared through the communications network.

III. DELIMITATION AND ASSESSMENT

Delimitation defines the presence, spatial extent, and persistence over time of a pest and disease or area with abnormal symptoms. Early delimitation and rapid assessment of the issue are practical and proven responses to pest and disease outbreaks. Diagnosis of issues will lead to delimitation, which will assist with making decisions around control, management, and long-term solutions. Additional assessments can help forecast spread rates and potential impacts to the resource with or without active management.

SOUTHERN U.S. PINES:

Represent 61% of U.S. planted forests and 57% of U.S. wood volume.

Provide \$230 billion in value and over 1 million jobs.

Comprise working forests which provide carbon sequestration, wildlife habitat, biodiversity, soil protection, and improved air and water quality.

Are vulnerable to high-impact pests and diseases spreading rapidly and causing extensive economic, ecological, cultural, and ecosystem service impacts.

IV. RESPONSE

Prompt measures need to be taken to minimize impacts. Responses will be coordinated between federal agencies, state agencies, tribal governments, industrial, and non-industrial private landowners. Guidance may be based on what is already known. Responders will need to determine the impacts of no action versus eradication or other management, along with associated costs of each.

A P4 team will, in collaboration with others, evaluate management options and inform decision-making on the best courses of action. These may include:

- Quarantines and restrictions on movement of affected materials.
- Short term treatments including chemical and silvicultural prescriptions.
- A research and development framework to prioritize questions needing answers.
- Longer term solutions including selection and breeding for resistance and development of biological or molecular controls.

The P4 is a significant and usable resource as agencies and experts work closely with landowners and managers. For examples and details, see the full document at:

doi.org/10.58497/98549

HOW CAN YOU BE INVOLVED?

- Be a part of the P4 communication, detection, and response networks.
- If you see something out of the ordinary with pine health, let your extension, research, tree care, and forest health contacts know.
- Stay informed through websites, emails, webinars, meetings, and field tours.
- Carefully consider available options for control and management and use methods appropriate to the problem and your situation.

GOALS:

This plan helps to highlight numerous resources that are already in place to protect southern pines.

The plan also articulates roles for diverse organizations to act more strategically within their current capacities to prevent a widespread outbreak by a new pest or disease.

The plan provides a foundation for forest health specialists and scientists to communicate and collaborate with political, social, and economic scientists to address any emerging high impact non-native pest or disease efficiently and rapidly.

This plan is useful to decision makers seeking to better understand the resources needed for adequate biosecurity for a vital economic sector.

We provide major recommendations to allow stakeholders to marshal resources necessary for the P4 to be implemented across the region.

Collaborative efforts will allow cooperators to be proactive and stop invasions before they threaten our southern pine resource.

Contact us for more information at: P4Coordinator@jonesctr.org

Citation: Gandhi, K.J.K., K.D. Klepzig, J.D. Dean, E. Hunter, A.M. Liebhold, W. Owen, T.N. Trembath, D.C. Adams, C. Asaro, C.S. Barton, R.L. Cook, D.R. Coyle, J.M. Eickwort, S. Harrington, F.H. Koch, H.L. Munro, C. Nelson, R.O. Olatinwo, J. Pait, S.E. Pfister, J. Rakestraw, E.B. Schilling, R.A. Snieszko, and R.C. Venette. 2025. The Pine Pandemic Preparedness Plan for the Southern United States. The Jones Center at Ichauway Outreach Catalog: OP 25-1. 36 p. doi.org/10.58497/98549