



PRE

Plant Risk Evaluator



**BUILDING CONTINUITY ACROSS STATE
PLANT LISTS: PREDICTING INVASION RISK
OF HORTICULTURAL PLANTS**

Funded by a grant from the Western IPM Center

Presented by Alex Stubblefield (PlantRight)



FUNDING/ACKNOWLEDGEMENT

This project was funded in part by the USDA National Institute of Food and Agriculture, through the Western Integrated Pest Management Center



United States
Department of
Agriculture

National Institute
of Food and
Agriculture

Western
IPM
Center

ISSUES WE AIM TO ADDRESS

- **Limited communication** and information sharing across states
- We need to be able to **accurately assess the risks** that introduced plants pose to our natural environments and economies
- There is a growing national interest in having a **consistent rating system**



NATIONAL
PARTNERSHIP

North Central IPM
Center

Southeast IPM Center

Western IPM Center



Cascade Pacific 
Resource Conservation + Development

WESTERN REGION
PARTNERS



THE UNIVERSITY
OF ARIZONA

Washington

Oregon

California

Arizona

GOAL & OBJECTIVES

- **GOAL** Train evaluators and reviewers in Arizona, California, Oregon, and Washington to use the Plant Risk Evaluator (PRE) tool in order to expand the use of the PRE tool and build continuity between state plant listing processes.
- **OBJECTIVES**
 - Train at least 2 evaluators and 2 reviewers from each partner state on PRE tool
 - 25 total completed evaluations (5 in AZ, 10 in CA, 5 in OR, and 5 in WA)

PERSONNEL

- **CO-LEADS** Jutta Burger, Ph.D. (Cal-IPC) and Alex Stubblefield (PlantRight)
- **ADVISOR** Elizabeth Brusati, Ph.D. (CDFW)
- **INSTRUCTOR** Lynn Sweet, Ph.D. (UC Riverside)

PROJECT TIMELINE

- **APRIL** Partner “Kick-off” Meeting
- **MAY** First PRE Training Session
- **JUNE** Partners do practice evaluations and trainers do reviews
- **JULY** Second PRE Training Session
- **AUGUST-OCTOBER** 25 species evaluations (5 in WA, 5 in OR, 10 in CA, 5 in AZ)
- **SEPTEMBER-DECEMBER** Evaluation reviews
- **JANUARY** Project wrap-up

WHAT IS THE PLANT RISK EVALUATOR TOOL?

- There are 20 PRE Questions – Invasive History and Climate Matching (6); Impact on Native Plants and Animals (4); Reproductive Strategies (7) and Dispersal (3)
- 80% of the questions need to be answered for a screen to be valid (>16 out of the 20 questions)
- Each question is yes/no and has an individual weight, which PRE will automatically combine to produce the final PRE score (out of 25)
- Screeners/Evaluators add the plant to the database (if it hasn't already been added), then conduct a literature review and, finally, the evaluation
- <https://pretool.org/>



PRE Score Legend

< 13 : Low Potential Risk

13 - 15 : Moderate Potential Risk

> 15 : High Potential Risk

THREE-PRONGED REVIEW



Conservation Review



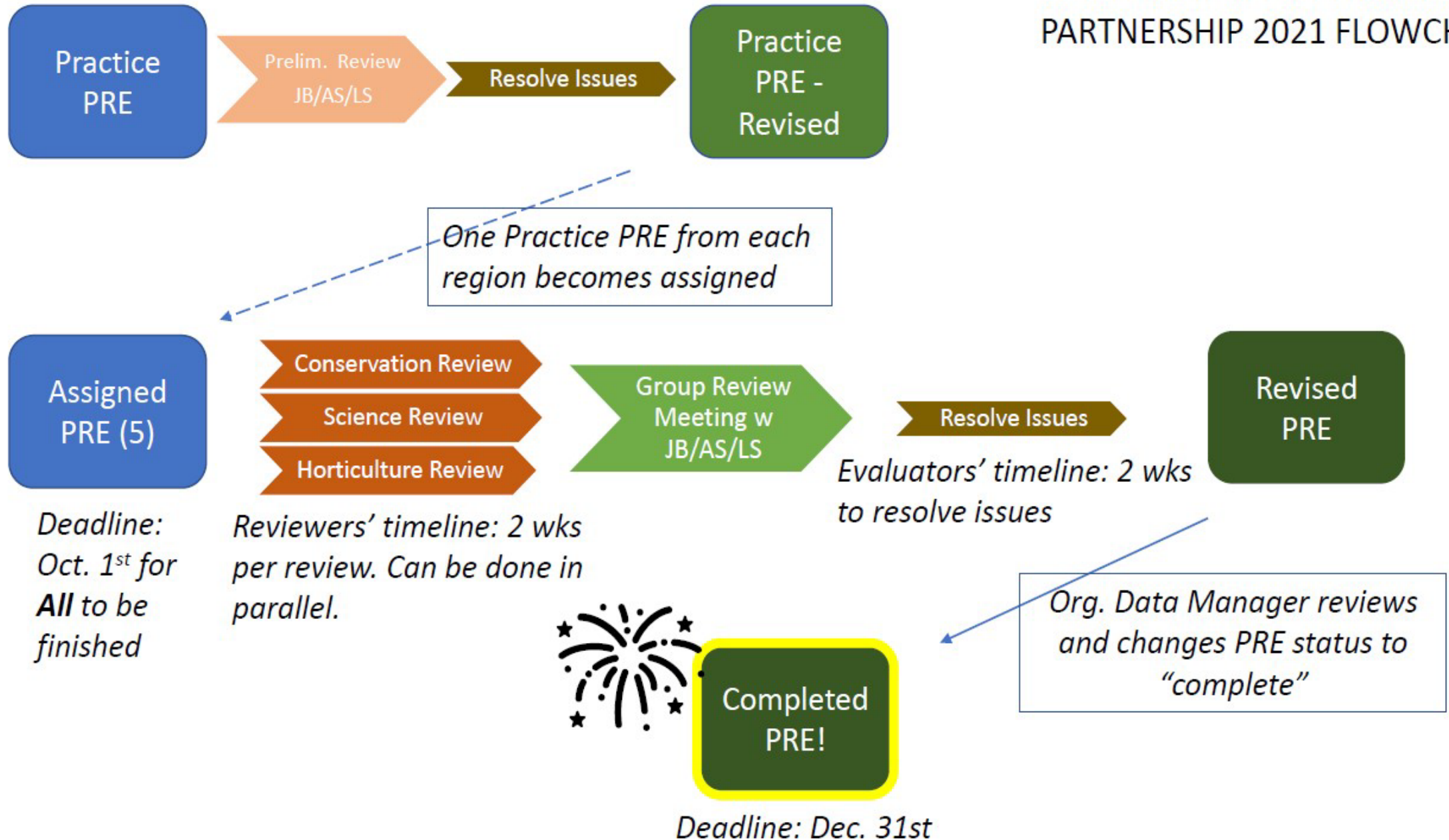
Science Review



Horticulture Review



WESTERN IPM PRE TRAINING PARTNERSHIP 2021 FLOWCHART



RESULTS TO DATE

State	Completed	In Review	In Progress	Not Started	Total
AZ	1	4	0	1	6
CA	3	8	1	2	14
OR	0	3	1	1	5
WA	2	4	0	0	6
					31



Searsia lancea -- Arizona

Evaluation

Edit

Revisions

Issues

Created by: [Michael Chamberland](#)
Created on: Thursday, Jun 3rd, 2021

Evaluation Summary

Searsia lancea draws concern about potential invasiveness due to its aggressive re-seeding in urban environments. Documented occurrences outside of cultivation in Arizona have been limited to sites adjacent to the urban areas where it is cultivated. The plant can establish in areas without irrigation, but usually in washes or areas which collect water.



Image by Ron Vanderhoff

Plant: [Searsia lancea](#)

PRE Evaluation Summary

Region: Arizona

PRE Score: 13

RESULTS TO DATE

ARIZONA

Searsia lancea (African sumac)

PRE Score: 13 – Moderate Risk



Arum italicum -- California

Evaluation

Edit

Revisions

Issues

Created by: [Jutta Burger](#)

Created on: Thursday, Apr 15th, 2021

Evaluation Summary

Arum italicum is a tuber-forming perennial in the Araceae that has been used extensively in the horticultural industry. It has naturalized throughout the wetter regions of the western U.S. as well as locally in the eastern U.S., in Australia, New Zealand, portions of South America, and other regions. The plant is noted for its aggressive growth habit in gardens and riparian areas, its ability to cause contact dermatitis, and for being unpalatable to toxic for livestock. It reproduces both by seed that can be carried long distances and by lateral tubers, making it very difficult to control once established.



Image by J. Parker's

Plant: [Arum italicum](#)

PRE Evaluation Summary

Region: California

PRE Score: 19 ✖

RESULTS TO DATE

CALIFORNIA

Arum italicum (Italian lords-and-ladies)

PRE Score: 19 – High Risk



Pentaglottis sempervirens -- Oregon

Evaluation

Edit

Revisions

Issues

Created by: [Tony Lind](#)

Created on: Sunday, Jun 13th, 2021

Evaluation Summary

Pentaglottis sempervirens, also known as evergreen bugloss and evergreen alkanet, are native to southwest Europe and have become naturalized in similar climates such as Oregon, Washington, Great Britain, Czechoslovakia, and Ireland. This species is currently on the monitor list in Washington and Oregon and is presently not considered an invasive species in Oregon. This species can be difficult to remove after establishment due to a large deep taproot capable of regrowth from remaining fragments.



Image by Gerald Carr

Plant: [Pentaglottis sempervirens](#)

PRE Evaluation Summary

Region: Oregon

PRE Score: 8 ✓

RESULTS TO DATE

OREGON

***Pentaglottis sempervirens* (evergreen bugloss)**

PRE Score: 8 – Low Risk



Carex pendula -- Washington

[Evaluation](#)[Edit](#)[Revisions](#)[Issues](#)

Created by: [Jim Evans](#)

Created on: Wednesday, Aug 11th, 2021

Evaluation Summary

Reports from Washington, California, and New Zealand describe *Carex pendula* as an aggressive invader able to quickly occupy riparian and wetland habitats in climates similar to those in western Washington. While unlikely to spread vegetatively, *C. pendula*'s prolific seed production and high germinability coupled with its ability to disperse via water along stream corridors and through wetlands enables the species to proliferate over large reaches of suitable habitat in a relatively short time.



Image by Kurt Stüber

Plant: [Carex pendula](#)

PRE Evaluation Summary

Region: Washington

PRE Score: 17 ✖

RESULTS TO DATE

WASHINGTON

Carex pendula (hanging sedge)

PRE Score: 17 – High Risk

LISTING

- Cal-IPC adds plants that have a PRE score of >15 to the “Watch” list of their inventory
- PRE scores are just one piece of information organizations may use to make listing decisions
- WA, OR, and AZ partners view PRE as a useful tool to support invasive plant listing in their states- PRE “builds capacity” to screen plants for invasive risk

ACKNOWLEDGEMENTS

ARIZONA

- Michael Chamberland, University of Arizona Extension

CALIFORNIA

- Jutta Burger, Cal-IPC
- Elizabeth Brusati, CDFW
- Doug Johnson, Cal-IPC
- Jan Merryweather, Sustainable Conservation
- Lynn Sweet, UC Riverside
- Dave Waetjen, UC Davis Information Center for the Environment

OREGON

- Troy Abercrombie, Cascade Pacific Resource Conservation & Development

WASHINGTON

- Justin Bush, Washington Invasive Species Council
- Lizbeth Seebacher, Pacific Northwest Invasive Plant Council
- Wendy Descamp, Washington Department of Agriculture