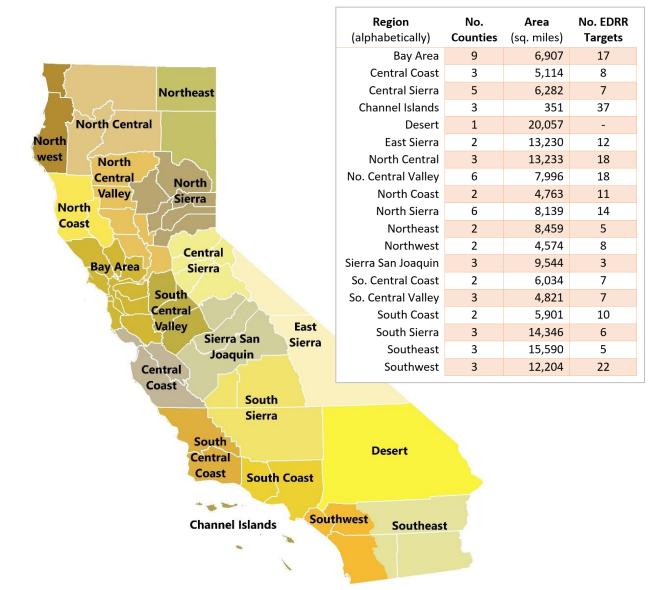
## **Regional Invasive Plant EDRR Targets**

#### October 2021



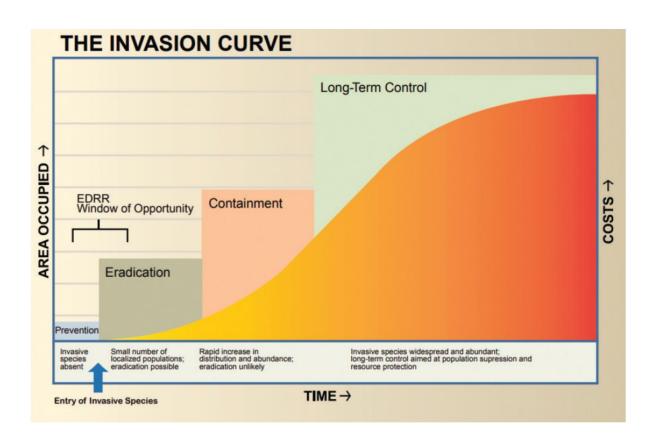
David Kratville, CDFA State Weed Coordinator, <a href="mailto:david.kratville@cdfa.ca.gov">david.kratville@cdfa.ca.gov</a>
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#### Counties across California are working to control a range of invasive plant species.

Some of these species are considered **EDRR targets**. EDRR stands for early detection and rapid response, an approach of addressing new problem species before they become widespread. Working on EDRR target species is one of the most effective ways to reduce the impact of invasive plants. EDRR addresses invasive plants "early on the invasion curve" during the window of opportunity when containment, even eradication, remain viable and cost-effective options.



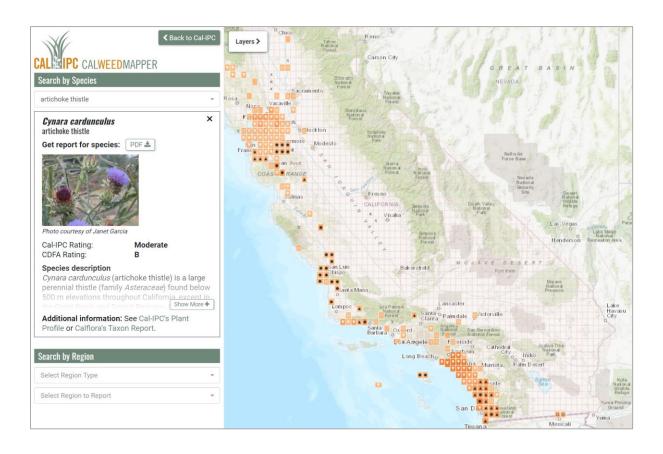
We surveyed **County Agricultural Commissioners (CACs)** and collaborative **Weed Management Areas (WMAs)** in regions across the state to find out what EDRR target species they are working on. We focused on weed species that are present in less than 10% of the region as the most likely targets for an EDRR approach. The summary tables in this report show the results. (More detailed spreadsheets for each region are available as well.) These tables illustrate the important work going on across the state. There are, of course, more potential EDRR target species that are not being working on due to insufficient resources.

To be successful, EDRR requires working across jurisdictional boundaries at the landscape level. That is what makes collaborative WMAs so important. They bring together all the agencies, landowners, and stakeholders needed to stop the spread of invasive plants in a region.

#### Invasive plant EDRR in California helps...

- Safeguard our natural infrastructure
- Strengthen climate resiliency
- Protect our water resources
- Decrease wildfire risk
- Preserve biodiversity
- Maintain our agricultural production
- Provide recreational opportunities

This work supports many of the state's goals, from the 30x30 Initiative to the Climate Plan to the Wildlife Action Plan. For more, see this 2020 report on the importance of invasive plant EDRR in California. To see the spread of these and other invasive plants in California, see the online maps at CalWeedMapper.



#### **Regional EDRR summaries**

The tables on the following pages show the current EDRR targets in each region. The regions are organized alphabetically. For more information, contact the project leads listed on the first page. Below we list the most common target species across the regions, with photos of a few.

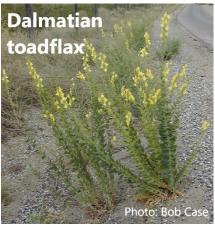
#### Most frequent targets:

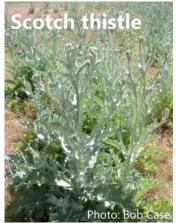
spotted knapweed (14 regions)
Dalmatian toadflax (10)
Scotch thistle (10)
yellow starthistle (8)
skeleton weed (8)
Canada thistle (8)
perennial pepperweed (8)
diffuse knapweed (7)
giant reed (6)
artichoke thistle (6)













#### **Definitions for Invasive Plant Ratings**

CDFA and Cal-IPC use different rating systems to rank invasive plants. CDFA ratings serve as policy guidelines and Cal-IPC ratings are ecological impact assessments. The regional summaries reference these ratings. Current ratings are available from <a href="CDFA">CDFA</a> and <a href="Cal-IPC">Cal-IPC</a>.

CDFA Rating	Definition
А	A pest of known economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment.
Q	An organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.
В	A pest of known economic or environmental detriment and, if present in California, it is of limited distribution.
С	A pest of known economic or environmental detriment and, if present in California, it is usually widespread.
W	This notation indicates that a plant is included in the CCR Section 4500 list of California State Noxious Weeds.

Cal-IPC Rating	Definition
High	These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Moderate	These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
Limited	These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
Alert	An Alert is listed on species with High or Moderate impacts that have limited distribution in California but may have the potential to spread much further.
Watch	These species have been assessed as posing a high risk of becoming invasive in the future in California.

# **Bay Area:** Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment	Containment	Oncosiphon pilulifer	stinknet	Q	High
Containment	Containment	Centaurea stoebe ssp. micranthos	spotted knapweed	W	High
Containment	Control	Helianthus tuberosus	Jerusalem artichoke	-	Watch
Control	Containment	Onopordum illyricum	Illyrian thistle	W	Watch
Control	Control	Limonium duriusculum	European sea lavender	В	Moderate
Control	Control	Centaurea iberica	Iberian starthistle	W	
Control		Cuscuta japonica	Japanese dodder	W	
Control		Centaurea diffusa	diffuse knapweed	W	Moderate
Control		Limnobium spongia	South American spongeplant	W	High-Alert
Control*	Control	Fallopia japonica	Japanese knotweed	А	Mod-Alert
Control*	Control	Chondrilla juncea	rush skeletonweed	W	Moderate
Control*		Arctotheca calendula	fertile capeweed	Α	Mod-Alert
Control*		Linaria dalmatica ssp. dalmatica	Dalmatian toadflax	W	Moderate
	Control	Crupina vulgaris	bearded creeper	Α	Limited
	Control	Spartina anglica	common cordgrass	W	Mod-Alert
	Control	Cestrum parqui	green cestrum	-	Watch
	Partial Control	Genista monosperma	bridal broom	W	Mod-Alert

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

**Control\*:** This plant is currently controlled by the majority of counties in the region but not all. **Partial Control:** A few populations in the region are being controlled but there is no focused control effort.

#### Central Coast: Monterey, San Benito, and Santa Cruz Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment	Containment	Chondrilla juncea	skeleton weed	W	Moderate
Containment	Containment	Stipa brachychaeta	punagrass	W	Watch
Containment	Containment	Onopordum acanthium	Scotch thistle	W	High
Control		Cytisus striatus	Portugese broom	В	Moderate
Control		Cynara cardunculus	artichoke thistle	W	Moderate
Control		Cirsium arvense	Canada thistle	W	Moderate
Control*		Tribulus terrestris	puncture vine	W	Limited
	Control	Brassica tournefortii	Sahara mustard	С	High

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

**Control\*:** This plant is currently controlled by the majority of counties in the region but not all.

#### Central Sierra: Alpine, Amador, Calaveras, El Dorado, and Tuolumne Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment		Carduus acanthoides	plumeless thistle	W	Limited
Containment		Onopordum acanthium	Scotch thistle	W	High
Containment		Ulex europaeus	gorse	W	High
Containment		Lythrum salicaria	purple loosestrife	W	High
Containment		Centaurea calcitrapa	purple starthistle	W	Moderate
Containment		Isatis tinctoria	dyer's woad	W	Moderate
Control		Carthamus Ianatus	woolly distaff thistle	W	High

**Containment:** We do not allow any net spread of this plant.

## East Sierra: Inyo and Mono Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment	Containment	Linaria dalmatica	dalmatian toadflax	W	Moderate
Containment	Containment	Elymus caput-medusae	medusahead	W	High
Containment	Containment	Alhagi maurorum	camelthorn	W	Moderate
Containment	Containment	Centaurea solstitialis	yellow starthistle	W	High
Containment	Containment	Tamarix parviflora	smallflower tamarisk	W	High
Control	Control	Onopordum acanthium	Scotch thistle	W	High
Control	Control	Centaurea diffusa	diffuse knapweed	W	Moderate
Control	Control	Acroptilon repens	Russian knapweed	W	Moderate
Control	Control	Centaurea maculosa	spotted knapweed	W	High
Control	Control	Arundo donax	giant reed	W	High
Control	Control	Cirsium arvense	Canada thistle	W	Moderate
Control	Control	Lepidium appelianum	hairy whitetop	W	Limited

**Containment:** We do not allow any net spread of this plant.

### North Central: Shasta, Siskiyou, and Trinity Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment		Fallopia japonica	Japanese knotweed	Α	Mod-Alert
Containment		Cynara cardunculus	artichoke thistle	W	Moderate
Containment		Centaurea calcitrapa	purple starthistle	W	Moderate
Containment		Dittrichia graveolens	stinkwort	W	Mod-Alert
Containment		Chondrilla juncea	skeleton weed	W	Moderate
Control		Aegilops cylindrica	jointed goatgrass	W	Watch
Control		Sesbania punicea	scarlet wisteria	W	High
Control		Salvia aethiopis	Mediterranean sage	W	Limited
Control		Euphorbia oblongata	eggleaf spurge	W	Limited
Control		Aegilops triuncialis	barb goatgrass	W	High
Control		Centaurea jacea ssp. pratensis	meadow knapweed	W	Mod-Alert
Control		Acroptilon repens	Russian knapweed	W	Moderate
Control		Tribulus terrestris	puncture vine	W	Limited
Control		Euphorbia virgata	leafy spurge	W	High
Control		Linaria vulgaris	yellow toadflax	-	Moderate
Control		Phytolacca americana	common pokeweed	-	Limited
Control		Silybum marianum	milk thistle	-	Limited
Control*		Arundo donax	giant reed	W	High

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

**Control\*:** This plant is currently controlled by the majority of counties in the region but not all.

# **North Central Valley:** Colusa, Glenn, Sacramento, Sutter, Tehama, and Yolo Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Control		Linaria dalmatica ssp. dalmatica	Dalmatian toadflax	W	Moderate
Control		Carduus nutans	musk thistle	W	Moderate
Control		Onopordum acanthium	Scotch thistle	W	High
Control		Limnobium spongia	South American spongeplant	W	High
Control		Carthamus Ianatus	woolly distaff thistle	W	High
Control		Solanum eleangifolium	white horsenettle	W	
Control		Carduus acanthoides	plumeless thistle	W	Limited
Control		Centaurea stoebe ssp. micranthos	spotted knapweed	W	High
Control		Euphorbia oblongata	oblong spurge	W	Limited
Control		Cynara cardunculus	artichoke thistle	W	Moderate
Control		Acroptilon repens	Russian knapweed	W	Moderate
Control		Centaurea diffusa	diffuse knapweed	W	Moderate
Control		Isatis tinctoria	dyer's woad	W	Moderate
Control		Linaria vulgaris	yellow toadflax, butter and eggs	-	Moderate
Control		Cynoglossum officinale	houndstongue	-	Moderate
Control		Ludwigia peploides	creeping water- primrose	-	High
Control*		Parentucellia viscosa	yellow glandweed, sticky parentucellia	-	Limited
Control*		Eichhornia crassipes	water hyacinth	-	High

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

**Control\*:** This plant is currently controlled by the majority of counties in the region but not all.

### North Coast: Lake and Mendocino Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment		Galega officinalis	professorweed	Α	Watch
Containment		Lepidium appelianum (= Cardaria pubescens)	hairy whitetop	W	Limited
Containment		Chondrilla juncea	skeleton weed	W	Moderate
Containment		Onopordum acanthium	Scotch thistle	W	High
Containment		Isatis tinctoria	dyer's woad	W	Moderate
Containment		Cynara cardunculus	artichoke thistle	W	Moderate
Control		Fallopia sachalinensis	giant knotweed	Α	Mod- Alert
Control		Acaena novae-zelandiae	biddy-biddy	W	Watch
Control		Linaria dalmatica ssp. dalmatica	dalmatian toadflax	W	Moderate
Control		Lythrum salicaria	purple loosestrife	W	High
Control		Ulex europaeus	gorse	W	High

**Containment:** We do not allow any net spread of this plant.

## North Sierra: Butte, Nevada, Placer, Plumas, Sierra, and Yuba Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment		Euphorbia myrsinites	myrtle spurge	Α	
Containment		Halogeton glomeratus	halogeton	В	Moderate
Containment		Carduus acanthoides	plumeless thistle	W	Limited
Containment		Berteroa incana	hoary alyssum	W	Watch
Containment		Carthamus lanatus	woolly distaff thistle	W	High
Containment		Ulex europaeus	gorse	W	High
Containment		Euphorbia virgata (= Euphorbia esula)	leafy spurge	W	High
Containment		Centaurea virgata ssp. squarrosa	squarrose knapweed	W	Moderate
Containment		Centaurea calcitrapa	purple starthistle	W	Moderate
Containment		Linaria dalmatica ssp. dalmatica	Dalmatian toadflax	W	Moderate
Control		Aegilops cylindrica	jointed goatgrass	W	Watch
Control		Cynara cardunculus	artichoke thistle	W	Moderate
Control		Potentilla recta	sulphur cinquefoil	W	
Control		Euphorbia oblongata	oblong spurge	W	Limited

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

#### Northeast: Lassen and Modoc Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment		Centaurea calcitrapa	purple starthistle	W	Moderate
Containment		Centaurea virgata ssp. squarrosa	squarrose knapweed	W	Moderate
Control		Carduus acanthoides	plumeless thistle	W	Limited
Control		Chondrilla juncea	skeleton weed	W	Moderate
Control		Euphorbia virgata (= Euphorbia esula)	leafy spurge	W	High

**Containment:** We do not allow any net spread of this plant.

#### Northwest: Del Norte and Humboldt Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment	Containment	Fallopia xbohemica	Bohemian knotweed	Α	Watch
Containment	Control	Carthamus lanatus	woolly distaff thistle	W	High
Containment	Partial control	Limnobium spongia	South American spongeplant	W	High
Control		Watsonia meriana	bulbil watsonia	-	Limited
	Containment	Tamarix ramosissima	saltcedar	W	High
	Containment	Lepidium latifolium	perennial pepperweed	W	High
	Control	Euphorbia oblongata	eggleaf spurge	W	Limited
	Control	Lythrum salicaria	purple loosestrife	W	High

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

Partial Control: A few populations in the region are being controlled but there is no focused control effort.

### Sierra San Joaquin: Fresno, Madera, and Mariposa Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal IPC Rating
Control		Chondrilla juncea	skeleton weed	W	Moderate
Control		Centaurea maculosa	spotted knapweed	W	High
Control		Lepidium latifolium	perennial pepperweed	W	High

#### South Central Coast: Santa Barbara and San Luis Obispo Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal IPC Rating
Control		Euphorbia virgata	leafy spurge	W	High
Containment		Ononis alopecuroides	foxtail restharrow	W	Limited
Containment		Linaria dalmatica	dalmatian toadflax	W	Moderate
Containment		Onopordum acanthium	Scotch thistle	W	High
Containment		Cirsium arvense	Canada thistle	W	Moderate
Control		Limonium duriusculum	European sea lavender	В	Moderate
Control		Emex spinosa	devil's thorn	-	Moderate

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

## South Central Valley: Merced, San Joaquin, and Stanislaus Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal IPC Rating
Containment		Arctotheca calendula	fertile capeweed	Α	Moderate
Containment		Alternanthera philoxeroides	alligatorweed	Α	High
Containment		Centaurea maculosa	spotted knapweed	W	High
Containment		Salvinia molesta	giant salvinia	W	High
Containment		Limnobium spongia	South American spongeplant	W	High
Containment		Chorispora tenella	purple mustard	W	-
Containment		Arctotheca prostrata	capeweed	-	Moderate

**Containment:** We do not allow any net spread of this plant.

### **South Coast:** Los Angeles and Ventura Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal-IPC Rating
Containment	Containment	Halogeton glomeratus	Halogeton	В	Moderate
Containment	Containment	Linaria dalmatica	dalmatian toadflax	W	Moderate
Containment	Containment	Onopordum acanthium	Scotch thistle	W	High
Containment	Containment	Centaurea maculosa	spotted knapweed	W	High
Containment	Containment	Pancratium maritimum	sea daisy	-	-
Containment	Control	Alternanthera philoxeroides	alligatorweed	Α	High
Containment	Control	Aegilops cylindrica	goat grass	W	Watch
Containment	Control	Carthamus lanatus	woolly distaff thistle	W	High
Containment	Control	Chondrilla juncea	skeleton weed	W	Moderate
Control	Control	Araujia sericifera	bladderflower	W	Watch

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

#### South Sierra: Kern, Kings, and Tulare Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal IPC Rating
Control		Alternanthera philoxeroides	alligatorweed	Α	High
Control		Halogeton glomeratus	Halogeton	В	Moderate
Control		Peganum harmala	African-rue	W	Watch
Control		Linaria dalmatica	dalmatian toadflax	W	Moderate
Control		Centaurea maculosa	spotted knapweed	W	High
Control		Onopordum acanthium	Scotch thistle	W	High

## Southeast: Imperial, eastern Riverside, and eastern San Diego Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal IPC Rating
Containment		Genista monspessulana	French broom	C-W	High
Containment		Alhagi maurorum	camelthorn	W	Moderate
Control		Volutaria tubuliflora	desert knapweed	Α	Limited
Control		Aegilops triuncialis	barb goatgrass	W	High
Control		Centaurea solstitialis	yellow starthistle	W	High

**Containment:** We do not allow any net spread of this plant.

### Southwest: Orange, western Riverside, and western San Diego Counties

CAC Regional Target	WMA Regional Target	Species	Common Name	CDFA Rating	Cal IPC Rating
Containment	Control	Volutaria tubuliflora	desert knapweed	Α	Limited
Containment		Carrichtera annua	Ward's weed	Α	Moderate
Containment		Hypericum canariense	Canary Island St. Johnswort	В	Moderate
Containment		Hypericum perforatum	St. John's wort	C-W	Limited
Containment		Centaurea maculosa	spotted knapweed	W	High
Containment		Euphorbia terracina	carnation spurge	W	Limited
Control	Partial Control	Parthenium hysterophorus	Santa Maria feverfew	Α	Watch
Control		Cenchrus echinatus	Southern sandbur	В	Watch
Control		Tamarix aphylla	athel	В	Limited
Control		Senecio linearifolius	fireweed groundsel	W	Watch
Control		Sesbania punicea	scarlet wisteria	W	High
Control		Aegilops triuncialis	barb goatgrass	W	High
Control		Araujia sericifera	bladderflower	W	Watch
	Containment	Arctotheca calendula	fertile capeweed	Α	Moderate
	Containment	Genista monosperma	bridal veil broom	W	Moderate
	Containment	Elymus caput-medusae	medusahead	W	High
	Control	Euphorbia virgata	leafy spurge	W	High
	Partial Control	Acacia baileyana	cootamundra wattle	-	Watch
	Partial Control	Eucalyptus cladocalyx	sugargum	-	Watch
	Partial Control	Kochia scoparia	kochia	-	Limited
	New	Saponaria officinalis	bouncing-bet	-	Limited
	New	Briza maxima	big quakinggrass	-	Limited

**Containment:** We do not allow any net spread of this plant.

**Control:** We control this plant, but not enough for region-wide containment.

Partial Control: A few populations in the region are being controlled but there is no focused control effort.

**New:** Beginning control of this plant.