

# NOXIOUS WEED DETECTION SURVEY and RAPID RESPONSE PLAN

Fire Name: Blue Cut Fire Month/Year: August 2016

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San Bernardino National Forest

## A. Background

Forest Service policy mandates the Forest to minimize the establishment of non-native invasive species to prevent unacceptable degradation of the burned area. It is necessary to conduct noxious weed detection surveys to evaluate the potential for spread from both existing populations and from the activities associated with fire suppression. Therefore, noxious and invasive weed detection surveys are proposed for the first year following the fires to verify the suspected infestations and determine the fires' potential impact on weed populations within the burned area. Giant reed (*Arundo donax*), wild oaks (*Avena* spp), cheat grass (*Bromus tectorum*), rip gut brome (*Bromus diandrus*), bull thistle (*Cirsium vulgare*), Uruguayan pampas grass (*Cortaderia selloana*), sweet fennel (*Foeniculum vulgare*), shortpod mustard (*Hirschfeldia incana*), broadleaved pepperweed (*Lepidium latifolium*), tree tobacco (*Nicotiana glauca*), Russian thistle (*Salsola tragus*), tumble mustard (*Sisymbrium altissimum*), Spanish broom (*Spartium junceum*), smilo grass (*Stipa miliacea*), and saltcedar (*Tamarix ramosissima*) are known to occur within the burn area and along access routes adjacent to the burn. During initial attack, an area occupied by yellow starthistle (*Centaurea solstitialis*) at Sycamore Station was briefly used as a staging area for suppression crews before being flagged off for avoidance. Many plant dispersal vectors such as Forest roads, high winds, and waterways occur within the fire area. Even though a weed washing station was utilized after two days of suppression activities, seed could have been transported into the burn on suppression vehicles and equipment that arrived on the fire before the washing station was established. Fire is known to enhance the establishment of all weed species present.

## B. Management Concerns

Noxious weed invasions interfere with habitat recovery and ecosystem health within burned areas and fire suppression sites. In particular, noxious weeds hinder the recovery of native habitat, especially in arid and riparian ecosystems, by aggressive colonization and reduction of water quality and quantity.

## C. Objectives

To determine if the fire and associated ground disturbing activities have promoted the establishment and spread of noxious weeds to the extent that eradication efforts are necessary. Early detection dramatically increases the likelihood of successful treatment. If weeds are detected, a supplemental request for BAER funds will be made for eradication.

## D. Parameters

Noxious weed presence, location, density, population size, and persistence.

## E. Locations

In and along roads, dozerlines, handlines, drop points, safety zones, riparian areas, and adjacent to known invasive plant populations.

Proposed Treatment Areas	
Dozerlines	31.5
Handlines	6.1
Riparian Corridors	69
Roads	77
Trail	29
	212.6

## **F. Weed Detection Survey Design and Methodology**

Surveys will begin in 2017 during the flowering periods of weed species. Because of differences in flowering times for all potential species, two visits will be required during the growing season. Many of the species of concern are annual weeds which should be removed in the first year to reduce potential for establishment and persistence. Completion of surveys in roads, dozerlines, riparian areas, staging areas, safety zones, and known invasive plant populations will be the first priority. The second survey priorities will be along hand lines, and drop points. Surveys of the general habitats in the burned area will be the lowest priority. Weed species will be mapped, using the San Bernardino NF, "Invasive Weeds" list (Appendix C).

Early detection surveying will include documentation of new occurrences. Weeds documented in new areas will be pulled to root depth, placed in sealed plastic bags, and properly disposed of or, in approved areas (Appendix B), treated with the appropriate and approved herbicide.

Documentation of new infestations will include:

- Mapping perimeter of new infestations
- Filling out Weed Element Occurrence Form (Appendix A)
- Treatment method required
- Incorporating data into local GIS spatial database
- Entering data into National Resource Information System (NRIS) database
- Entering data into FACTS database
- Evaluating success of treatment in subsequent inspections

## **G. Reporting**

If weed introduction and spread has occurred to the point that funding provided in the detection cost is not sufficient, an interim BAER report will be completed to request eradication funding. Reporting costs are included in figures below.

## **H. Weed Detection Surveys for One Year**

Weed detection surveys to determine whether ground disturbing activities related to the Blue Cut fire have resulted in the expansion of noxious weeds is requested for the first year. Estimated costs are based on the assumption that two visits would be necessary because of the differences in flowering times. If timing is such that all the target species are detectable and treatable in one visit, the actual costs would be lower.

## **I. Follow-up Actions**

Design and implement follow-up treatments as needed. Plan for integrated weed management and NEPA analysis using non-BAER funding.

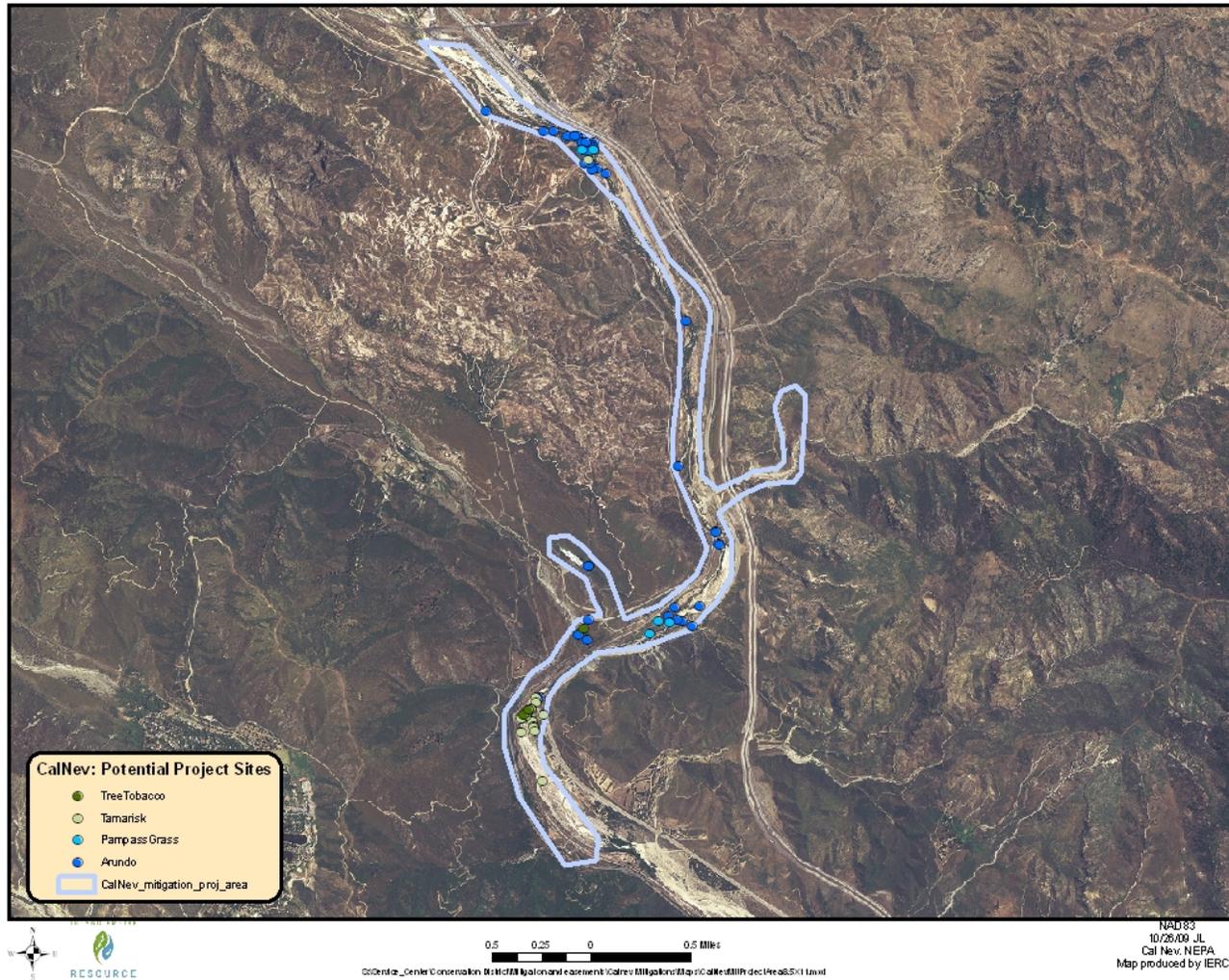
# APPENDIX A

USDA Forest Service  
**Weed Occurrence Form**  
 Region\_5 Forest: Angeles District: \_\_\_\_\_

Species: \_\_\_\_\_ Date: \_\_\_\_\_ ID confidence \_\_\_\_\_ % ID Auth: Hickman et al., 1993

<b>Project</b>	Current land use:
<b>Surveyor</b>	Current/potential threats:
<b>Directions to site:</b>	Other biota: _____ None
	<b>Existing EO?</b> Yes No # _____
	<b>Entire extent of pop mapped?</b> Y N
	Photographer
<b>Site descrip:</b>	Repository
	Vouch spec # _____ Repository
	Look-alike species: _____ None
	Research needs
(circle) <b>Point Polygon Line</b>	
<b>GPS Unit:</b> XT GeoEx3 Ipaq1 Ipaq2 Mag # _____ Thales Other	Conserv/Mngt concerns
GPS Staff ID:	# _____ <b>individuals, genets</b> est, precise
<b>Unique ID #:</b> # _____pts/poly4EO	Vigor? vfeeble feeble normal vigor exvirg N/A Method:
Northing: _____ Easting: _____	(circle) Disease Predation Herbivory None
Elevation (feet):	Explain
<b>Quad name:</b>	Distribution/Density: prominent common scattered patchy rare
<b>T-R-S:</b> T R S ¼ of ¼ of	<b>Gross (Total) area:</b> est, precise <b>Infested (Weed cover only) area :</b>
Slope Min. _____% Max _____%	<b>Cover: Sp.</b> _____% <b>Grd</b> _____%
Aspect (°):	
Substrate:	<b>Phenology</b> method: est, count
Soil text: sand, loam, silt, clay, other	% seedlings % leaf % bud
<b>Moisture regime:</b> mesic xeric hydric	% flwr %immat frt % mature frt
Soil moisture: dry moist saturated inundated seasonal seepage other	% dispersing seed % senescent
<b>Horz dist. to H2O</b> vert.	<b>Treated before:</b> Y N
Light expos: full sun part shade full shade	<b>Method of treatment:</b>
<b>Veg series:</b>	Fr suc: Exlt Gd Marg Pr Unkn Fair None
Ass. tree/shrubs:	Germ suc: Exlt Gd Marg Pr Unkn Fair None
Canopy: _____% Shrub: _____%	Repro: Exlt Gd Marg Pr Unkn Fair None
Forb: _____%	Dispersal: Exlt Gd Marg Pr Unkn Fair None
<b>Assoc plants (include other non-natives):</b>	Estab: Exlt Gd Marg Pr Unkn Fair None
	Veg suc: Exlt Gd Marg Pr Unkn Fair None
	Fl suc: Exlt Gd Marg Pr Unkn Fair None
	General observations
<b>Disturbance:</b>	Condition: Exlt Gd Marg Pr Unkn Fair None
	Quality: Exlt Gd Marg Pr Unkn Fair None
	Defense: Exlt Gd Marg Pr Unkn Fair None
	Rank: Exlt Gd Marg Pr Unkn Fair None
	Viability: Exlt Gd Marg Pr Unkn Fair None

**APPENDIX B:** Map of CalNev Mitigation Project Decision Area Where Herbicide Application Was Approved around Cajon Wash from HWY 138 south to Keenbrook Crossing



**APPENDIX C: Invasive plants to watch for on the San Bernardino NF**

<b>TABLE 1. INVASIVE / NON-NATIVE PLANT SPECIES OF THE SBNF</b>					
<b>SPECIES NAME</b>	<b>COMMON NAME</b>	<b>HABITATS</b>	<b>Cal IPC rating for potential impact on native ecosystems</b>	<b>CDFA Noxious weed list</b>	<b>OCCURRENCE DOCUMENTED IN BLUE CUT BURN AREA</b>
<b>HIGH Potential to spread explosively</b>					
<i>Arundo donax</i>	giant reed	Washes, riparian	High	X	X
<i>Brassica tournefortii</i>	African mustard	washes, alkaline flats, Sonoran desert scrub	High		X
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	shrublands, grasslands, desert scrub	High		X
<i>Bromus tectorum</i>	Cheat grass	sagebrush, pinyon juniper woodlands, etc.	High		X
<i>Centaurea solstitialis</i>	yellow star thistle	grasslands	High	X	
<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	spotted knapweed	riparian, grassland, meadows, forest syn. <i>Centaurea maculosa</i>	High	X	
<i>Cortaderia selloana</i>	pampas grass	grasslands, wetlands, etc.	High		X
<i>Cortaderia jubata</i>	Purple pampas grass	Disturbed sites, many habitats, especially coastal	High	X	
<i>Cytisus scoparius</i>	Scotch broom	Disturbed sites, many habitats	High	X	
<i>Delairea odorata</i>	German ivy	coastal shrublands, riparian	High	X	
<i>Eichhornia crassipes</i>	water hyacinth	waterways	High ♦		
<i>Egeria densa</i>	Brazilian waterweed	Streams, ponds, sloughs, Lake Fulmor record	High		
<i>Foeniculum vulgare</i>	wild fennel	grasslands, shrublands	High		X
<i>Hedera helix</i> (A)	English ivy	coastal and mountain forests, riparian	High		
<i>Hedera helix</i> ssp. <i>canariensis</i>	Canary ivy	Woodland, chaparral, disturbed areas	High		
<i>Hydrilla verticillata</i>	hydrilla, waterthyme	Ditches, canals, ponds, reservoirs, lakes	High ♦	X	
<i>Lepidium latifolium</i>	Perennial pepper weed	Moist, seasonally wet places	High	X	X
<i>Myriophyllum aquaticum</i>	Parrotfeather	wetlands	High ♦		
<i>Myriophyllum spicatum</i>	Eurasian milfoil, Water milfoil, American milfoil, spike watermilfoil	Ditches, lakes, lake margins, Big Bear L record.	High		

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<i>Rubus discolor</i>	Himalayan blackberry	riparian, marshes, woodlands	High		
<i>Spartium junceum</i>	Spanish broom	roadsides, canyons, widespread	High	X	X
<i>Tamarix chinensis, T. gallica, T. parvifolia, T. ramosissima</i>	tamarisk, salt cedar	desert washes, riparian, springs.	High	X	X
<b>MODERATE potential to impact native ecosystems</b>					
<i>Acroptilon repens</i>	Russian knapweed	Fields, roadsides	Moderate	X	
<i>Ailanthus altissima</i>	tree of heaven	riparian, grasslands, oak woodlands	Moderate	X	X
<i>Ageratina adenophora</i>	eupatory	coastal slopes and canyons, riparian	Moderate		
<i>Atriplex semibaccata</i>	Australian saltbush	grasslands, shrublands, alkali wetlands	Moderate		X
<i>Asphodelus fistulosus</i>	asphodel	Disturbed areas, fields, highways	Moderate ♦		
<i>Avena barbata, A. fatua</i>	slender wild oat	coastal slopes, coastal sage scrub, disturbed	Moderate		X
<i>Brassica nigra</i>	black mustard	coastal grasslands, disturbed areas	Moderate		X
<i>Bromus diandrus</i>	ripgut brome	many habitat types	Moderate		X
<i>Carduus nutans</i>	Musk thistle	Roadsides, pastures, waste areas	Moderate		
<i>Carduus pycnocephalus</i>	Italian thistle	widespread	Moderate	X	
<i>Centaurea melitensis</i>	tocolote	widespread	Moderate	X	X
<i>Cirsium vulgare</i>	bull thistle	riparian, marshes, meadows	Moderate	X	X
<i>Conium maculatum</i>	poison hemlock	riparian, oak woodlands	Moderate		
<i>Cynodon dactylon</i>	Bermuda grass		Moderate		
<i>Dipsacus fullonum, D. sativus</i>	Fuller's teasel	roadsides and other disturbed sites	Moderate		
<i>Elaeagnus angustifolia</i>	Russian olive	interior riparian	Moderate		
<i>Eucalyptus globulus</i>	Tasmanian blue gum	riparian, grasslands	Moderate		
<i>Festuca arundinacea</i>	tall fescue	coastal scrub, grasslands	Moderate		
<i>Ficus carica</i>	edible fig	riparian woodlands	Moderate		
<i>Hirschfeldia incana</i>	Short-pod mustard	Roadsides, creek bottoms, disturbed areas	Moderate		X
<i>Holcus lanatus</i>	velvet grass	coastal grasslands, wetlands	Moderate		
<i>Hordeum murinum</i>	barley	Moist, generally disturbed sites	Moderate		
<i>Kochia scoparia</i>	Mex. fireweed, Summer	Disturbed places, fields, roadsides, Big	Moderate		

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	cypress, common red sage	Bear L record Syn. <i>Bassia scoparia</i>			
<i>Linaria genistifolia</i> ssp. <i>dalmatica</i>	Dalmatian toad flax	mountain meadows, forest floor	Moderate	X	
<i>Lepidium chalepensis</i>	Lens-pod whitetop	Pastures, riverbanks, disturbed areas	Moderate ♦	X	
<i>Lolium multiflorum</i> , <i>L. perennemultiflorum</i>	ryegrass	meadows and other wetlands, persistent if sown post-fire	Moderate		
<i>Nicotiana glauca</i>	Tree tobacco	Coastal scrub, washes, roadsides	Moderate		X
<i>Oxalis pes-caprae</i> (A)	Bermuda buttercup	disturbed grasslands	Moderate		
<i>Pennisetum setaceum</i> (A)	fountain grass	roadsides, grasslands, etc.	Moderate		
<i>Phalaris aquatica</i>	Harding grass	coastal, mesic soils	Moderate		
<i>Potamogeton crispus</i>	Curly leaf pondweed	ponds, lakes, streams	Moderate		
<i>Retama monosperma</i>	Bridal broom	Disturbed areas, alluvial fans; < 200 m Syn. <i>Genista monosperma</i>	Moderate ♦		
<i>Schedonorus phoenix</i>	Tall fescue	Disturbed places. Syn. <i>Festuca arundinacea</i> , <i>Schedonorus</i> <i>Arundinaceus</i> , <i>Lolium arundinaceum</i>	Moderate		
<i>Sisymbrium irio</i>	London rocket	roadsides, grasslands, etc.	Moderate		
<i>Vinca major</i>	periwinkle	riparian, oak woodland	Moderate		X
<i>Vulpia myuros</i>	Rat tail fescue	Common, open places, sandy soils	Moderate		
<b>LIMITED potential to impact native ecosystems</b>					
<i>Bassia hyssopifolia</i>	Bassia	alkaline habitats	Limited		
<i>Bromus hordeaceus</i>	Soft brome	Open disturbed places	Limited		
<i>Descurainia sophia</i>	tansy mustard	Mojave desert scrub	Limited		
<i>Erodium</i> sp.	Stork's bill	widespread	Limited		
<i>Hypochaeris glabra</i>	Smooth cat's ear	Disturbed areas	Limited		
<i>Medicago polymorpha</i>	California bur-clover	many habitat types	Limited		
<i>Olea europaea</i>	olive	riparian	Limited		
<i>Picris echioides</i>	bristly ox-tongue	disturbed sites, known near Lake	Limited		

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		Silverwood			
<i>Piptatherum miliaceum</i>	Smilo grass	creeks and canyons	Limited		
<i>Plantago lanceolata</i>	English plantain	Waste places, lawns, roadside	Limited		
<i>Polypogon monspeliensis</i>	Rabbits foot grass	Moist ditches, streams, moist disturbed areas	Limited		
<i>Prunus cerasifera</i>	cherry plum	oak woodland, riparian	Limited		
<i>Ricinus communis</i>	castor bean	coastal and interior, widespread	Limited		
<i>Robinia pseudoacacia</i>	black locust	riparian, canyons	Limited		
<i>Rumex crispus</i>	Curley dock	Disturbed places	Limited		
<i>Tamarix aphylla</i>	Athel tree	Washes, roadsides, RR ROWs	Limited		
<i>Salsola tragus</i>	Russian thistle	many habitats	Limited		X
<i>Salsola paulsenii</i>	barbwire Russian thistle	Mojave desert scrub, disturbed sites	Limited		
<i>Saponaria officinalis</i>	bouncing bet	meadows, riparian	Limited		
<i>Schinus molle</i>	Peruvian pepper tree	riparian, canyons	Limited		
<i>Schismus barbatus</i>	Mediterranean grass	coastal and desert shrublands	Limited		
<i>Schismus arabicus</i>	Arabian schismus	Dry open disturbed areas	Limited		
<i>Silybum marianum</i>	milk thistle	pasturelands, disturbed grasslands	Limited		
<i>Verbascum thapsus</i>	woolly mullein	widespread	Limited		
<b>Not listed by Cal-IPC</b>					
<i>Aegilops cylindrica</i>	Joined goatgrass	Dry, disturbed sites		X	
<i>Acacia baileyana</i>	Bailey's acacia	Roadsides, disturbed areas			
<i>Capsella bursa-pastoris</i>	Shepard's purse	Disturbed sites, gardens			
<i>Chenopodium album</i>	Lamb's quarters	widespread			
<i>Centaurea benedicta</i>	Blessed thistle	Roadsides, disturbed areas			X
<i>Convolvulus arvensis</i>	field bindweed	disturbed areas		X	
<i>Dimorphotheca sinuata</i>	cape marigold	sage scrub, alluvial fan scrub			
<i>Elytrigia elongata</i>	Tall wheatgrass	Roadsides, disturbed areas, slopes			
<i>Elytrigia intermedia</i>	Intermediate wheatgrass	Open areas, slopes			
<i>Euphorbia lathyris</i>	gopher plant	interior sage scrub			

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<i>Lathyrus latifolius</i>	Sweet pea	many habitat types			
<i>Lactuca serriola</i>	Prickly lettuce	disturbed areas			
<i>Lepidium perfoliatum</i>	clasping pepperweed	Roadsides, fields			X
<i>Lunaria annua</i>	dollar plant	riparian, forest, woodland			
<i>Malva neglecta</i>	Common mallow	disturbed sites, roadsides			
<i>Malva parviflora</i>	Cheeseweed mallow	disturbed sites, roadsides			
<i>Medicago sativa</i>	alfalfa	roadsides			
<i>Melilotus albus, M.officinalis</i>	sweet-clover	many habitat types, invading rapidly in Bear Valley, and along road between Lone pine canyon and Rt. 138			X
<i>Mentha spicata v. spicata</i>	spearmint	streamside			
<i>Nerium oleander</i>	oleander	persists/naturalizes in riparian			
<i>Pennisetum clandestinum</i>	Kikuyu grass	disturbed sites, roadsides			
<i>Poa bulbosa</i>	bulbous bluegrass	conifer forest and grassy mountain areas			
<i>Ranunculus testiculatus</i>	Curveseed butterwort	Waste areas, overgrazed pastures, scrub, canyons, washes, creek banks			
<i>Senecio vulgaris</i>	groundsel	Gardens, farmlands, other disturbed sites			
<i>Silene gallica</i>	Common catchfly	disturbed sites, roadsides			
<i>Solanum triflorum</i>	Cutleaf nightshade	Dry scrub, juniper woodland			
<i>Sonchus oleraceus</i>	Sow thistle	disturbed sites, roadsides, field			
<i>Sisymbrium altissimum</i>	Tumble mustard	disturbed sites, roadsides			X
<i>Tanacetum parthenium</i>	Feverfew	Known & being treated in grass valley			
<i>Taraxacum officinale</i>	dandelion	Lawns, fields, problem in <i>T. californicum</i> habitat			
<i>Tragopogon dubius</i>	Goat's beard	disturbed sites, roadsides, field			
<i>Tribulus terrestris</i>	puncture vine	dry disturbed areas		X	X
<p><b>Not Listed by Cal-IPC</b> - Plants for which current information does not adequately describe nature of threat to wildlands, distribution, or invasiveness. Further information is requested from knowledgeable observers.                      ♦ = Cal-IPC Alert</p> <p>** = noted as a problem invasive in at least one area of SBNF.</p>					

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\*\*\* = noted as a problem invasive in T&E habitat, important to manage in sensitive habitats

**CDF**A= California Department of Food and Agriculture. **Noxious weed** = any species of plant that is, or is liable to be, troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate, which the director, by regulation, designates to be a noxious weed. In determining whether or not a species shall be designated a noxious weed for the purposes of protecting silviculture or important native plant species, the director shall not make that designation if the designation will be detrimental to agriculture.