

Protecting Endangered Species Interim Measures for Use of Pesticides in Glenn County

The federal Endangered Species Act is intended to protect and promote the recovery of animals and plants that are in danger of becoming extinct due to human activities. Under the Act, the U.S. Environmental Protection Agency (U.S. EPA) must ensure that the use of pesticides it registers will not result in harm to the species listed as endangered or threatened by the U.S. Fish and Wildlife Service, or to habitat critical to those species' survival. This program will protect endangered and threatened species from harm due to pesticide use.

The information provided in this bulletin is similar to what U.S. EPA expects to distribute once the Endangered Species Protection Program is in effect. Individuals who use pesticides during this interim period are not legally required to comply with these suggested measures. At the present time, compliance with the requirements specified on the pesticide product labeling will satisfy all legal requirements regarding pesticides and endangered species protection. While these pesticide use conditions do not yet have the force of law, they are being provided now for your use in voluntarily protecting endangered and threatened species.

Your comments are needed regarding the information presented in this publication. Please contact us to let us know whether the information is clear and correct. Also tell us to what extent following the recommended measures would affect your pesticide use program. This information will be considered by U.S. EPA during the final stages of program development.

Please submit comments to:
DPR Pesticide Registration Branch
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www.cdpr.ca.gov/docs/es/index.htm



About This Publication

This publication contains a map of the county including a shaded area where pesticide use should be limited to protect listed species. In the Section List, you will find additional information on the individual species that occur in each section, indexed by county, township, range and section.

The Species Descriptions table lists the taxonomic groups for each species. The Active Ingredients tables list certain pesticides and the activity category (mode of action, etc.) of the pesticide and the taxonomic groups they could adversely affect. The use limitations in this bulletin apply only to listed pesticides where the hazard class of the pesticide matches the hazard class (sensitivity of the taxonomic group) of the species that occur in the section where the pesticide will be used. Within a given section, use limitations only apply to sites that are consistent with habitat as noted in the Species Descriptions table. The Use Limitation Codes table indicates which use limitation codes apply to each species. The Use Limitations table translates limitation codes to use limitations.

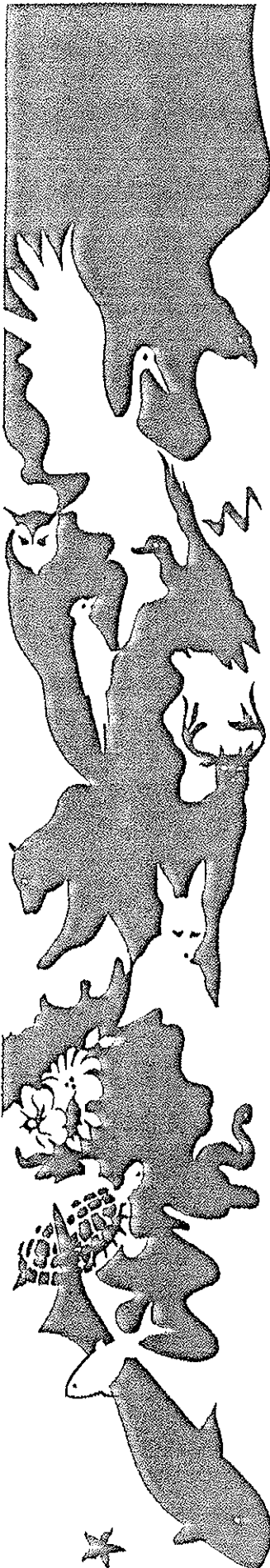
Does This Information Apply To You?

To determine whether this information applies to your use of a pesticide, review the questions below. The information applies only if you answer "yes" to all three of these questions:

- Do you intend to use pesticides within the shaded area on the map (p 3) that is further detailed in the Section List (p 37)? If so, note the species from the Section List.
- Are any of the ingredients included in your pesticide product named in the Active Ingredients tables (p 8, 15, 19, 22, 25)?
- If so, does the hazard class(es) of the pesticide you intend to use match one or more of the taxonomic groups of the species as shown in the Species Descriptions table (p 32)?

If you answer "yes" to all three questions, you should follow the instructions on "How to Use This Information" (p 2) to help protect listed species.

If you answer "no" to any of the above questions, this bulletin does not apply to you.

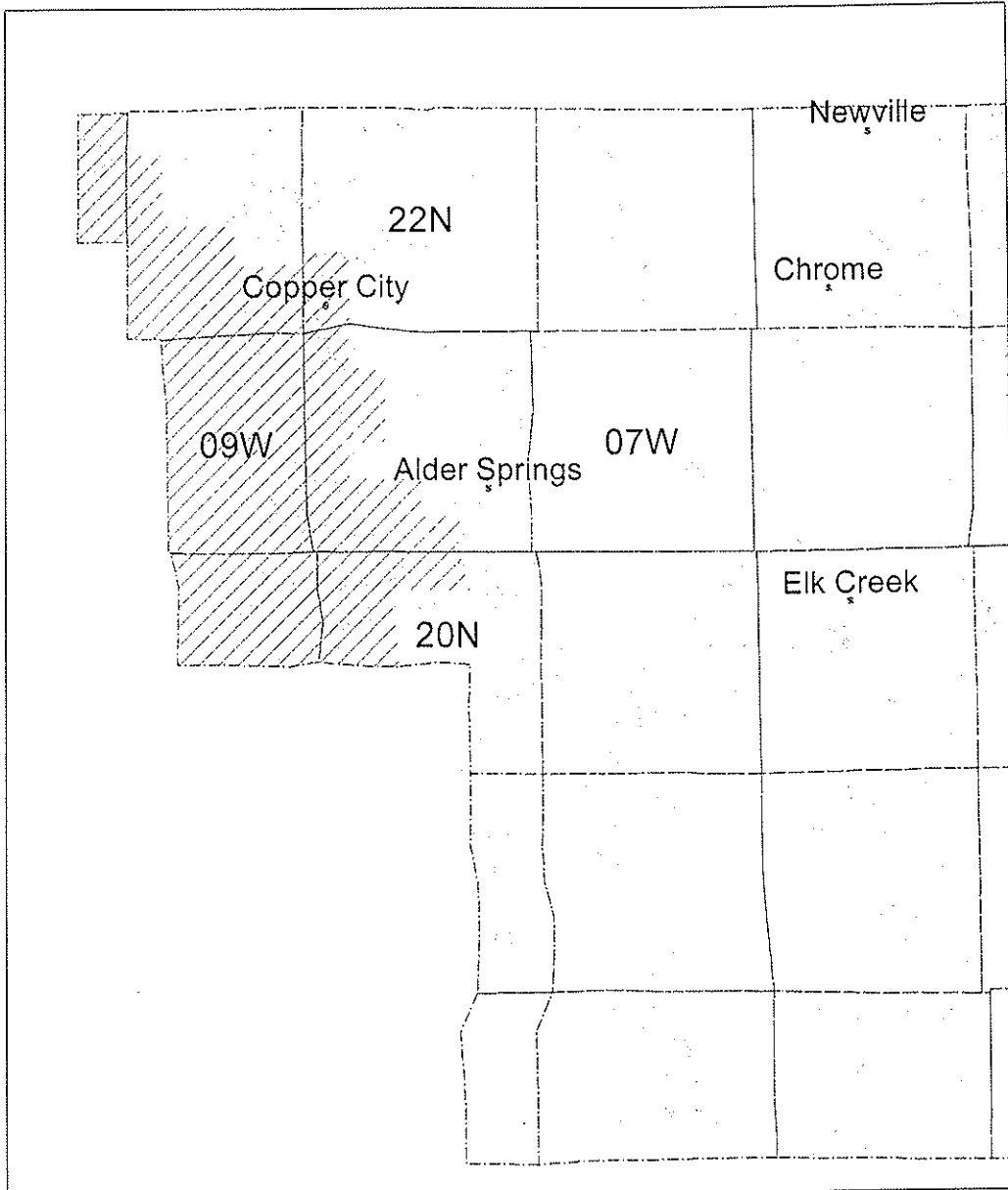


How to Use This Information

See worksheets for each class of pesticide that you intend to use:

<u>Worksheets</u>	<u>Page</u>
Herbicides	6
Insecticides	13
Fungicides	18
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Distribution of Species Addressed in This Bulletin



Aquatic Species (restrictions apply only to aquatic habitats and flowing waters within species distribution- refer to the habitat descriptors in the bulletin for further information)

Detail Map A

Worksheet for Herbicides

For each section where you will apply herbicides:

1. Is the section inside of the shaded area on the county map (p 3)? Yes () No ()
(if yes, or if you are unsure go on to #2, if no, this bulletin does not apply)
2. Is the section listed in the Section List (p 37)? Yes () No ()
(if yes, go on to #3, if no, this bulletin does not apply)
3. Is the active ingredient of the herbicide(s) you intend to use listed in the Active Ingredients table (p 8-11)?
(if yes, go on to #4, if no, this bulletin does not apply) Yes () No ()
4. For each active ingredient, note the hazard class and activity category (from the Active Ingredients table).

herbicide active ingredient(s) (list each)	Hazard Class (check all that apply)	Activity Category (check one)
	AQ PD PM	a b c d e
	() () ()	() () () () ()
	() () ()	() () () () ()
	() () ()	() () () () ()
	() () ()	() () () () ()
	() () ()	() () () () ()

5. For each species in the section to be treated, look up the hazard class (taxonomic group) in the Species Descriptions table (p 32) and check all that apply.

AQ PD PM
() () ()

6. Does one or more hazard class(es) of the herbicide(s) from #4 match the hazard class (taxonomic group) for any of the species from #5? (if yes to any, go on to #7, if no, this bulletin does not apply) Yes () No ()
7. Look up the use limitation codes by hazard class and activity category in the Use Limitation Codes table in this section for each pesticide that you intend to use and check all use limitation codes that apply.

Limitation Codes

11 () 15 () 16 () 17 () 19 ()

8. Follow the use limitations corresponding to each code as shown in the Use Limitations table (p 27). If more than one code applies and there is a conflict, follow the most restrictive limitation. Note that use limits apply only to sites that that match or (where buffer zones apply) are adjacent to sites that match the habitat descriptions in the Species Descriptions table (p 32) for each species.

Active Ingredients (Herbicides)

Herbicides

Active Ingredients	Activity Category	Hazard Class		
		Aquatic Animals (AQ)	Plants	
			Dicot (PD)	Monocot* (PM)
2,4-D	b		X	
2,4-D, butoxyethanol ester	b	X	X	
2,4-D, dimethylamine salt	b		X	
2-(2,4-DP), dimethylamine salt	b		X	
4(2,4-DB), dimethylamine salt	b		X	
alachlor	d		X	X
atrazine	d		X	X
benefin	e	X	X	X
bensulfuron methyl	d		X	X
bensulide	d		X	X
bentazon, sodium salt	a		X	X
bromacil	d		X	X
bromoxynil	a	X	X	X
butylate	d		X	X
cacodylic acid	a		X	X
carfentrazone-ethyl	a		X	X
chlorsulfuron	d		X	
chlorthal-dimethyl	e		X	X
clethodim	c			X
clopyralid	b		X	
copper	a	X		
copper ethanolamine complex	a	X		

* and gymnosperms

Active Ingredients (Herbicides)

Herbicides

Active Ingredients	Activity Category	Hazard Class		
		Aquatic Animals (AQ)	Plants	
			Dicot (PD)	Monocot* (PM)
glyphosate, isopropylamine salt	a		X	X
glyphosate, monoammonium salt	a		X	X
hexazinone	d		X	X
imazapyr	d		X	X
linuron	d		X	X
MCPA, dimethylamine salt	b		X	
MCPP, dimethylamine salt	b		X	
metallochlor	d		X	X
metam-sodium	d	X	X	X
metribuzin	d		X	X
molinat	d		X	X
MSMA	a		X	X
napropamide	d		X	X
nicosulfuron	a		X	X
nonanoic acid	a		X	X
norflurazon	d		X	X
oryzalin	e		X	X
oxadiazon	e	X	X	X
oxyfluorfen	e	X	X	X
paraquat dichloride	a		X	X
pebulate	e		X	X

* and gymnosperms

Use Limitation Codes (Herbicides)

The following table identifies use limitation codes for each combination of hazard class (AQ, PM or PD) and herbicide activity category (a-e). Use the hazard class row(s) that corresponds with both (1) the pesticide (from the Active Ingredients table) and (2) the hazard class (taxonomic group) of the species in the section to be treated (as found in the Species Descriptions table) and the activity category column(s) that corresponds with the herbicide(s) you intend to use. If either (1) the hazard class (taxonomic group) of one or more species does not match at least one of the hazard class(es) of the herbicide you intend to use or (2) if the combination of activity category and hazard class results in a double dash (- -), then no use limitations apply. Note all applicable codes (11-19). These codes are translated in the Use Limitations table (p 27)

Hazard Class	Herbicide Activity Category				
	a	b	c	d	e
AQ	11, 17	11, 17	11, 17	11, 15, 16, 17	11, 17
PM	11, 17	--	11, 17	11, 16, 17, 19	11
PD	11, 17	11, 17	--	11, 16, 17, 19	11

Activity Categories of Insecticides

There is currently only one activity category for insecticides.

Activity Category	Description
i	Insecticides applied by any method

Insecticides

Active Ingredients (Insecticides)

Active Ingredients	Activity Category	Hazard Class			
		Aquatic (AQ)	Avian (AV)	Insects (IN)	Plants-Dicot* (PD)
fenpropathrin	i	X		X	X
fenthion (livestock use)	i	X	X		
fenvalerate	i	X		X	X
fluvalinate	i	X		X	X
fonofos	i	X	X	X	X
imidacloprid	i			X	X
malathion	i	X		X	X
methamidophos	i		X	X	X
methidathion	i	X	X	X	X
methiocarb	i		X		X
methomyl	i	X	X	X	X
methyl parathion	i	X	X	X	X
mevinphos	i	X	X		X
naled	i	X		X	X
oxamyl	i	X	X	X	X
oxydemeton-methyl	i	X	X	X	X
parathion	i	X	X	X	X
permethrin	i	X		X	X
phorate	i	X	X	X	X
phosmet	i	X		X	X
profenphos	i	X		X	X
propargite	i	X		X	
pyrethrin	i	X		X	X
pyriproxyfen	i	X		X	
spinosad	i			X	X
tebufenozide	i	X		X	X
temephos	i	X	X	X	X
terbufos	i	X	X	X	X
thiodicarb (1)	i	X		X	X
tralomethrin (1)	i	X		X	X
trichlorfon (2)	i	X		X	

Insecticides

Worksheet for Fungicides

For each section where you will apply fungicides:

1. Is the section inside of the shaded area on the county map (p 3)? Yes () No ()
(if yes, or if you are unsure go on to #2, if no, this bulletin does not apply)
2. Is the section listed in the Section List (p 37)? Yes () No ()
(if yes, go on to #3, if no, this bulletin does not apply)
3. Is the active ingredient of the fungicide(s) you intend to use listed in the Active Ingredients table (p 19)?
(if yes, go on to #4, if no, this bulletin does not apply) Yes () No ()
4. For each active ingredient, note the hazard class and activity category (from the Active Ingredients table).

fungicide active ingredient(s) (list each)	Hazard Class	Activity Category
_____	AQ (x)	f (x)
_____	(x)	(x)
_____	(x)	(x)
_____	(x)	(x)
_____	(x)	(x)

5. For each species in the section to be treated, look up the hazard class (taxonomic group) in the Species Descriptions table (p 32) and check all that apply.

AQ
(x)

6. Does one or more hazard class of the fungicide(s) from #4 match the hazard class (taxonomic group) for any of the species from #5? (if yes to any, go on to #7, if no, this bulletin does not apply) Yes () No ()

7. Look up the use limitation codes by hazard class and activity category in the Use Limitation Codes table in this section for each fungicide that you intend to use and check all use limitation codes that apply.

Limitation Codes

10 (x)

15 (x)

16 (x)

17 (x)

8. Follow the use limitations corresponding to each code as shown in the Use Limitations table (p 27). If more than one code applies and there is a conflict, follow the most restrictive limitation. Note that use limits apply only to sites that that match or (where buffer zones apply) are adjacent to sites that match the habitat descriptions in the Species Descriptions (p 32) table for each species.

Fungicides

Use Limitation Codes for Fumigant Rodenticides

The following table identifies use limitation codes for each combination of hazard class (S1, S2, etc.) and fumigant rodenticide activity category (j). Use the hazard class row(s) that corresponds with the hazard class of the species (taxonomic group) in the section to be treated and the herbicide activity column(s) that corresponds with the fumigant(s) you intend to use. Note all applicable codes (5-32). These codes are translated in the Use Limitations table (p 27).

Hazard Class	Fumigant Rodenticide Activity Category
	j
S1	31, 5
S2	32, 5
LH	33
WW	30
FS	5

Fumigant Rodenticides - Fumigants

Use Limitations

<p>2A</p>	<p>Broadcast (mechanical) and spot (hand) applications <i>Formulation:</i> The active ingredient shall not exceed 0.01% in the formulated bait.</p>
<p>2B</p>	<p><i>Test Baiting/Bait Acceptance:</i> Prior to the main application of toxic baits by spot or broadcast method, a small amount of the bait shall be applied to determine bait acceptance. Test baits shall be broadcast by the same method that will be used for control baiting.</p>
<p>2C</p>	<p><i>Use of Treated Baits:</i> Use of treated baits shall begin only when bait acceptance is confirmed by consumption of test baits. Piling of baits shall be avoided. No additional applications shall be made whenever significant quantities of previously applied bait remain. Do not place baits directly into burrows. Do not exceed label application rates.</p> <p>Spot Baiting - Scatter a handful of bait (about 10 handfuls per pound) evenly over 40 to 50 square feet near active burrows or runways. Repeat every other day until feeding ceases.</p> <p>Mechanical Spreader - Apply at the rate of 10 pounds per swath acre through infested area. Follow with a second application in 2 to 3 days.</p>
<p>2D</p>	<p><i>Carcass Survey and Disposal:</i> See Limitation Code 1D.</p>
<p>3</p>	<p>Use of pelletized formulations for control of ground squirrels is prohibited, except in bait stations as described in Limitation Code 1 (A, B, C, E).</p>
<p>4</p>	<p>Jackrabbits may be controlled by using self-dispensing bait stations provided that:</p> <ul style="list-style-type: none"> Bait acceptance is first determined. Carcasses are removed and stations are monitored as described in Limitation Codes 1C and 1D respectively. Baiting ceases when feeding stops. Baits are placed only where jackrabbits are active. Use of pelletized baits is prohibited.

Use Limitations

Code	Limitation
11	Do not use in currently occupied habitat except: (1) as specified in Habitat Descriptors, (2) in organized habitat recovery programs, or (3) for selective control of invasive exotic plants.
15	Provide a 20 foot minimum strip of vegetation (on which pesticides should not be applied) along rivers, creeks, streams, wetlands, vernal pools and stock ponds or on the downhill side of fields where run-off could occur. Prepare land around fields to contain run-off by proper leveling, etc. Contain as much water "on-site" as possible. The planting of legumes, or other cover crops for several rows adjacent to off-target water sites is recommended. Mix pesticides in areas not prone to run-off such as concrete mixing/loading pads, disked soil in flat terrain or graveled mix pads, or use a suitable method to contain spills and/or rinsate. Properly empty and triple-rinse pesticide containers at time of use.
16	Conduct irrigations efficiently to prevent excessive loss of irrigation waters through run-off. Schedule irrigations and pesticide applications to maximize the interval of time between the pesticide application and the first subsequent irrigation. Allow at least 24 hours between application of pesticides listed in this bulletin and any irrigation that results in surface run-off into natural waters. Time applications to allow sprays to dry prior to rain or sprinkler irrigations. Do not make aerial applications while irrigation water is on the field unless surface run-off is contained for 72 hours following the application.
17	For sprayable or dust formulations: when the air is calm or moving away from habitat, commence applications on the side nearest the habitat and proceed away from the habitat. When air currents are moving toward habitat, do not make applications within 200 yards by air or 40 yards by ground upwind from occupied habitat. The county agricultural commissioner may reduce or waive buffer zones following a site inspection, if there is an adequate hedgerow, windbreak, riparian corridor or other physical barrier that substantially reduces the probability of drift.
19	Do not apply within 30 yards upslope of habitat unless a suitable method is used to contain or divert runoff waters.

Species Descriptions

CHINOOK SALMON (CC-ESU)

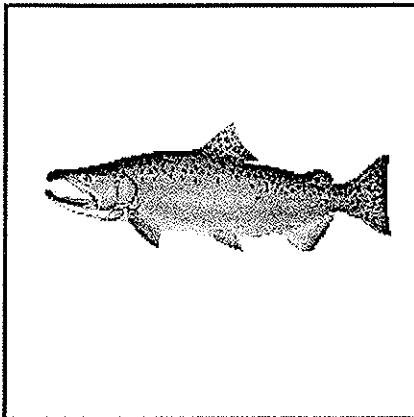


Photo: NMFS

Scientific Name: *ONCORHYNCHUS TSHAWYTSCHA*

Federal Status: Threatened

Species Description:

Chinook are largest of the salmon, adults often exceed 40 pounds. They use a variety of freshwater habitats, but it is more common to see them spawn in larger mainstem rivers than other salmon species.

Habitat Description:

INCLUDES NATURALLY SPAWNED SPRING AND FALL CHINOOK IN COASTAL STREAMS FROM REDWOOD CREEK (HUM. CO.) SOUTH TO THE RUSSIAN RIVER

Hazard Class:

AQ

CHINOOK SALMON (CVSR-ESU)

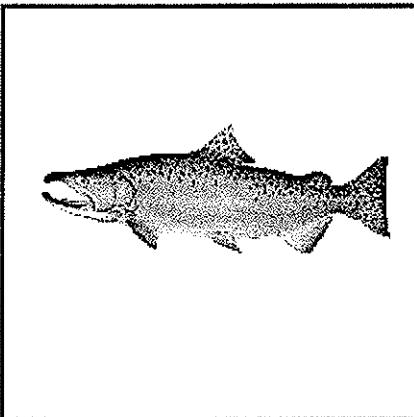


Photo: NMFS

Scientific Name: *ONCORHYNCHUS TSHAWYTSCHA*

Federal Status: Threatened

Species Description:

Chinook are largest of the salmon, adults often exceed 40 pounds. They use a variety of freshwater habitats, but it is more common to see them spawn in larger mainstem rivers than other salmon species.

Habitat Description:

INCLUDES NATURALLY SPAWNED SPRING RUN CHINOOK IN THE CENTRAL VALLEY.

Hazard Class:

AQ

Species Descriptions

GIANT GARTER SNAKE

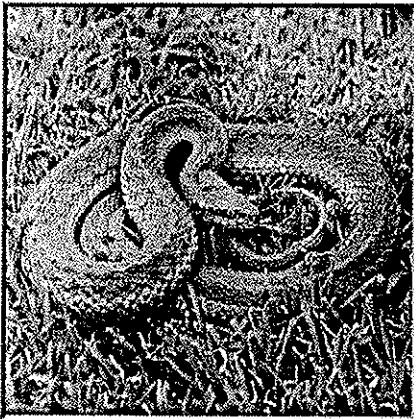


Photo: John Brode, CDFG

Scientific Name: *THAMNOPHIS GIGAS*

Federal Status: Threatened

Species Description:

A dull brown snake with a pale dorsal stripe and black markings, attaining lengths up to 4 feet, heavy bodied with a large head, feeds in aquatic sites, often found in irrigation ditches.

Habitat Description:

THIS IS THE MOST AQUATIC OF THE GARTER SNAKES IN CALIFORNIA. PREFERS FRESHWATER MARSH AND LOW GRADIENT STREAMS. HAS ADAPTED TO DRAINAGE CANALS & IRRIGATION DITCHES.

Hazard Class:

FS, S1

HAIRY ORCUTT GRASS



Photo: Robert A. Schlising

Scientific Name: *ORCUTTIA PILOSA*

Federal Status: Endangered

Species Description:

A densely tufted, fuzzy-leaved annual reaching about 2 to 8 inches in height. The stems are erect or decumbent at the base with spike-like flower stalks.

Habitat Description:

25-125M. VERNAL POOLS. ENDEMIC TO THE SACRAMENTO VALLEY.

Hazard Class:

PM

Species Descriptions

VERNAL POOL FAIRY SHRIMP

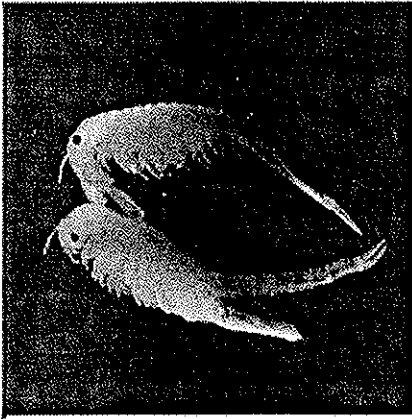


Photo: Brent Helm, Jones & Stokes

Scientific Name: *BRANCHINECTA LYNCHI*

Federal Status: Threatened

Species Description:

1/2 to 1-1/2 inch crustaceans swimming upside down (ventral side up), adults have stalked compound eyes, two sets of antennae, and 11 pairs of leaf-like swimming legs. Coloration varies widely from orange to red, blue, gray or green due to food source.

Habitat Description:

INHABIT SMALL, CLEAR-WATER SANDSTONE-DEPRESSION POOLS AND GRASSED SWALE, EARTH SLUMP, OR BASALT-FLOW DEPRESSION POOLS. ENDEMIC TO THE GRASSLANDS OF THE CENTRAL VALLEY, CENTRAL COAST MTNS, AND SOUTH COAST MTNS, IN ASTATIC RAIN-FILLED POOLS.

Hazard Class:

AQ

Section List - Glenn County

Sections	Species
19N01W: S3-7	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
19N01W: S31	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
19N01W: S32	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU), Valley Elderberry Longhorn Beetle
19N01W: S33	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
19N01W: S34-36	Steelhead Trout (CCV-ESU)
19N01W: S8	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU), Valley Elderberry Longhorn Beetle
19N01W: S9-10	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
19N02W: S1-17,21-28,33-36	Steelhead Trout (CCV-ESU)
20N01W: S4-5	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU), Valley Elderberry Longhorn Beetle
20N01W: S6-9,17-20,29-32	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
20N02W: S1-4,8-36	Steelhead Trout (CCV-ESU)
20N08W: S3	Chinook Salmon (CC-ESU)
20N08W: S4-8,17-18	Chinook Salmon (CC-ESU), Coho Salmon (SO/NC-ESU)
20N09W: S1-4,9-16	Chinook Salmon (CC-ESU), Coho Salmon (SO/NC-ESU)
21N01W: S10-11,15-16	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU), Valley Elderberry Longhorn Beetle
21N01W: S17	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
21N01W: S18-19	Steelhead Trout (CCV-ESU)
21N01W: S2-4	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
21N01W: S20	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
21N01W: S21-22	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU), Valley Elderberry Longhorn Beetle
21N01W: S27-29	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
21N01W: S30	Steelhead Trout (CCV-ESU)
21N01W: S31-32	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
21N01W: S33	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU), Valley Elderberry Longhorn Beetle
21N01W: S5,7	Steelhead Trout (CCV-ESU)
21N01W: S8-9	Chinook Salmon (SRWR-ESU), Steelhead Trout (CCV-ESU)
21N02W: S25,34-36	Steelhead Trout (CCV-ESU)
21N04W: S12-13	Vernal Pool Fairy Shrimp
21N05W: S2-5,8-9	Steelhead Trout (CCV-ESU)
21N08W: S17	Chinook Salmon (CVSR-ESU), Coho Salmon (SO/NC-ESU)
21N08W: S18	Chinook Salmon (CC-ESU), Coho Salmon (SO/NC-ESU)
21N08W: S19	Chinook Salmon (CVSR-ESU), Coho Salmon (SO/NC-ESU), Steelhead Trout (CCV-ESU)