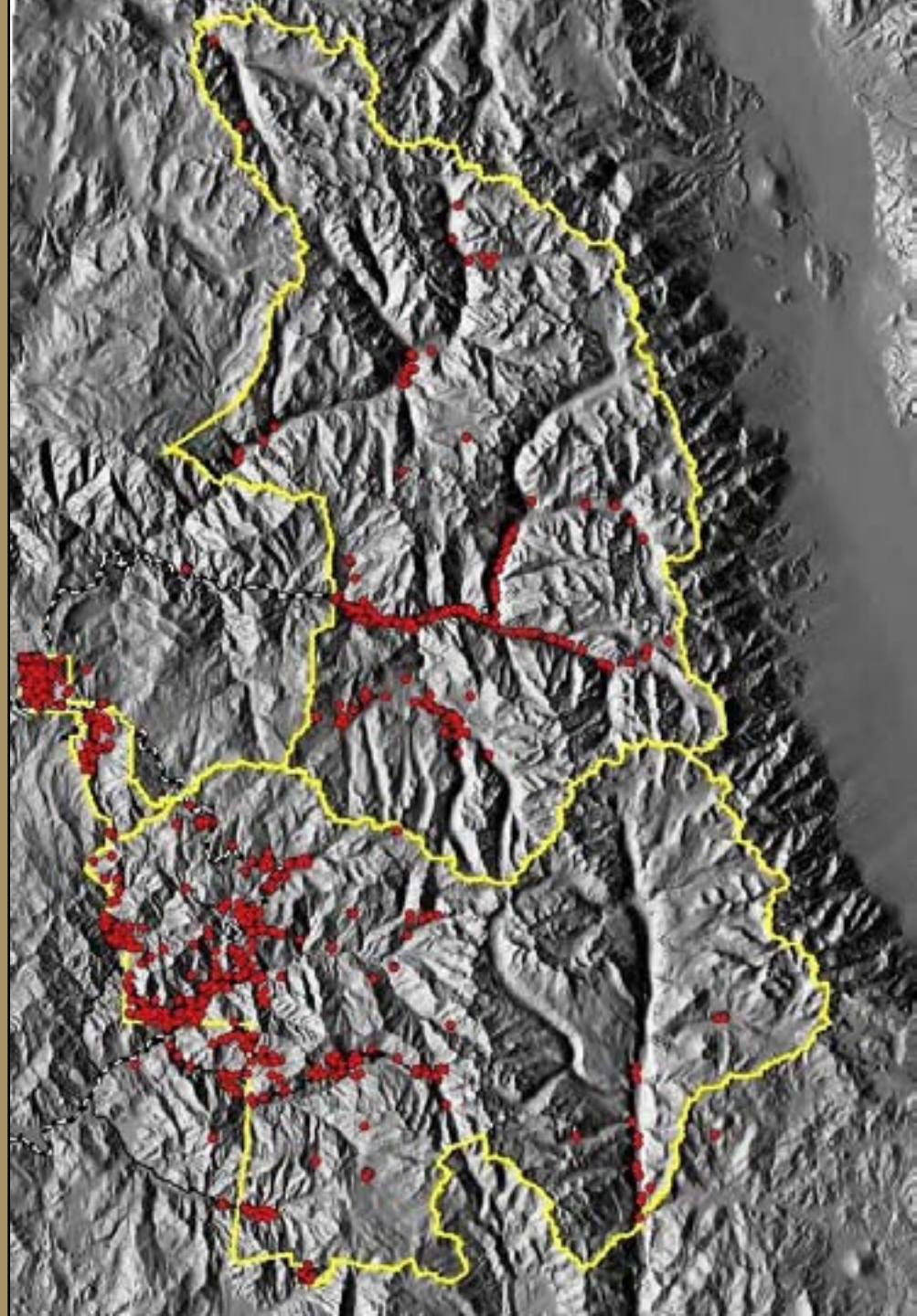
From Foothills Grasslands to Mountain Peaks: Managing Weeds at the Leading Edge in Sequoia and Kings Canyon National Parks

Athena Demetry
Restoration Ecologist
Sequoia and Kings Canyon National Parks


San Joaquin River
Sierra
National
Forest
Inyo National Forest
Middle Fork Kings River
Sierra Crest
KINGS
CANYON
NATIONAL PARK
Kings River
180
Giant Sequoia
National Monument
South Fork Kings
Owens Valley
Great Western Divide
Mount
Whitney
Kaweah River
SEQUOIA
NATIONAL PARK
Kern River
198
Inyo
National
Forest
Sequoia
National
Forest
N
0 5 10 15
Miles

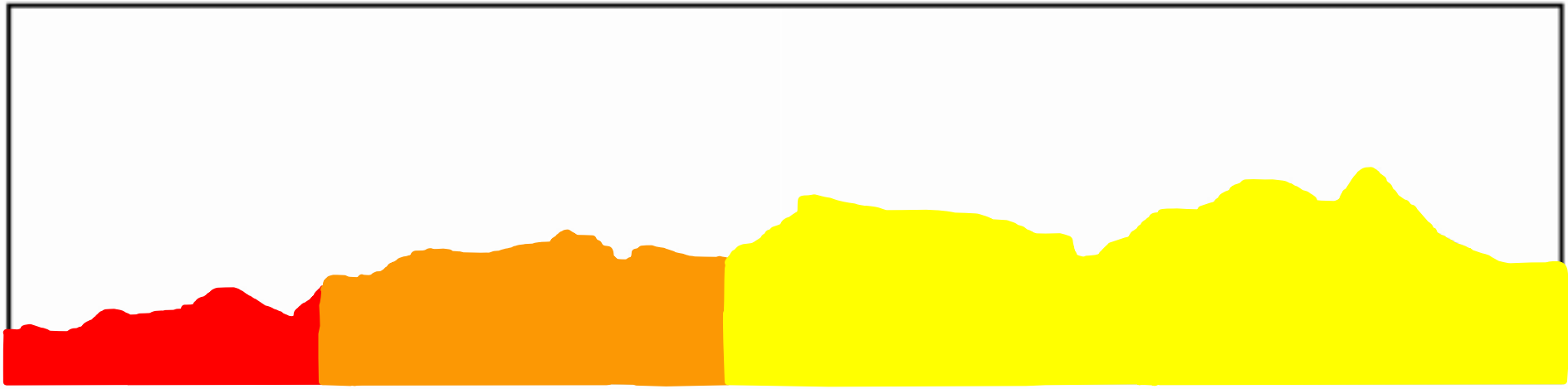
Non-Native Plant Locations

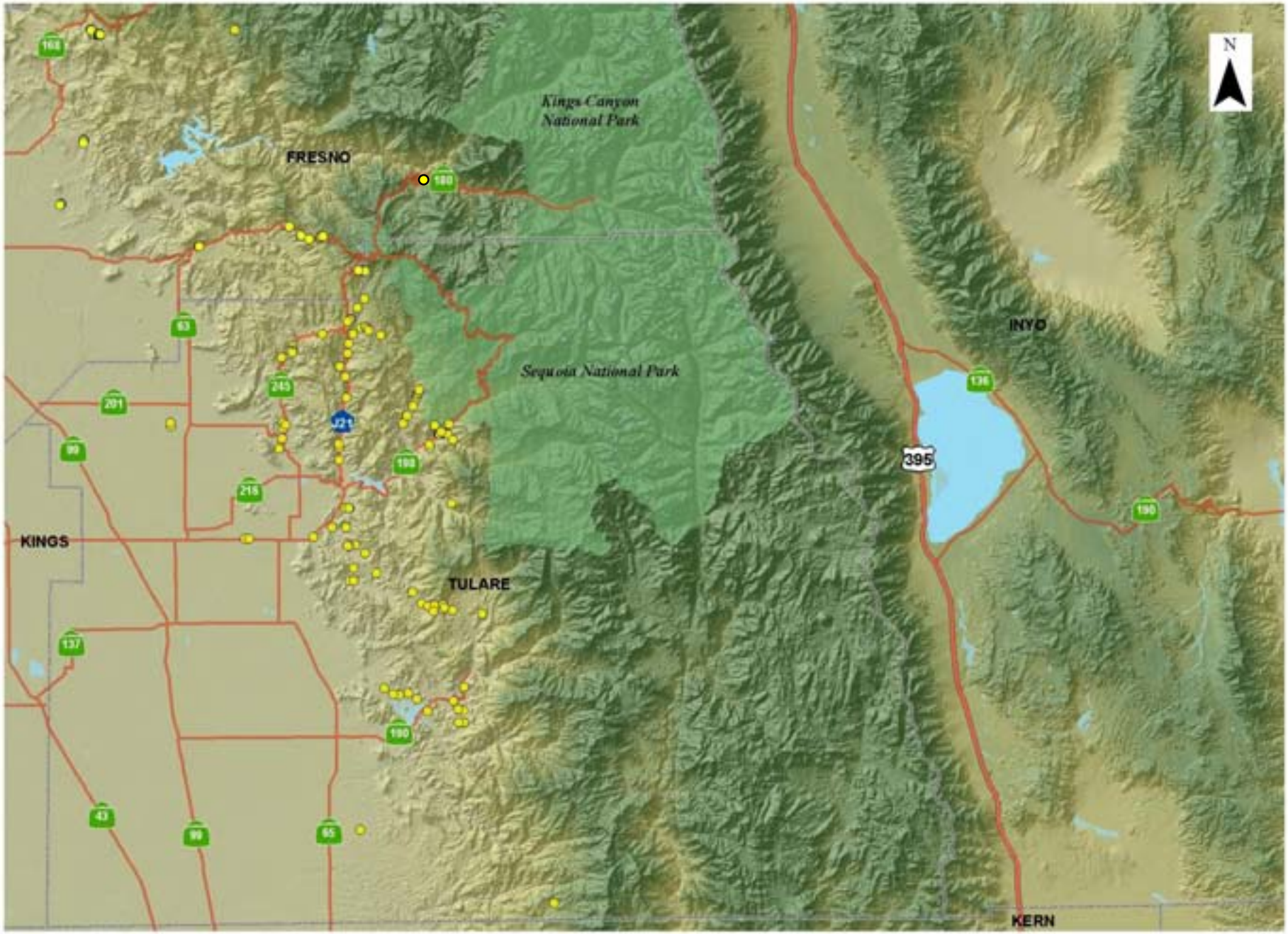


Current Weed Threat

Current Weed Threat

Future Weed Threat




Kings Canyon National Park
Sequoia National Park
FRESNO
KINGS
TULARE
INYO
KERN
N
0
10
20 Miles
Yellow Starthistle
cdfa

Strategies for the Leading Edge

- Prevention
- Early Detection/Rapid Response
- Partnerships and Outreach
- Eradicating Small Established Populations

Strategies for the Leading Edge

- Prevention


CAT

Sequoia and Kings Canyon
National Parks

National Park Service
U.S. Department of the Interior

Save The Wilderness: Brush Your Boots!

The tiny seeds of invasive non-native plants can hide in the soles of your shoes. Cleaning your shoes with this boot brush will prevent seeds from entering and exiting Sequoia and Kings Canyon National Parks.

The National Park Service is working hard to maintain the biological integrity of the area you are about to enjoy but we need your responsible stewardship to be successful. Wilderness populations of invasive plants can be very hard to control once introduced by hikers or stock. These ecologically dangerous plants have the potential to create dense monocultures that disrupt native ecosystems. Help the next place you are heading to by brushing your boots off as you leave the trail.

Are you harboring an invasive? Invasive plant populations can get their start from just one seed. **Please use the boot brush** and keep this natural area healthy.

Strategies for the Leading Edge

- Early Detection/Rapid Response


WEED ALERT!
Yellow Star Thistle

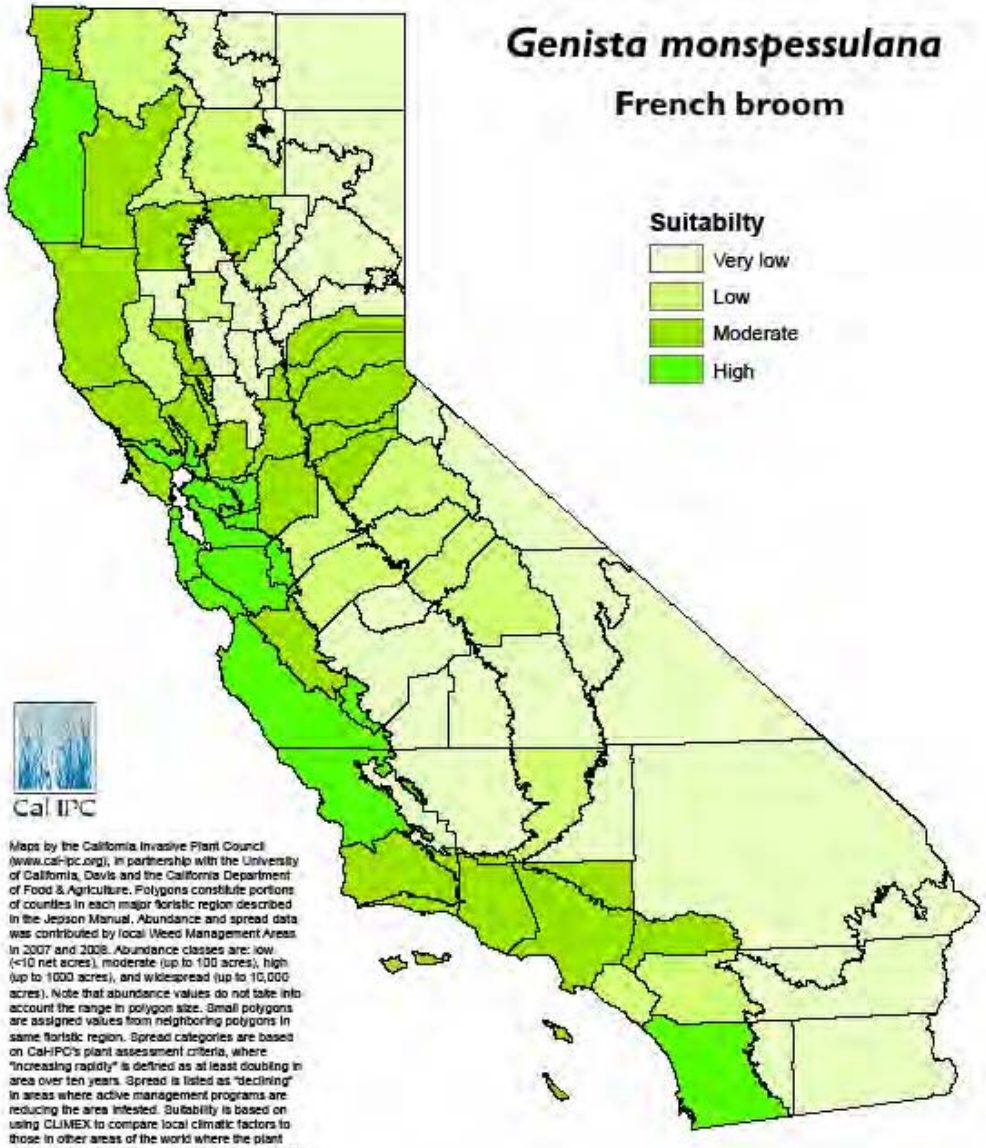

Nikon

Develop Early Detection Strategy

- Develop watch list
- Prioritize species
- 865,257 acres: narrow the search frame
- Prioritize sites:
  - vectors, high value resources
- Consider climate change
  - sites and species

Assessing Risk of Invasive Plant Spread

Current Climate Scenario

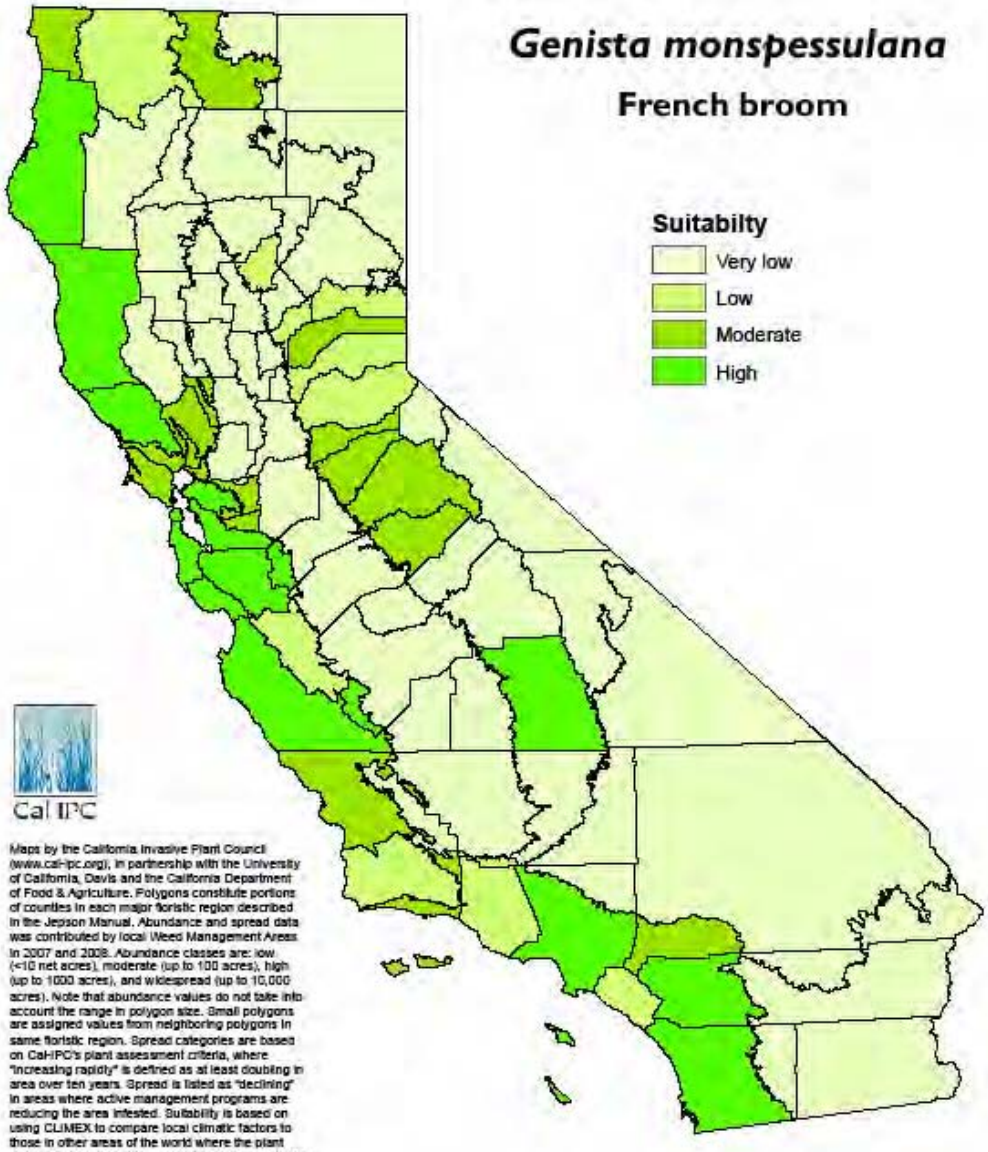


Cal IPC

Maps by the California Invasive Plant Council (www.cal-ipc.org), in partnership with the University of California, Davis and the California Department of Food & Agriculture. Polygons constitute portions of counties in each major floristic region described in the Jepson Manual. Abundance and spread data was contributed by local Weed Management Areas in 2007 and 2008. Abundance classes are: low (<10 net acres), moderate (up to 100 acres), high (up to 1000 acres), and widespread (up to 10,000 acres). Note that abundance values do not take into account the range in polygon size. Small polygons are assigned values from neighboring polygons in same floristic region. Spread categories are based on Cal-IPC's plant assessment criteria, where "increasing rapidly" is defined as at least doubling in area over ten years. Spread is listed as "declining" in areas where active management programs are reducing the area infested. Suitability is based on using CLIMEX to compare local climatic factors to those in other areas of the world where the plant grows. Suitability is shown only for polygons with no known presence.

Assessing Risk of Invasive Plant Spread

Climate Change Scenario (+3°C)



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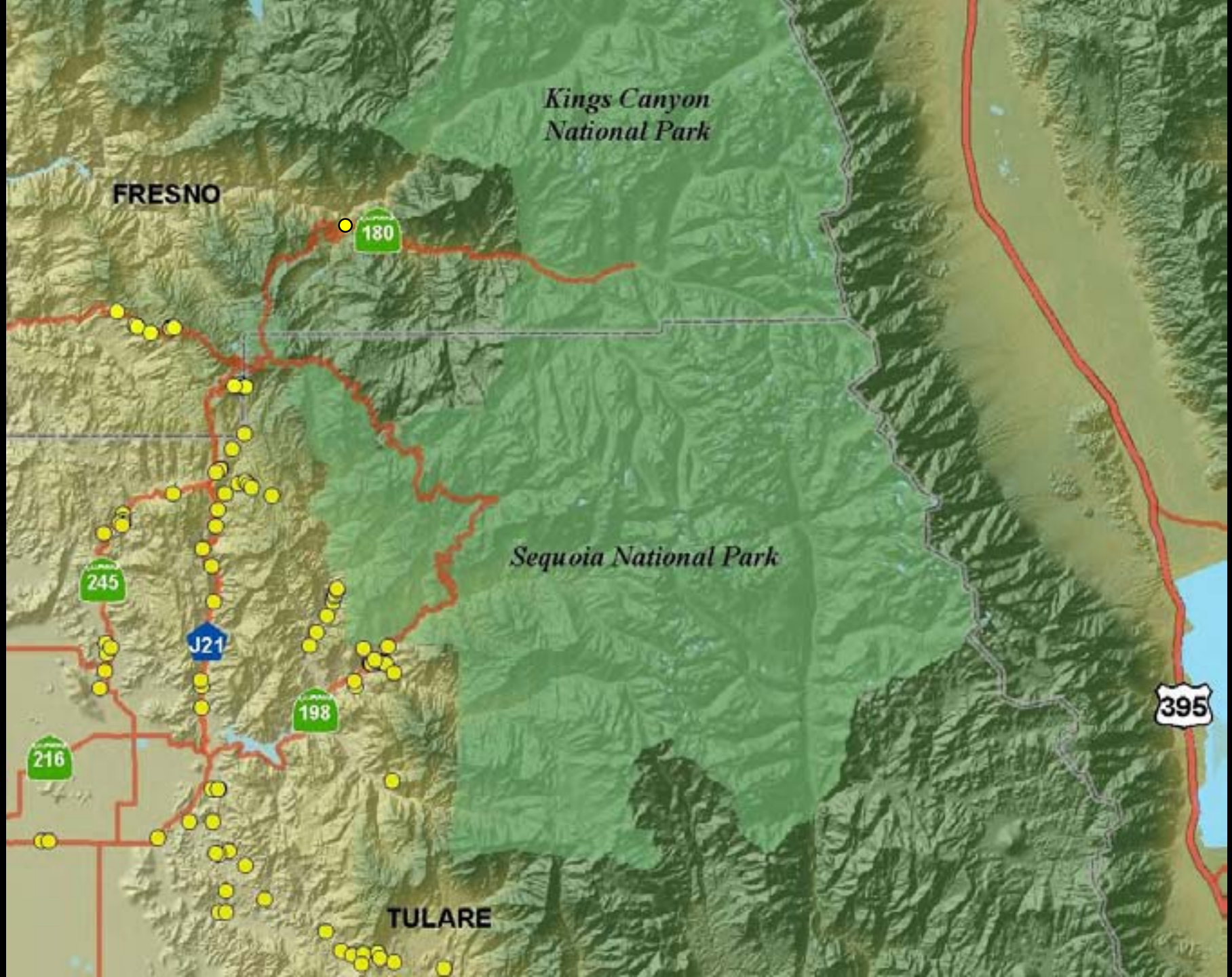
Develop Early Detection Strategy

- Develop watch list
- Prioritize species
- 865,257 acres: narrow the search frame
- Prioritize sites:
  - vectors, resources-at-risk, high value resources
- Consider climate change
  - Species and sites
- Develop search rotation and staffing plan
- Find funding or reallocate resources

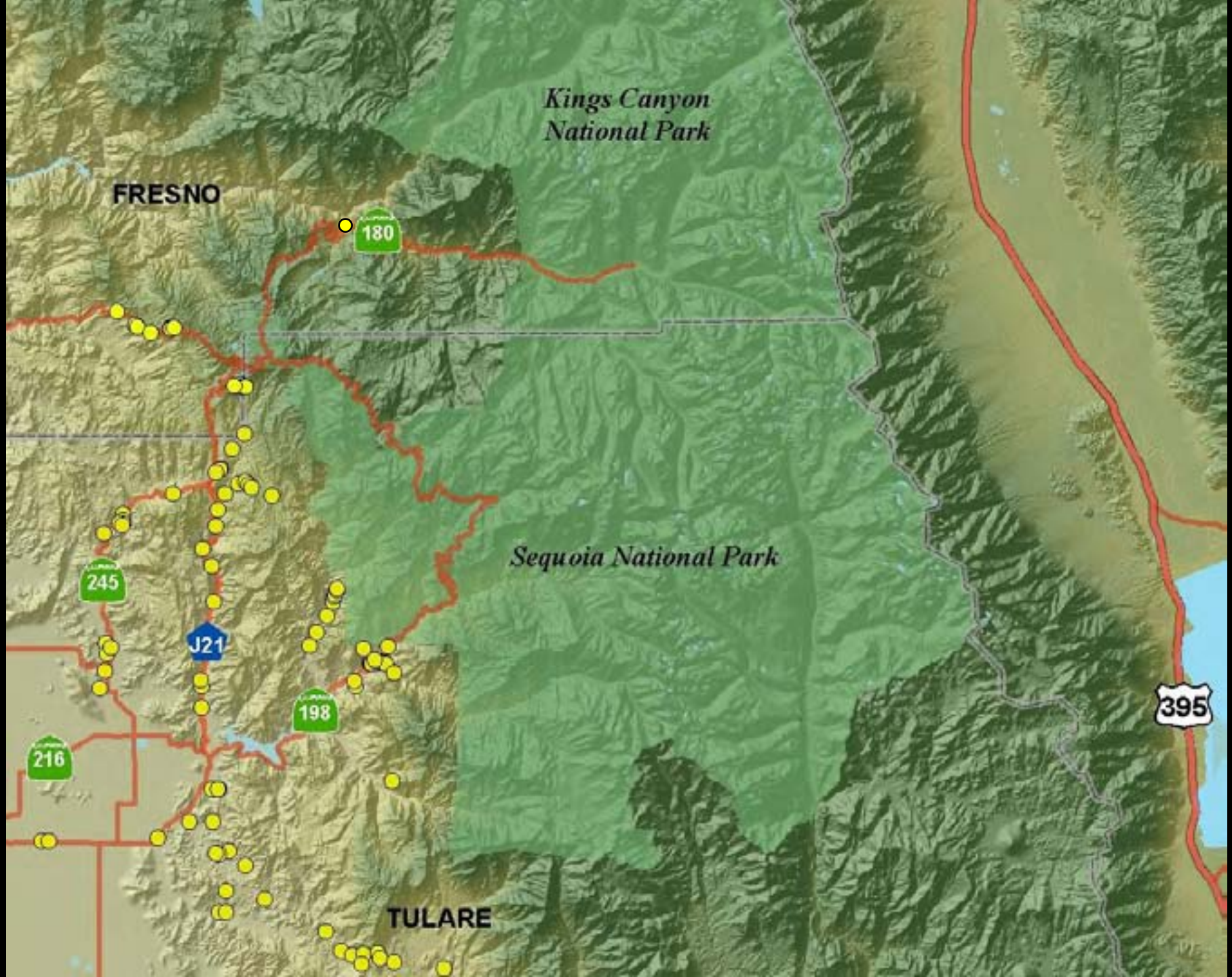
Strategies for the Leading Edge

- **Partnerships and Outreach**


Kings Canyon
National Park
FRESNO
180
Sequoia National Park
245
J21
198
216
395
TULARE


Invasive Weeds of
Tulare County


SCHABEN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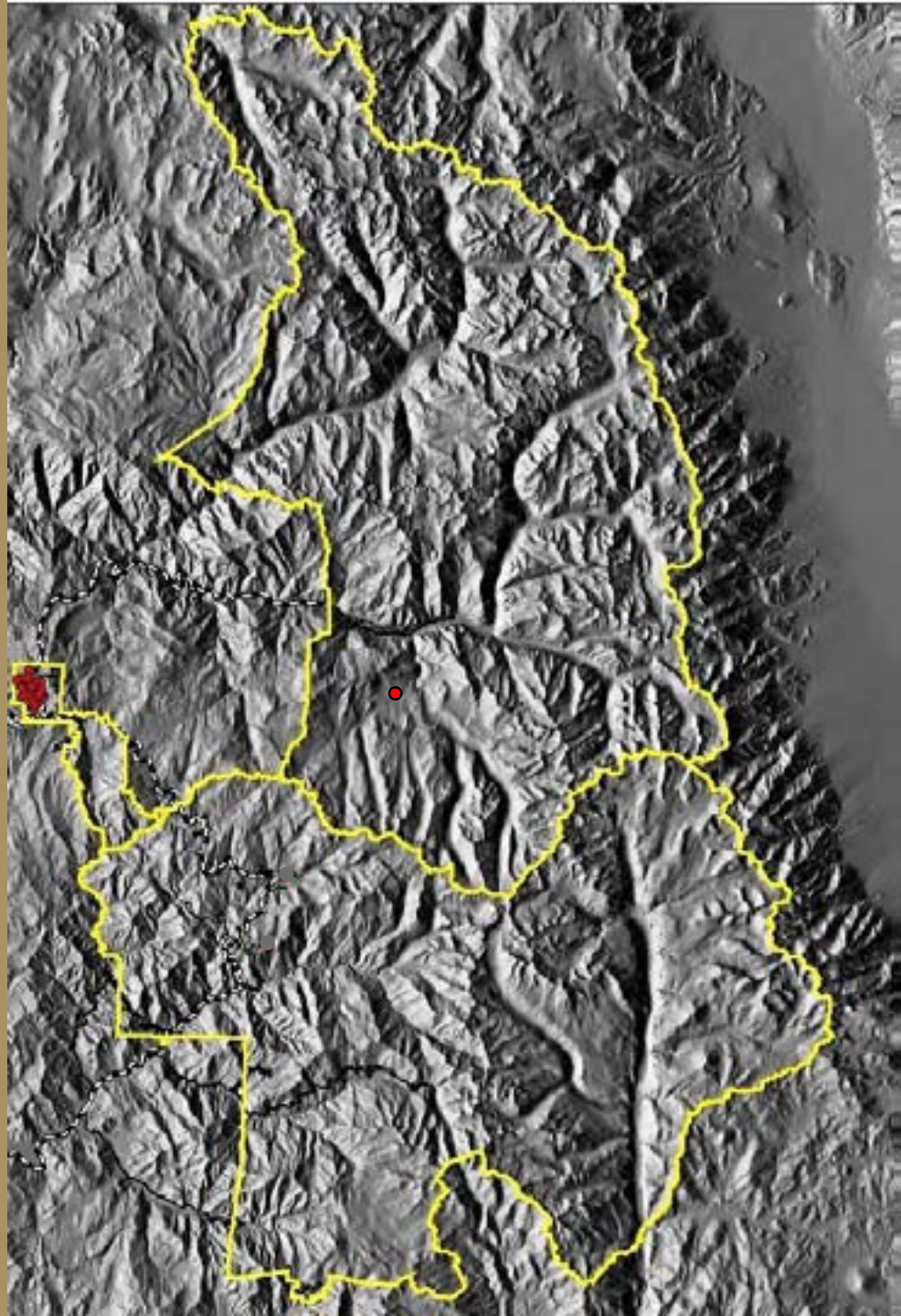
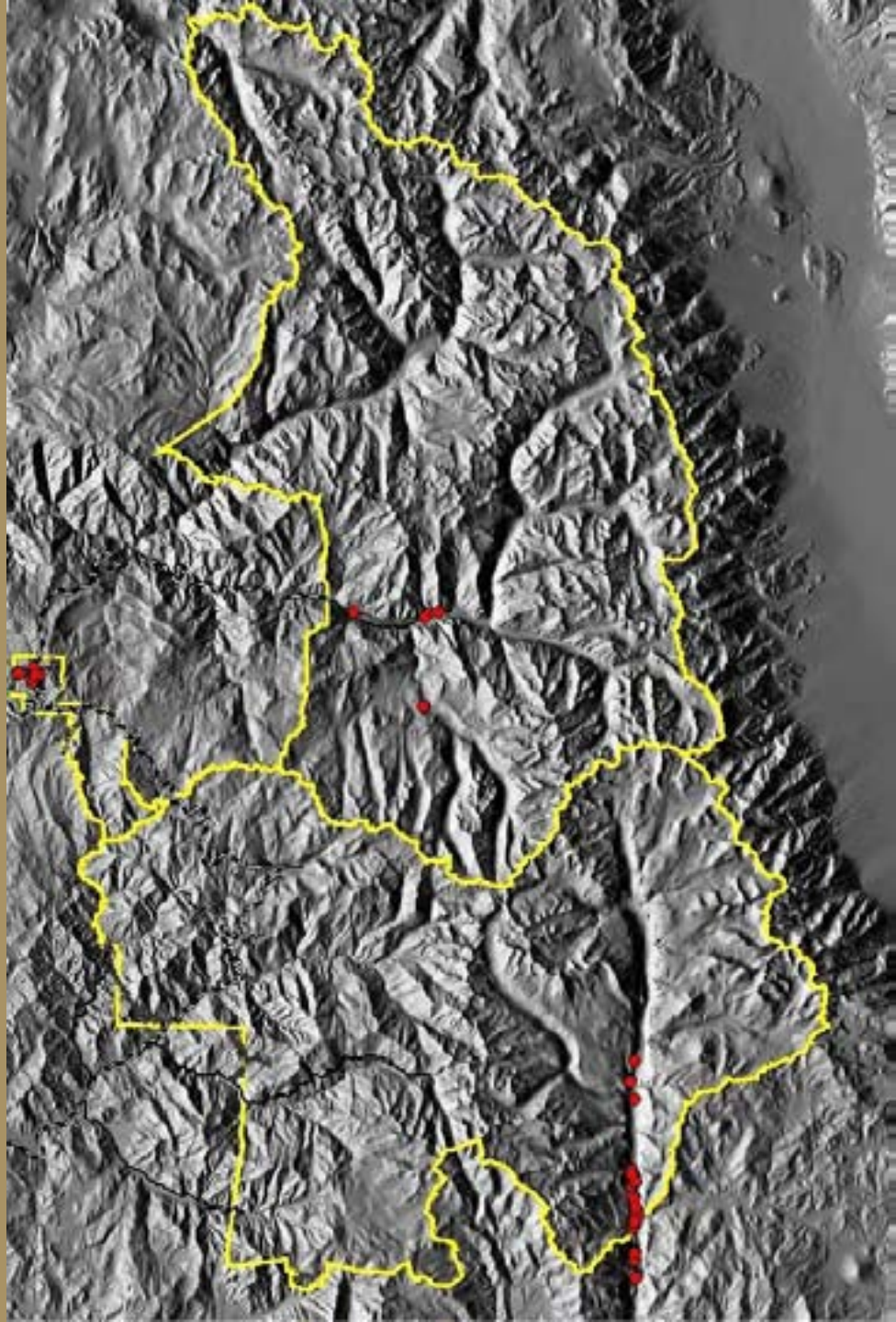
Strategies for the Leading Edge

- Eradicating Small Established Populations

Reed Canarygrass Locations



Velvet Grass Locations



Resource Allocation to EDRR

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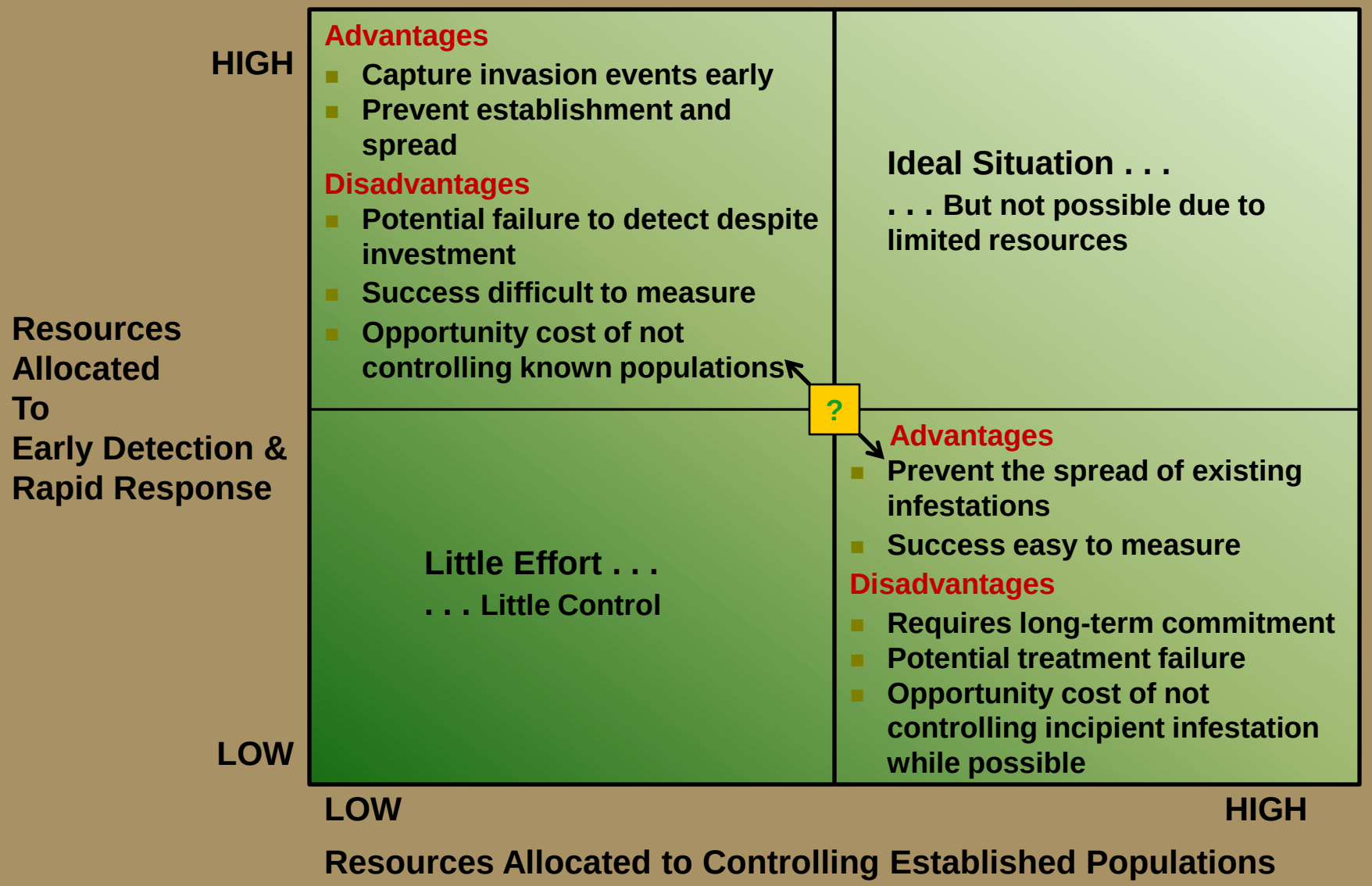

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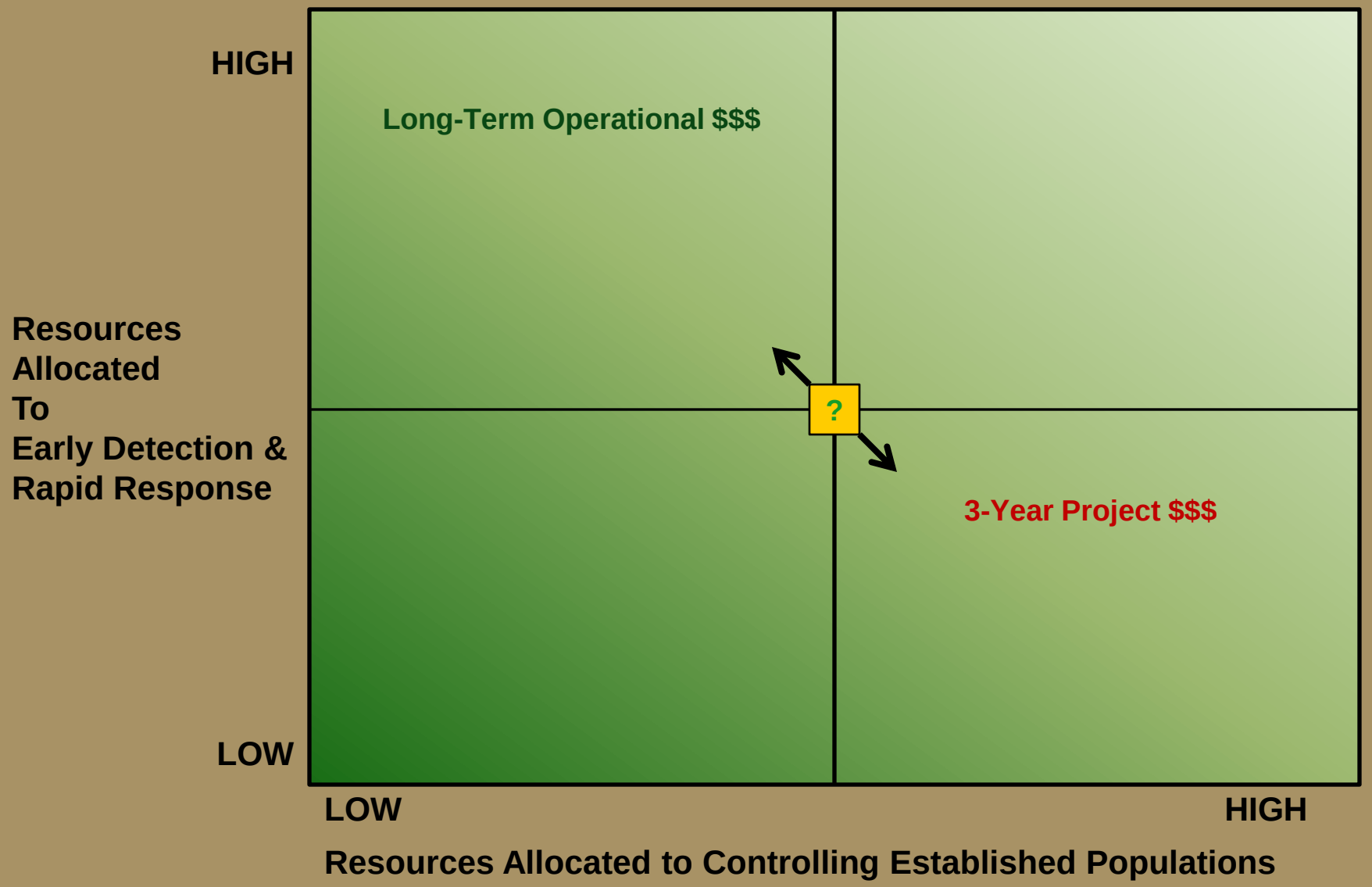

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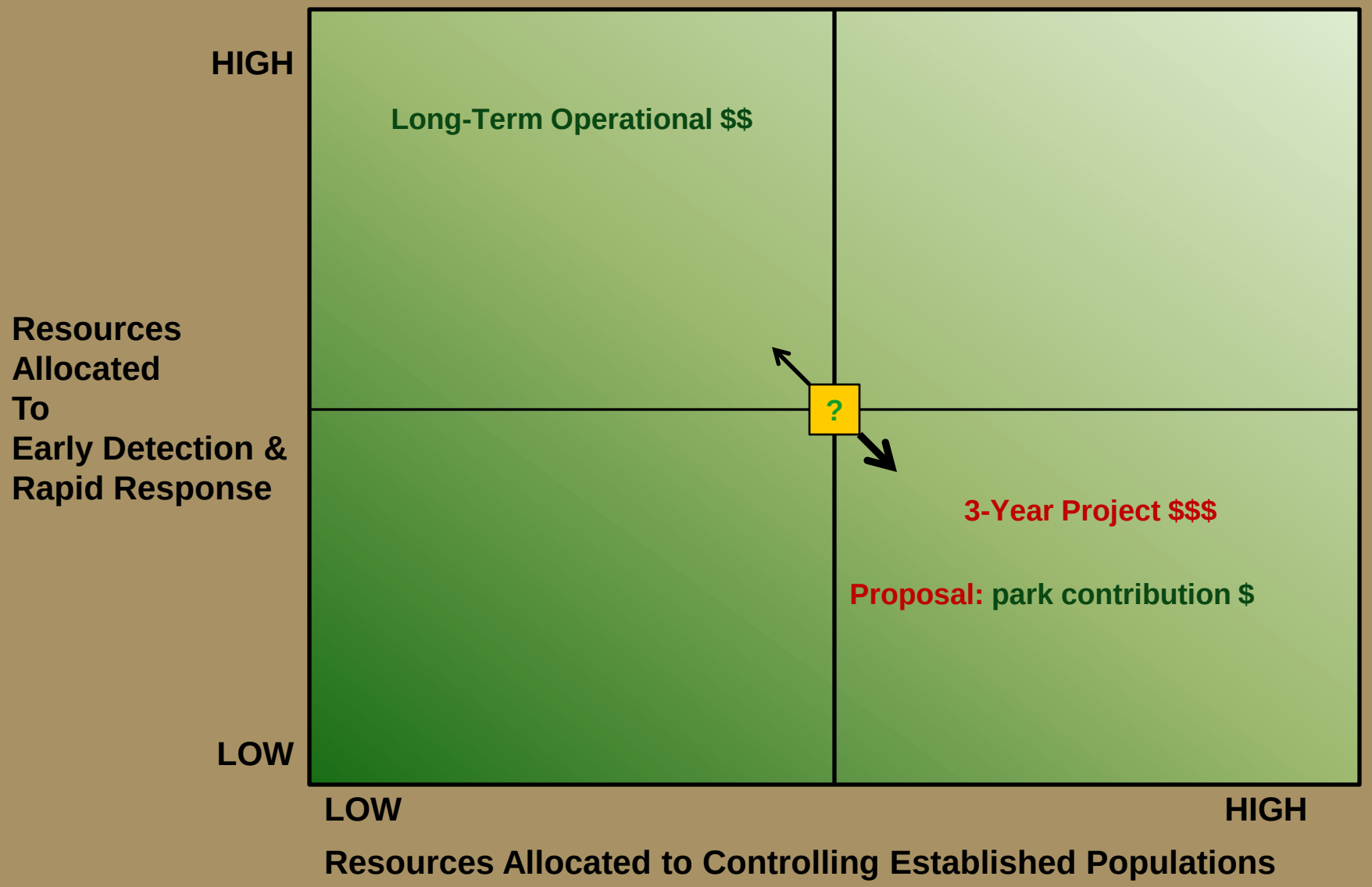

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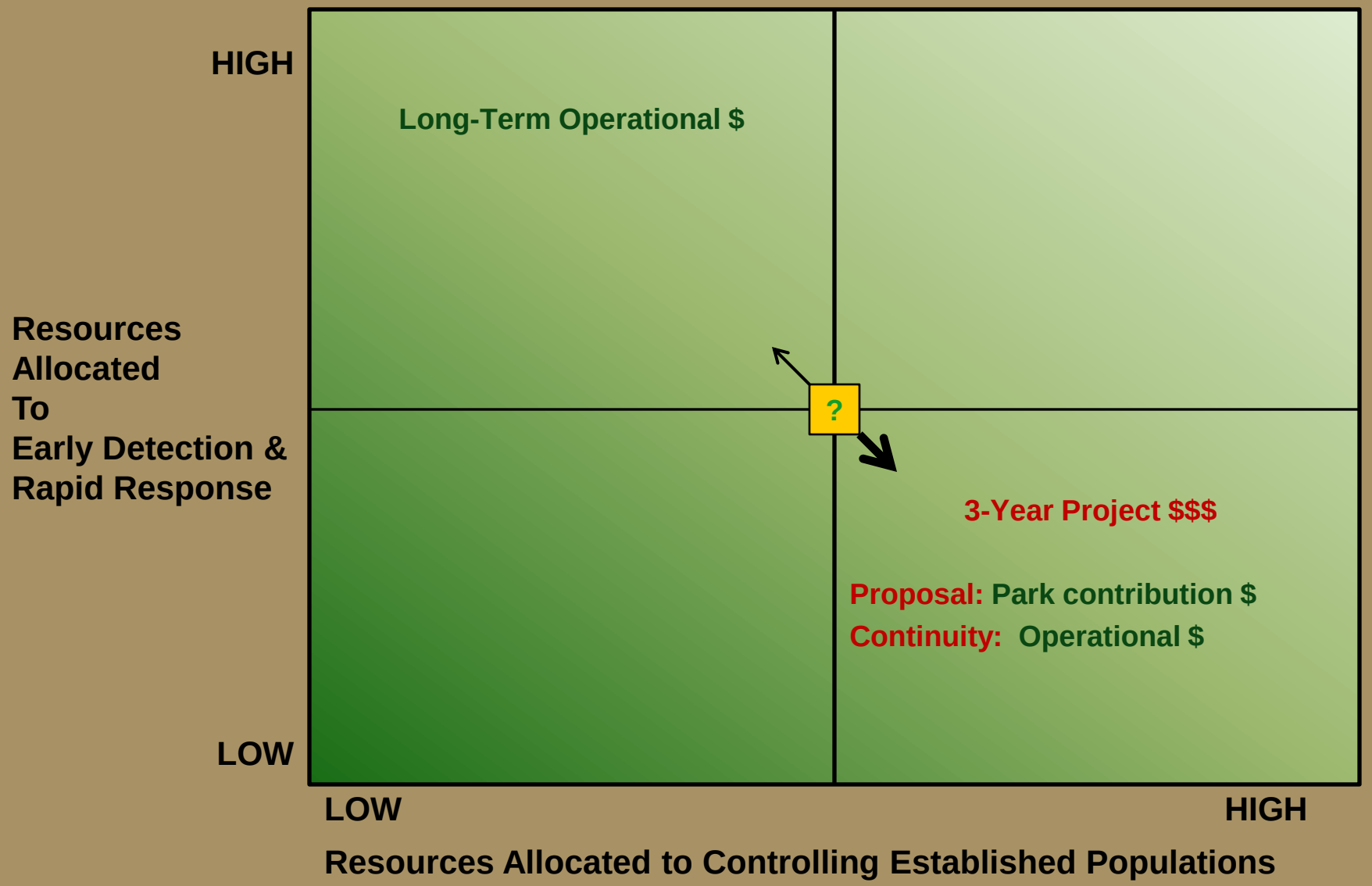

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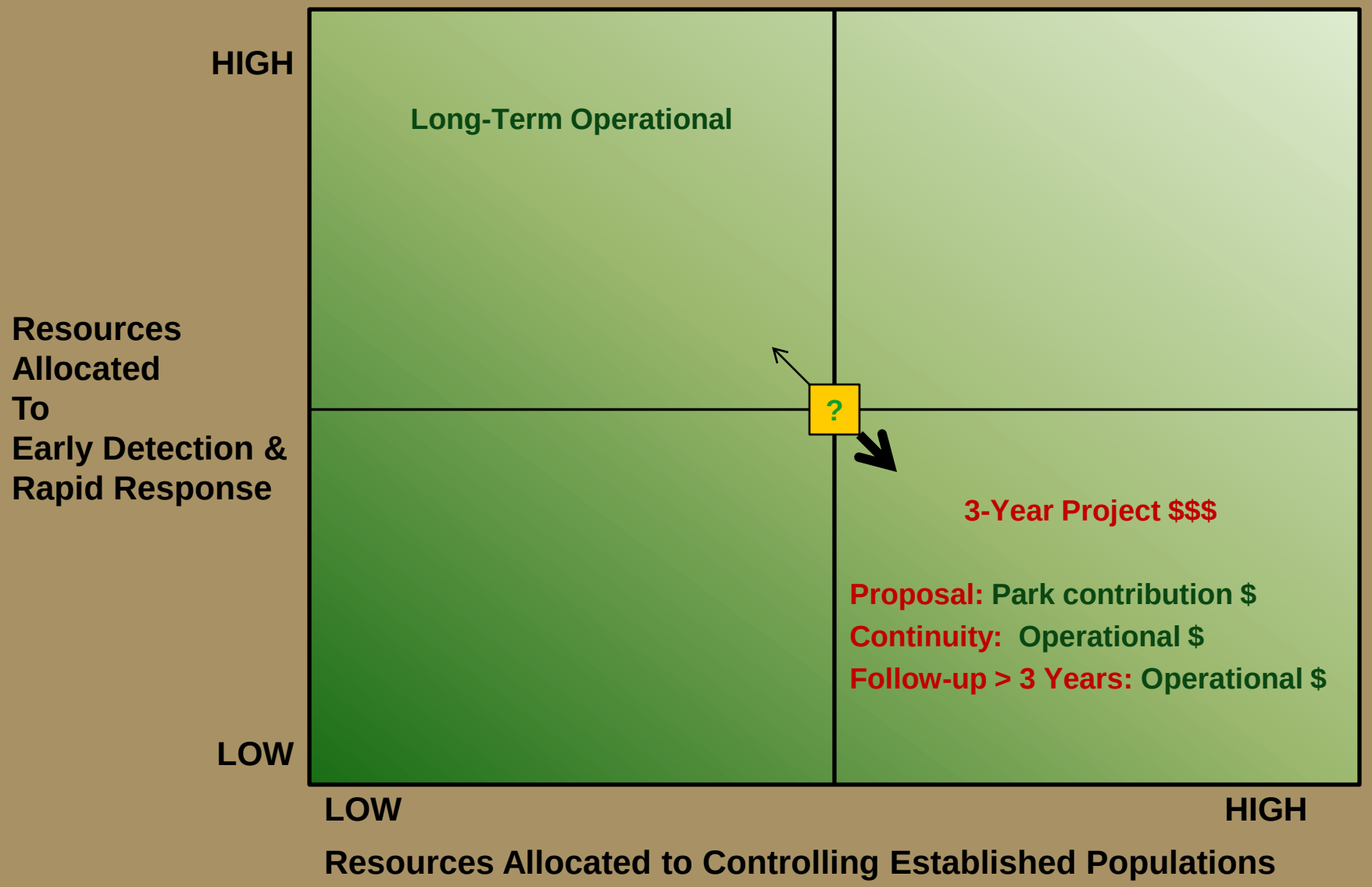

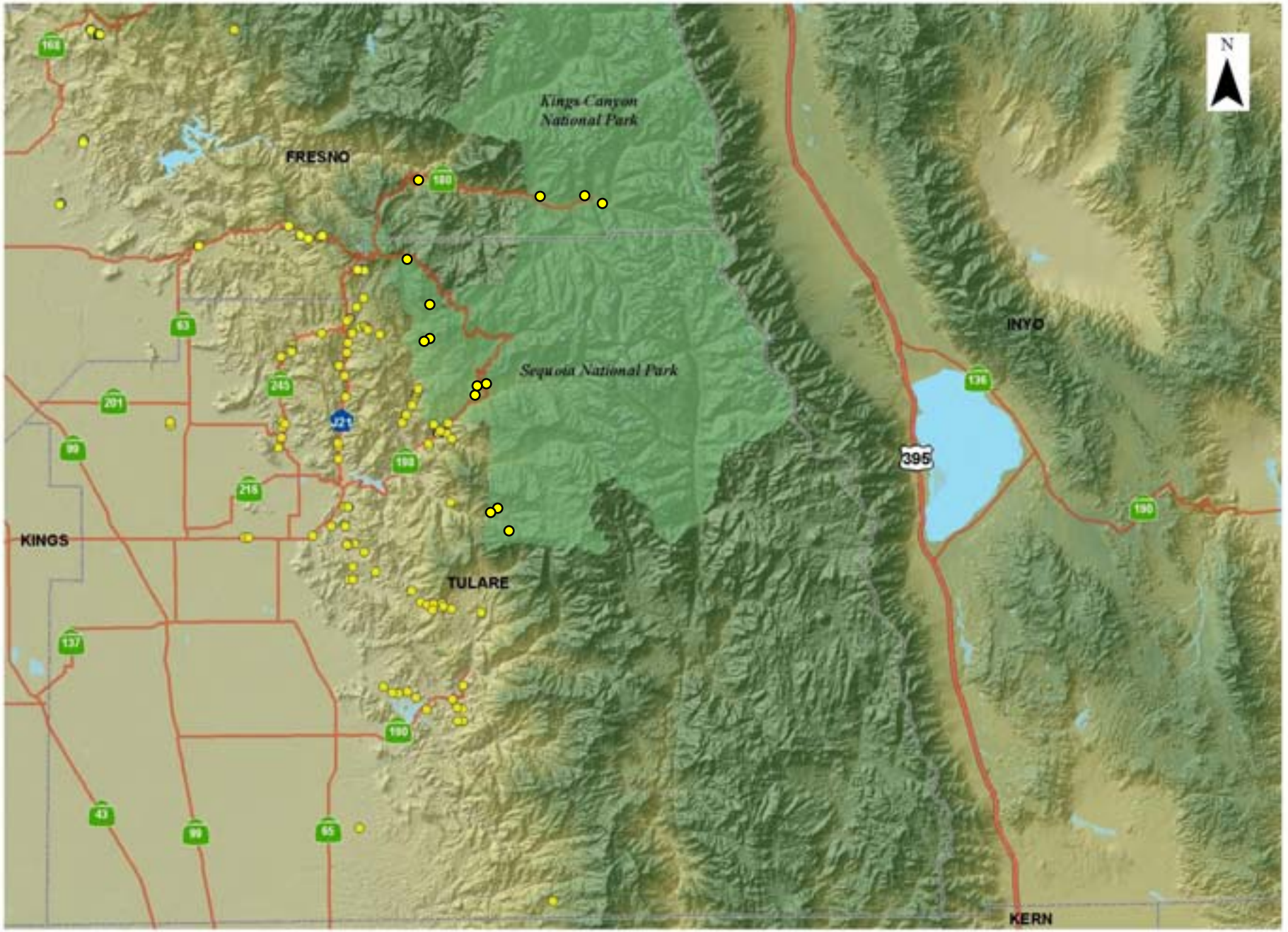
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Map Updated: 09/29/2009
Map Prepared By: Andreana Yribe
Data Provided by CDFA, County Ag Offices, WMA's, NFS, RCD's and other concerned entities.

Acknowledgements

Photos and Graphics

Steve Bumgardner
Erin Degenstein
Jonathan Humphrey
Bob Meadows
Lizo Meyer
Gary Muerle
Elizabeth Palmer
Richard Thiel
Wendy West
Erika Williams

2009 Weed Crew

Richard Thiel
Jonathan Humphrey
Erin Degenstein
Lizo Meyer
Ginger Bradshaw
Paul D'Agnolo
Jennifer Jordan
Melanie Keeley
Bob Meadows
Gary Muerle
Adam Pegorsch
Patrick Rizzo
Ryan Russie
Glen Ryerson
Mick Scruggs
Brian Werner
Tom Warner
American Conservation Experience
Backcountry Horsemen
High Sierra Unit
Sequoia Unit