

Weed Free Forage and Mulch

The Imperfect Beast



Life is good!



Bobbi Simpson, National Park Service
October 29, 2015

Key Points

- Why WFF is so important
- Where we have come and where we are going
- Things we need to do to move the program in a direction that is able to be sustainably managed

Basics

WFF = WFF&M

WF Forage = hay & pellets

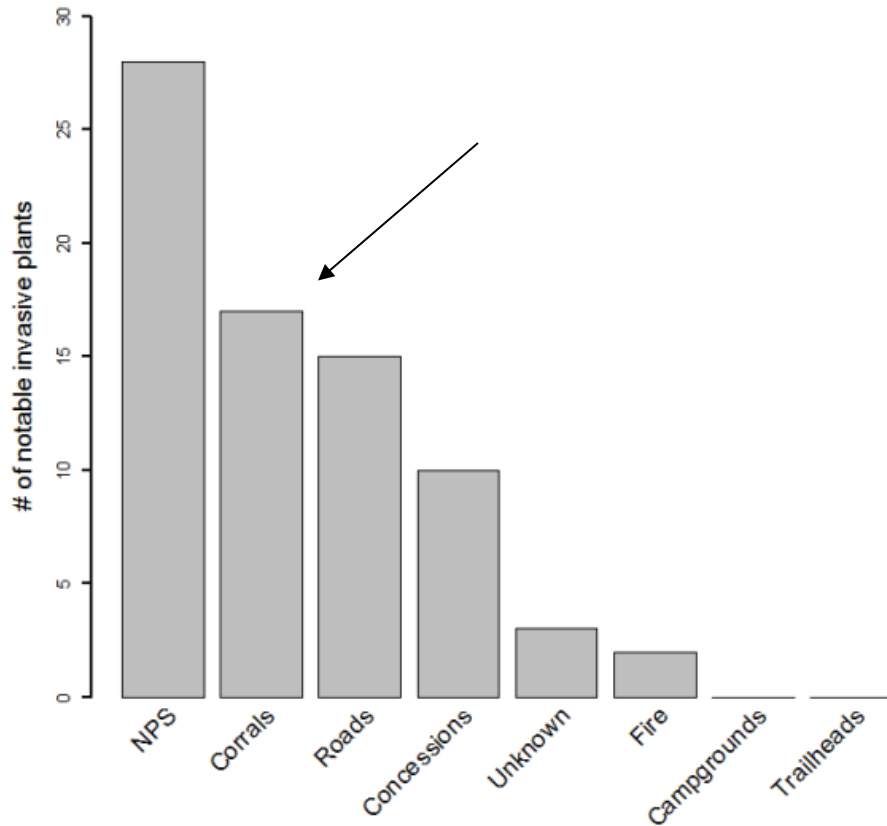
WF Mulch = straw

WFF is not 100% weed free

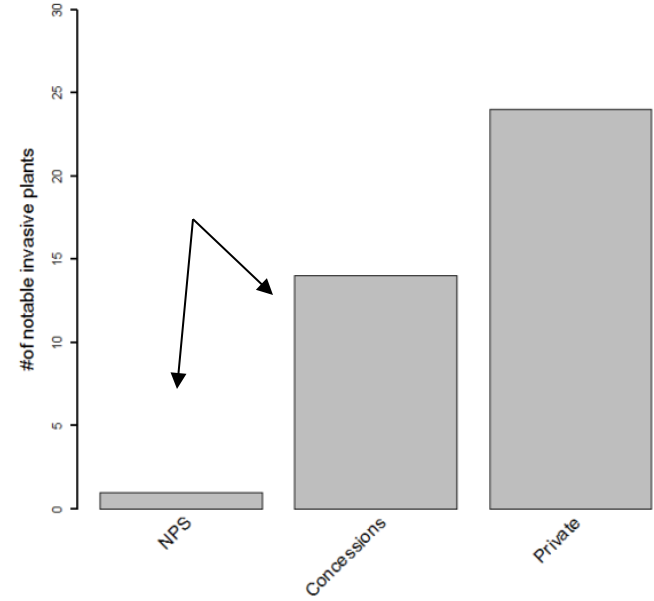
YOSEMITE NATIONAL PARK

(slides credit Garrett Dickman)

Association of notable invasive plant occurrences 2012-2014



Notable invasive plant occurrences in Tuolumne Corrals 2012-2014



History

Late 1990's

Extensive efforts to establish a weed-free certification program in CA began
First MOU 2005-2010 (USFS, BLM, NPS, CACASA, CDFA). Raised awareness, but no agencies closed lands to non-certified materials. Certifications continued, but no twine options, and details on how to purchase materials were scarce.

2010

Started an ad hoc prevention group and began with a monthly call to discuss BMPs, WFF&M and gravel inspections.

2012

MOU signed with 3 new agencies - Caltrans, CDFG, CARCDS, and the notable exception of CDFA.

2013 to today

Sacramento all day meeting and conference calls every 2 months.

Our Approach: ID problems, brainstorm solutions, incrementally address them, and **CELEBRATE!** our successes!



Standards
(CDFA&NAISMA)

Improved and compatible

Except marking
bales

Growers

Website advertising
product

Need to get them info that will
help them anticipate demand

Certifiers
CACASA

Enthusiastic reps
& 1 cty certifies to NAISMA

Training (200 species),
collating inspections info &
ensuring CDFa standards are
used

Marketing &
Outreach

NPS and Calipc inventory and
mapping & web hosting

Need dedicated
coordinator (NDFA)
and more automated
system

Customer

Caltrans, USFS, NPS, BLM and
ranchers

Unknown & vacillating need &
need > focus on wildland weeds +
increased relationship betw
customer needs and growers

Enforcement

Some agencies are coming
up with better policies

? penalties for fraudulent sales
and users not heeding regs

Growers and vendors website

Calipc Prevention Page

CDFA WFF Vendors Standards, where to Buy WFF Material, 2-page briefing on process and program: <http://www.cal-ipc.org/ip/prevention/weedfreeforage.php>

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Wheat-Free Hay and Straw Providers - California and Nevada
January 2015 Update
These suppliers provide certified weed free hay and straw that has been inspected and certified by local County Agricultural Commissioners.
Please contact Bobbi Simpson at 415-864-5190 if omissions are noted.

CALIFORNIA (Alphabetized by and within county)

County	Phone	Address	City, ZIP Code	Product
Alameda				
Camberg Ranch	530-889-2208	2777 Foothill Rd.	Markleville, 94520	grass hay
Colusa				
Hay Connection (John Foster Hay)	530-881-0306	112 Vantage Rd.	Arbuckle, 95912	premium control straw, hay
Shadager Arbuckle Ranch	530-876-0723	933 Gentry Rd.	Arbuckle, 95912	rice straw, wheat straw, straw wheat/brassica control
Colusa				
Cal-Vista Division	530-876-0706	439 State Hwy. 99 W.	Arbuckle, 95912	certified rice straw/wheat
Contra Costa				
N. A. R Farming	540-934-4500	6649 County Rd. 48	Willow, 94598	rice straw
Stark Green	530-570-2450	2150 County Rd. 5	Willow, 94598	rice straw
El Dorado				
Hay-Mono				
Carb Ranch	775-291-4073	999 Cunningham Wy.	Colaville, 96027	grass hay
Divide Land and Sheep	775-760-0740	1 Roberts Ranch Rd.	Tapscott, 96135	alfalfa
El Dorado				
R. S. S Hay	530-295-5980	4401 Missouri Flat Wy.	Placerville, 95667	rice straw, alfalfa pellets
Kern				
Western Fiber Co.	661-747-5581	4224 Sandbar Rd.	Arvin, 93205	straw/wheat
Placer				
Eden Valley Ranch	916-813-8320	305 Nevada St.	Lodi, 95243	rice straw, alfalfa pellets
San Joaquin				
San Joaquin				
Larry Lockford Hay Station	209-727-0131	18900 N. Hwy. 88	Lockford, 95217	wheat straw, alfalfa pellets
Randall Ag. Inc.	209-371-0780	17900 W. Dellaga Rd.	Tracy, 95391	wheat hay, alfalfa
South LeMayson Farms	209-535-8144	9488 deliver locally	Waterford, 95386	cut hay
Shasta				
Harvey Ranch & Farm supply	530-565-2332	21923 Dutch Rd.	Anderson, 96007	wheat, rice straw
McArthur Ranch, Inc.	530-534-0814	20512 Jim Day Rd.	McArthur, 96007	alfalfa grass, alfalfa straw
Sutter				
Trinidad-Face	707-892-0188	10019 Main St.	Pensacola, 95951	rice straw, alfalfa pellets
Tulare				
Hay-Ranch	209-984-3018	17415 State Hwy 108	Arantown, 95327	rice straw (c), alfalfa pellets
Yuba				
Chamberlain Farms	530-662-2620	34502 County Road 20	Woodland, 95695	wheat straw, rice straw
NEVADA				
Green's Feed, Inc.	775-325-1502	4701 N. Virginia St.	Reno, 89506	wheat straw, alfalfa pellets
Divide Feed	775-853-4700	1400 S. Virginia St.	Reno, 89511	certified hay, alfalfa, alfalfa

*For Nevada Weed Free Forage Providers, see here: http://dast.us.gov/Files/Division_7/Weed-Free-Forage-Providers

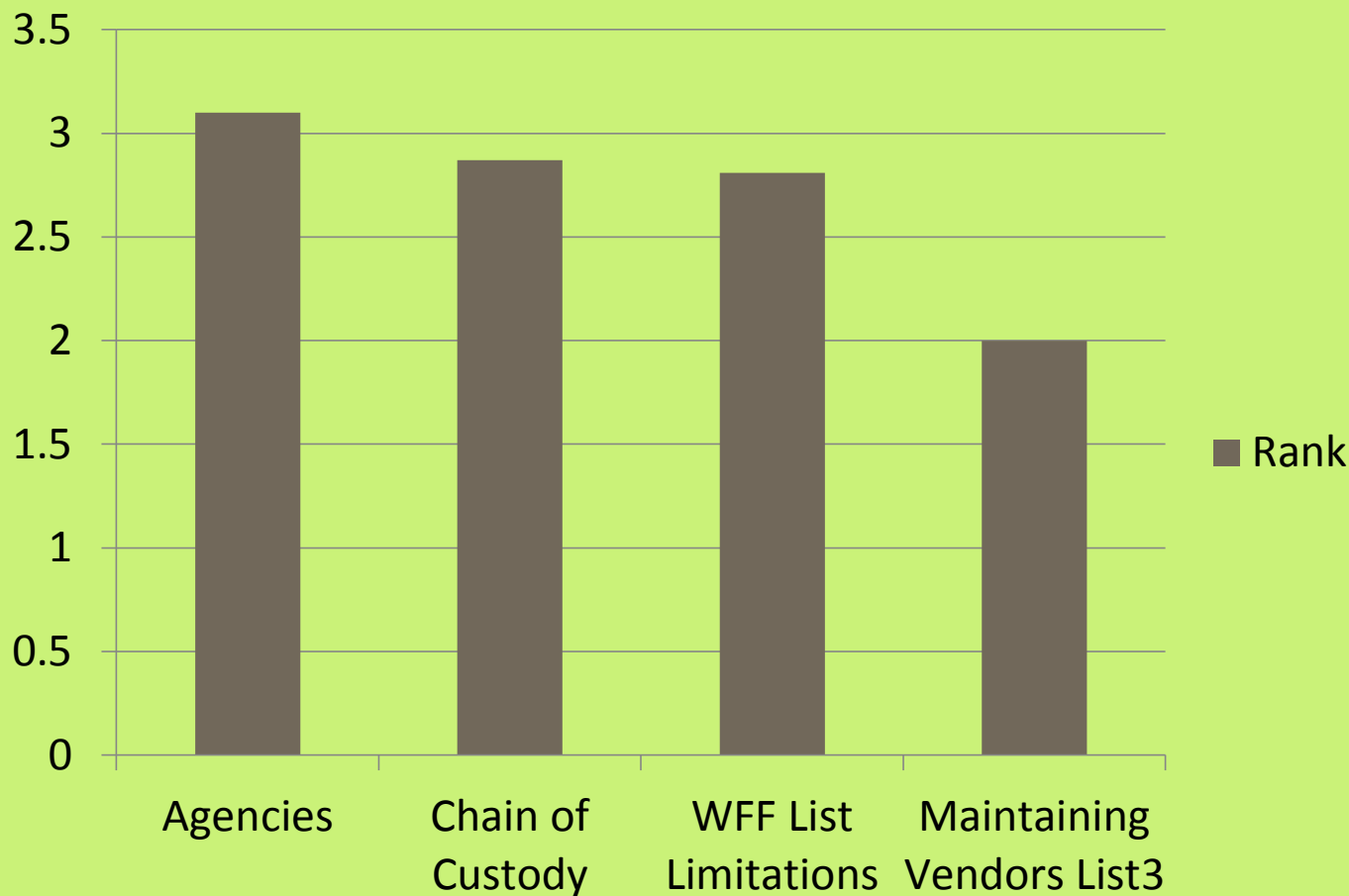
Page 1 of 3



WFF Group Survey

6 Federal (BLM,USFS,NPS)
2 State (CDFA and Caltrans)
2 County (CACASA)
1 NGO (CalIPC)

WFF Group Prioritization of Top 4 Issues



Alternatives to WFF?

Mulch

- Wood based mulch products (straw, shred, and chips) USFS http://www.fs.fed.us/rm/pubs/rmrs_gtr307.pdf
- Radiated mulch that kills all seed
- Pine needles
- Recycled plastic shred



Feed

- Find a grower near you and establish a connection. Lobby with them to produce the feed or mulch that you want and visit the field before harvest time.
- Pellets
- Rice straw for upland mulch scenarios (BOLO for Johnsongrass though)

CONCLUSION

Clarity on issues and significant strides (interim solution for uniquely identifying the bales, and how customers can find WFF)

We are methodically working towards improving the process

We have a regular conversation between agencies – so talking to each other, and agreeing to a strategic tackling of our next issues

Prevention is the most efficient approach to knocking back weeds

Important take home - [get to know your source!](#)

FUTURE

- 1) keep stakeholders apprised of direction (no surprises)
- 2) keep improving the authentication process and
- 3) keep working toward getting wildland weeds incorporated into inspections.

Questions?

Bobbi Simpson

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415-464-5190

Intentionally blank:

Further reference lists and context for longer talk follow

NAISMA

+Dittrichia

NAISMA (yellow and purple twine)	
<i>Aegilops cylindrica</i>	Jointed goatgrass
<i>Agropyron repens</i>	Quackgrass
<i>Ambrosia tomentosa</i>	Skeletonleaf bursage
<i>Arctium minus</i>	Common burdock
<i>Artemisia absinthium</i>	Absinth wormwood
<i>Avena fatua</i>	Wild oats
<i>Cannabis sativa (marijuana)</i>	Hemp
<i>Cardaria spp.</i>	Hoary cress
<i>Carduus acanthoides</i>	Plumeless thistle
<i>Carduus nutans</i>	Musk thistle
<i>Centaurea diffusa</i>	Diffuse knapweed
<i>Centaurea maculosa</i>	Spotted knapweed
<i>Centaurea pratensis</i>	Meadow knapweed
<i>Centaurea repens</i>	Russian knapweed
<i>Centaurea solstitialis</i>	Yellow starthistle
<i>Centaurea virgata</i>	Squarrose knapweed
<i>Chondrilla juncea</i>	Rush skeletonweed
<i>Chrysanthemum leucanthemum</i>	Oxeye daisy
<i>Cirsium arvense</i>	Canada thistle
<i>Conium maculatum</i>	Poison hemlock
<i>Convolvulus arvensis</i>	Field bindweed
<i>Crupina vulgaris</i>	Common crupina
<i>Cynodon dactylon</i>	Bermudagrass
<i>Cynoglossum officinale</i>	Houndstongue
<i>Cytisus scoparius</i>	Scotch broom
<i>Euphorbia dentata</i>	Toothed spurge
<i>Euphorbia esula</i>	Leafy spurge
<i>Hieracium aurantiacum</i>	Orange hawkweed
<i>Hieracium pratense</i>	Yellow hawkweed
<i>Hyoscyamus niger</i>	Henbane Black
<i>Hypericum perforatum</i>	St. Johnswort
<i>Isatis tinctoria</i>	Dyers woad
<i>Lepidium latifolium</i>	Perennial pepperweed
<i>Lespedeza cuneata</i>	Sericea Lespedeza
<i>Linaria dalmatica</i>	Dalmatian toadflax
<i>Linaria vulgaris</i>	Yellow toadflax
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Matricaria perforata</i> or <i>M. milaceum</i>	Scentless chamomile
<i>Milium vernale</i>	Milium
<i>Nardus stricta</i>	Matgrass
<i>Onopordum acanthium</i>	Scotch thistle
<i>Panicum miliaceum</i>	Wild proso millet
<i>Potentilla recta</i>	Sulfur cinquefoil
<i>Senecio jacobaea</i>	Tansy ragwort
<i>Solanum carolinense</i>	Horsenettle
<i>Solanum elaeagnifolium</i>	Silverleaf nightshade
<i>Solanum rostratum</i>	Buffalobur
<i>Sonchus arvensis</i>	Perennial sowthistle
<i>Sorghum almum</i>	Perennial sorghum
<i>Sorghum halepense</i>	Johnsongrass
<i>Taeniatherum caputmedusae</i>	Medusahead
<i>Tanacetum vulgare</i>	Common tansy
<i>Tribulus terrestris</i>	Puncturevine
<i>Zygophyllum fabago</i>	Syrian beancaper

CAL 4500
List, rev
3/15
177
species
of which
there are
22 new
ones

<i>Acaia paradoxa</i>	Kangaroo thorn	<i>Centaurea strobilifera</i> (= <i>L. maculosa</i>)	spotted knapweed	<i>Hyoscyamus niger</i>	black henbane	<i>Rorippa sylvestris</i>	creeping yellowcress
<i>Acaena anserinifolia</i>	biddy biddy	<i>Centaurea sulphurea</i>	Sicilian starthistle	<i>Hypericum canariense</i>	Canary Island St. Johnswort	<i>Saccharum ravennae</i>	ravennagrass
<i>Acaena novae-zelandiae</i>	biddy biddy	<i>Ceratopteris thalictroides</i>	water sprite	<i>Hypericum perforatum</i>	Klamath weed	<i>Salsola collina</i>	spininess
<i>Acaena pallida</i>	biddy biddy	<i>Chondrilla juncea</i>	skelletor weed	<i>Lythrum salicaria</i>	Lythrum	<i>Salsola arbuscula</i>	woolgrass
<i>Parapsis repens</i> (= <i>Rhynchosium</i>)	Russian knapweed	<i>Chorizanthe tenuifolia</i>	purple m...				
<i>Aegilops cylindrica</i>	jointed goatgrass	<i>Cirsium arvense</i>	Canada...				
<i>Aegilops ovata</i>	ovate goatgrass	<i>Cirsium japonicum</i>	Japanes...				
<i>Aegilops triuncialis</i>	beak goatgrass	<i>Cirsium ochrocentrum</i>	yellowvis...				
<i>Aeschynomene</i> spp.	joint-vetch	<i>Cirsium undulatum</i>	wavy-lea...				
<i>Allanthera altissima</i>	tree of heaven	<i>Cirsium vulgare</i>	bull thist...				
<i>Alliagi maurorum</i>	camelthorn	<i>Coincya monensis</i>	star-must...				
<i>Allium paniculatum</i>	panicle onion	<i>Convolvulus arvensis</i>	field bind...				
<i>Allium vineale</i>	wild garlic	<i>Cortaderia jubata</i>	jubata g...				
<i>Alternanthera philaxeroides</i>	alligatorweed	<i>Cupira vulgaris</i>	bearded...				
<i>Alternanthera sessilis</i>	sessile jayweed	<i>Cucumis melo</i> var. <i>dudaim</i>	dudaim				
<i>Ambrasia trifida</i>	giant ragweed	<i>Cucumis myriocarpus</i>	paddy m...				
<i>Araujia sericifera</i>	bladderflower	<i>Cuscuta</i> spp.	dodder				
<i>Arctotheca calendula</i>	aspenweed	<i>Cynara cardunculus</i>	artichok...				
<i>Arundo donax</i>	giant reed	<i>Cyperus esculentus</i>	yellow m...				
<i>Asphodelus fistulosus</i>	onionweed	<i>Cyperus rotundus</i>	purple n...				
<i>Atriplex amnicola</i>	swamp saltbush	<i>Cytisus scoparius</i>	Scotch b...				
<i>Berteroa incana</i>	hoary alyssum	<i>Diodia virginiana</i>	buttonw...				
<i>Brachypodium sylvaticum</i>	slender false-brome	<i>Dittrichia graveolens</i>	stinkwee...				
<i>Carbamba caroliniana</i>	Carolina fanwort	<i>Drymaria cordata</i>	winter an...				
<i>Carduus acanthoides</i>	plumeless thistle	<i>Egeria najas</i>	chickweed				
<i>Carduus crispus</i>	curly plumeless thistle	<i>Elymus repens</i> (= <i>Cryptantha repens</i>)	quackgr...				
<i>Carduus nutans</i>	nodding thistle	<i>Euphorbia dendroidea</i>	tree spur...				
<i>Carduus pycnocephalus</i>	slender-flowered thistle	<i>Euphorbia esula</i>	leafy sp...				
<i>Carduus tenuiflorus</i>	Italian thistle	<i>Euphorbia graminea</i>	grassle...				
<i>Carthamus boeoticus</i>	smooth distaff thistle	<i>Euphorbia oblongata</i>	oblong s...				
<i>Carthamus lanatus</i>	woolly distaff thistle	<i>Euphorbia serrata</i>	sema te...				
<i>Carthamus leucocaulis</i>	whitestem distaff thistle	<i>Euphorbia terracina</i>	canna ti...				
<i>Cenchrus ciliatus</i>	southem sandbur	<i>Eragrostis japonica</i>	Japanes...				
<i>Cenchrus incertus</i>	coast sandbur	<i>Fallopia bohemica</i>	Bohemian...				
<i>Cenchrus longispinus</i>	meadow sandbur	<i>Fallopia hexapetala</i>	Bohemian...				
<i>Centaurea calcitrapa</i>	purple starthistle	<i>Fatoua villosa</i>	hairy cre...				
<i>Centaurea diffusa</i>	diffuse knapweed	<i>Galega officinalis</i>	Goatsru...				
<i>Centaurea ibérica</i>	Iberian starthistle	<i>Genista monspeliensis</i>	French b...				
<i>Centaurea jacea</i> s.l.	meadow knapweed	<i>Hemidranthem</i>	Russian...				
<i>Centaurea melitensis</i>	black knapweed	<i>Helianthus</i>	sunflow...				
<i>Centaurea solstitialis</i>	yellow starthistle	<i>Halimolobos glomeratus</i>	haloglo...				
<i>Centaurea squarrosa</i>	squarrose knapweed	<i>Heteropogon contortus</i>	tangle h...				
		<i>Hydrilla verticillata</i>	hydrilla				
		<i>Hydrocharis morsus-ranae</i>	Frogbit				
		<i>Hygrophila polysperma</i>	Indian s...				

22 new species on 4500 list as of 3/2015

Noxious Weed Species	Common Name
<i>Aeschynomene</i> spp.	joint-vetch
<i>Asphodelus fistulosus</i>	onionweed
<i>Brachypodium sylvaticum</i>	slender false-brome
<i>Centaurea jacea</i> s.l. (including <i>C. pratensis</i> , <i>C. nigra</i> , and <i>C. nigrescens</i>)	meadow knapweed, black knapweed, brown knapweed
<i>Coincya monensis</i>	star-mustard
<i>Dittrichia graveolens</i>	stinkweed
<i>Euphorbia dendroidea</i>	tree spurge
<i>Fallopia</i> ^X <i>bohemica</i> (= <i>Reynoutria</i> ^X <i>bohemica</i> ; <i>Polygonum</i> ^X <i>bohemica</i>)	Bohemian knotweed
<i>Galega officinalis</i>	Goatsrue
<i>Hydrocharis morsus-ranae</i>	Frogbit
<i>Leptochloa chinensis</i> (= <i>Dinebra</i> c.)	Chinese sprangletop
<i>Limnium laevigatum</i>	South American spongeplant
<i>Ludwigia decurrens</i>	winged water-primrose
<i>Ludwigia hexapetala</i>	water-primrose
<i>Mercurialis ambigua</i>	Spanish mercury
<i>Nymphoides peltata</i>	yellow floating heart
<i>Parthenium hysterophorus</i>	Santa Maria feverfew
<i>Rhagadiolus stellatus</i>	star endive
<i>Saccharum ravennae</i>	ravennagrass
<i>Salvinia auriculata</i> s.l.	giant salvinia
<i>Tribolium obliterum</i>	Capegrass
<i>Volutaria canariensis</i>	Canary Island knapweed

Fed Nox Weed List

<i>Acacia nilotica</i>	Prickly acacia
<i>Ageratina adenophora</i>	Crofton weed
<i>Ageratina riparia</i>	Mistflower, spreading snakeroot
<i>Alternanthera sessilis</i>	Sessile joyweed
<i>Arctotheca calendula</i>	Capeweed
<i>Asphodelus fistulosus</i>	Onionweed
<i>Avena sterilis</i>	Animated oat, wild oat
<i>Carthamus oxyacantha</i>	Wild safflower
<i>Chrysopogon aciculatus</i>	Pilipiliula
<i>Commelina benghalensis</i>	Benghal dayflower
<i>Crupina vulgaris</i>	Common crupina
<i>Digitaria scalarum</i>	African couchgrass, fingergrass
<i>Digitaria velutina</i>	Velvet fingergrass, annual couchgrass
<i>Drymaria arenariodes</i>	Lightning weed
<i>Emex australis</i>	Three-corned jack
<i>Emex spinosa</i>	Devil's thorn
<i>Euphorbia terracina</i>	False caper, Geraldton carnation weed
<i>Galega officinalis</i>	Goatsrue
<i>Heracleum mantegazzianum</i>	Giant hogweed
<i>Imperata brasiliensis</i>	Brazilian satintail
<i>Imperata cylindrica</i>	Cogongrass
<i>Inula britannica</i>	British yellowhead
<i>Ischaemum rugosum</i>	Murainograss
<i>Leptochloa chinensis</i>	Asian sprangletop
<i>Lycium ferocissimum</i>	African boxthorn
<i>Lygodium flexuosum</i>	Maidenhair creeper
<i>Lygodium microphyllum</i>	Old world climbing fern
<i>Melastoma malabathricum</i>	Malabar melastome
<i>Mikania cordata</i>	Mile-a-minute
<i>Mikania micrantha</i>	Bittervine
<i>Mimosa invisa</i>	Giant sensitive plant
<i>Mimosa pigra</i>	Catclaw mimosa
<i>Moraea collina</i>	Cape tulip
<i>Moraea flaccida</i>	One leaf cape tulip
<i>Moraea miniata</i>	Two leaf cape tulip
<i>Moraea ochroleuca</i>	Apricot tulip
<i>Moraea pallida</i>	Yellow tulip
<i>Nassella trichotoma</i>	Serrated tussock
<i>Onopordum acaulon</i>	Stemless thistle
<i>Onopordum illyricum</i>	Illyricum thistle
<i>Opuntia aurantiaca</i>	Jointed prickly pear
<i>Oryza longistaminata</i>	Red rice
<i>Oryza punctata</i>	Red rice

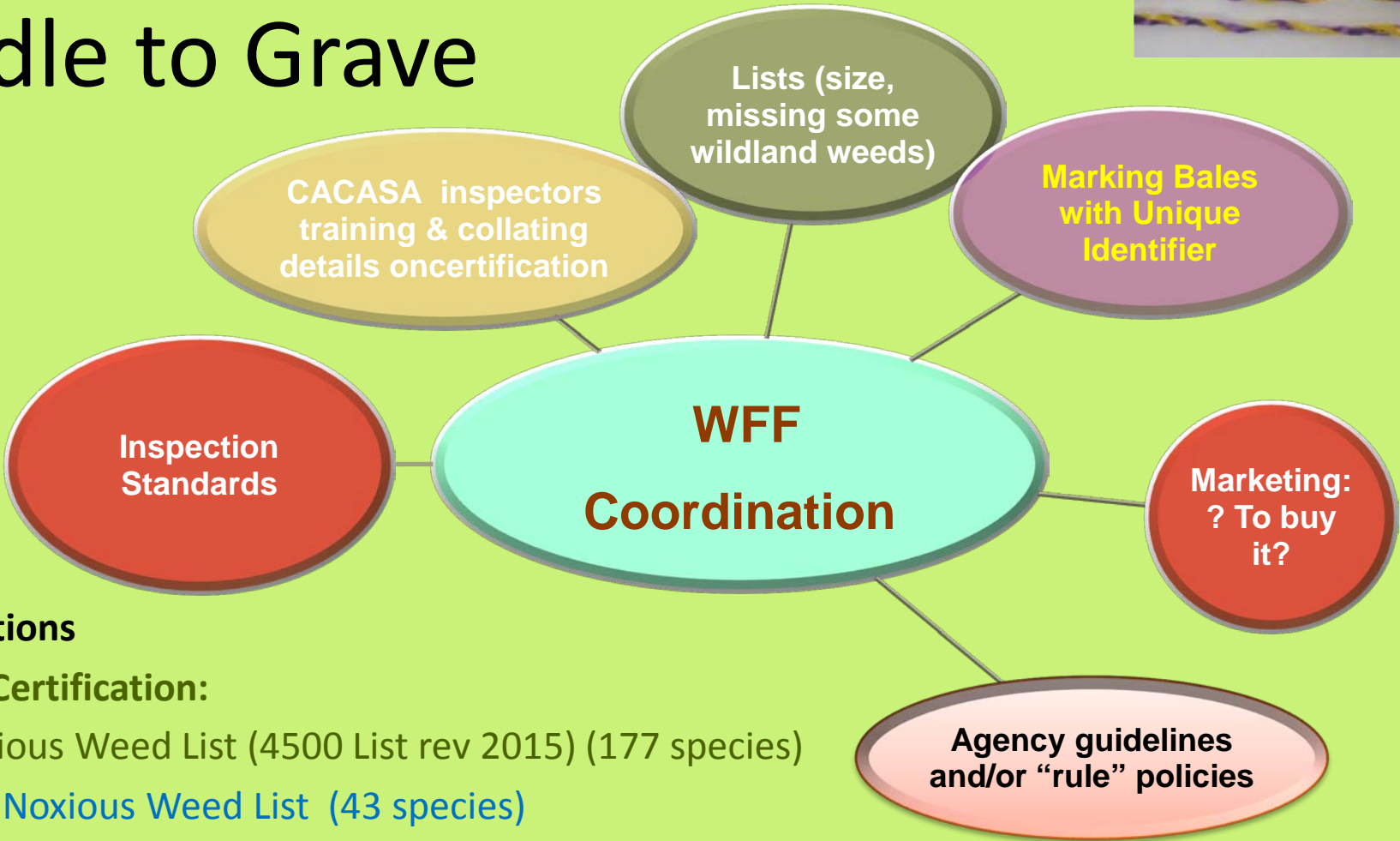
HOW TO GET WILDLAND WEEDS ADDED TO LIST (Change to CDFA rating):

Any interested party/organization may complete the California Pest Rating Proposal Form to either propose a change or propose a new pest rating and submit it to the Department. The form and instructions for submitting ...

http://cdfa.ca.gov/plant/regs_pestrating.html

Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on. **Mail form to:** Pest Rating Proposal, Division of Plant Health and Pest Prevention Services, 1220 N Street, Suite 220, Sacramento, CA 95814.

Cradle to Grave



Certifications

1. State Certification:

Ca. Noxious Weed List (4500 List rev 2015) (177 species)

Federal Noxious Weed List (43 species)

2. NAISMA Certification:

NAISMA Noxious Weed List + state and federal (rev10/15)

(55 species before Oct/15 update)

STATUS, UPDATES AND THE FUTURE ~~~~~

COUNTIES

- One county has become a signatory to the NAISMA MOU and can
- now issue uniquely marked twine (thanks to Jamie Abbott, NDFA)

STATE

- Caltrans leading - is now requiring contractors use WF Mulch
- CDFA upgraded the inspection standards – reflects the NAISMA inspection process (doesn't include the NASIMA species).
- Partnering with NV Department of Ag ordering twine.
- Agencies are independently working on policies/guidelines

FEDERAL

- NPS – a few parks that actively manage using WFF
- Most parks responded saying they attempt to use WFF or rice for mulching.
- BLM has some units that have WFF policies.
- USFS is the star player as they are the biggest land base and they are the largest federal user of WFF for mulch for interagency fire rehab. They have guidance.



Calipc Wildland Weeds List 4500 or NAISMA list		
	Calipc rating - see PAF	PRIORITY 1 = high
Avena barbata	Moderate	2
Brachypodium distachyon	Moderate	3
Brassica nigra	Moderate	2
Brassica rapa	Limited	2
Brassica tournefortii	High	2
Bromus diandrus	Moderate	2
Bromus madritensis ssp. rubens	High	1
Bromus tectorum	High	1
Centaurea debeauxii	Moderate	1
Dactylis glomerata	Limited	3
Dittrichia graveolens	Moderate	2
Ehrharta calycina	High	1
Ehrharta erecta	Moderate	1
Emex spinosa	Moderate	3
Festuca arundinacea	Moderate	1
Foeniculum vulgare	High	2
Hirschfeldia incana	Moderate	2
Holcus lanatus	Moderate	1
Hordeum marinum, H. murinum	Moderate	3
Leucanthemum vulgare	Moderate	3
Phalaris aquatica	Moderate	3
Phalaris arundinacea	Moderate	1

WILDLAND WEEDS OF CONCERN

Only one of our hopeful additions got added to the revised 4500 List (now 177 species).

22 new species on 4500 list as of 3/2015

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<i>Nymphoides peltata</i>	yellow floating heart
<i>Parthenium hysterophorus</i>	Santa Maria feverfew
<i>Rhagadiolus stellatus</i>	star endive
<i>Saccharum ravennae</i>	ravennagrass
<i>Salvinia auriculata</i> s.l.	giant salvinia
<i>Tribolium oblitterum</i>	Capegrass
<i>Volutaria canariensis</i>	Canary Island knapweed

Plants on the 4500 list should be covered by inspectors, incl those on WFF. The 4500 list should be updated every year or two. This year [2015] is a big one, as I was trying to justify most of the A&B rated plants on the internal list that had escaped listing before.

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