

Part IV. Plant Assessment Form

For use with “Criteria for Categorizing Invasive Non-Native Plants that Threaten Wildlands”
by the California Exotic Pest Plant Council and the Southwest Vegetation Management Association

Table 1. Species and Evaluator Information

Species name (Latin binomial):	Cupressus macrocarpa Gordon
Synonyms:	None known
Common names:	Monterey cypress; Leyland cypress (cultivar)
Evaluation date (mm/dd/yy):	03/06/04
Evaluator #1 Name/Title:	Peter J. Warner
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Evaluator #2 Name/Title:	enter text here
Affiliation:	enter text here
Phone numbers:	enter text here
Email address:	enter text here
Address:	enter text here

Section below for list committee use—please leave blank

List committee members:	Carla Bossard, Joe DiTomaso, Cynthia Roye, John Randall, Alison Stanton, Jake Sigg, Peter Warner
Committee review date:	03/19/04
List date:	enter text here
Re-evaluation date(s):	enter text here

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	C	Other Pub. Mat'l
1.2	Impact on plant community	B	Other Pub. Mat'l
1.3	Impact on higher trophic levels	C	Observational
1.4	Impact on genetic integrity	U	Observational

“Impact”
 Enter four characters from Q1.1-1.4 below:
CBCU
 Use matrix determine the score; enter below:
B

2.1	Role of anthropogenic and natural disturbance	B 2	Observational
2.2	Local rate of spread with no management	B 2	Observational
2.3	Recent trend in total area infested within state	B 2	Observational
2.4	Innate reproductive potential	C 1	Observational
2.5	Potential for human-caused dispersal	A 3	Other Pub. Mat'l
2.6	Potential for natural long-distance dispersal	C 1	Observational
2.7	Other regions invaded	C 1	Other Pub. Mat'l

“Invasiveness”
 For questions at left, recall that an A gets 3 points, a B gets 2, a C gets 1, and a D or U gets=0. Enter the sum total of all points for Q2.1-2.7 below:
12
 Use matrix to determine score and enter below:
B

“Plant Score”
 Using matrix, determine the Overall Score and Alert Status from the three section scores and enter them below:
Medium
No Alert

3.1	Ecological amplitude	A	Observational
3.2	Distribution	C	Observational

“Distribution”
 Use matrix determine the score; enter below:
B

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes
Identify ecosystem processes impacted: Light availability severely curtailed under canopy; change in soil pH possible; impact on water availability unknown
Rationale: Direct observations of light reduction; inductive reasoning from knowledge that coniferous humus and litter are generally acidic.
Sources of information: Plant Communities, by Rosemary Donlon; posted on http://pt-lobos.parks.state.ca.us/nathis/Plants.htm Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org ; 707/937-9172.
Question 1.2 Impact on plant community composition, structure, and interactions
Identify type of impact or alteration: Eliminates large proportion of shrub and herbaceous layers under canopy; outcompetes chaparral species on infertile soils
Rationale: Observations in Plant Communities are from native stands of <i>C. macrocarpa</i> ; direct observation and comparison to adjacent intact native communities
Sources of information: Donlon, Rosemary. Plant Communities. Posted at http://pt-lobos.parks.state.ca.us/nathis/Plants.htm U. S. Dept. of Agriculture, Forest Service @ http://www.fs.fed.us/database/feis/plants/tree/cupmac/management_considerations.htm Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org ; 707/937-9172.1
Question 1.3 Impact on higher trophic levels
Identify type of impact or alteration: Displacement of native plants potentially reduces forage for native wildlife, including mammals, birds, insects; seedlings browsed by deer, rodents; foliage toxic to livestock
Rationale: Inductive reasoning (loss of native plant diversity and cover);
Sources of information: Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org ; 707/937-9172. U. S. Dept. of Agriculture, Forest Service @ http://www.fs.fed.us/database/feis/plants/tree/cupmac/management_considerations.html
Question 1.4 Impact on genetic integrity
Identify impacts: : Unknown potential to hybridize with native <i>Cupressus</i> species; potential of species to hybridize with introduced cypresses? <i>C. macrocarpa</i> has invaded native plant communities adjacent to

populations of rare <i>C. mendocinensis</i> ssp. <i>pigmaea</i> .
Rationale: Observations of <i>C. macrocarpa</i> hybridizing with introduced horticulturally planted species suggests that this taxon could hybridize with native congeners.
Sources of information: Donlon, Rosemary. Plant Communities. Posted @ http://pt-lobos.parks.state.ca.us/nathis/Plants.htm Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org ; 707/937-9172.1
Question 2.1 Role of anthropogenic and natural disturbance in establishment
Describe role of disturbance: : Somewhat dependent on human-caused disturbance – seeds need bare mineral soil for germination, but often establishes on bare wet soil along creeks, wetlands. Many infestations are adjacent to existing stands, cultivated or escaped from cultivation, of <i>Cupressus</i> .
Rationale: Observation of infestations, knowledge of land use history
Sources of information: Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org ; 707/937-9172.1
Question 2.2 Local rate of spread with no management
Describe rate of spread: Slowly spreading from cultural plantings (windbreaks, hedgerows, etc.) into adjacent unmanaged native-plant dominated vegetation types
Rationale: Observations
Sources of information: Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org ; 707/937-9172.1
Question 2.3 Recent trend in total area infested within state
Describe trend: Slow rate of spread, and high proportion of unexploited potential habitats suggest that this species could become established over a much broader area without management
Rationale: Observations of stand age distributions and inference
Sources of information: Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org ; 707/937-9172.1
Question 2.4 Innate reproductive potential
Describe key reproductive characteristics: Reproduces from seed only; prolific cone and seed production; seeds maintain viability on trees up to 4 years, probably shorter on the ground; high seed & seedling mortality due to

fungi, browsing by mammals; does not stump- or root-sprout
Rationale: Other published information; observations
Sources of information: U. S. Dept. of Agriculture, Forest Service @ http://www.fs.fed.us/database/feis/plants/tree/cupmac/management_considerations.html Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org; 707/937-9172.1
Question 2.5 Potential for human-caused dispersal
Identify dispersal mechanisms: : The most widely planted ornamental conifer in California; seed dispersal by wind or water is locally important, as new trees generally grow adjacent to existing cultivated stands.
Rationale: Knowledge of seed size and viability; observation
Sources of information: McMinn, HE, and E Maino. 1963. Pacific Coast Trees. University of California Press, Berkeley, pp. 111-112; Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org; 707/937-9172.
Question 2.6 Potential for natural long-distance dispersal
Identify dispersal mechanisms: Widely planted commercially, and transported correspondingly
Rationale: Observations
Sources of information: Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org; 707/937-9172.
Question 2.7 Other regions invaded
Identify other regions: Listed as invasive in Hawai'i
Rationale: California has few ecosystems also known in Hawaii
Sources of information: : Brooklyn Botanical Garden website @ http://www.bbg.org/gar2/topics/sustainable/handbooks/invasiveplants/
Question 3.1 Ecological amplitude
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: : Limited to coastal ecosystems and vegetation types, but invading most terrestrial systems:

north coastal scrub, riparian scrub, woodland, and forest, coastal terrace prairie; date of introduction unknown, but species and cultivars have been in the horticultural trade for many decades.
Rationale: Observations along central and northern California coast (Santa Cruz to Del Norte Counties)
Sources of information: Warner, PJ. 2004. Personal observations from northern coastal California, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org; 707/937-9172.1
Question 3.2 Distribution
Describe distribution: Not widely found in these types – scattered occurrences; patchy in distribution, perhaps a reflection of localized cultural plantings
Rationale: Observations
Sources of information: Warner, PJ. 2004. Personal observations from Marin, Sonoma, and Mendocino Counties, 1996-2004. Personal communication 19 March 2004. pwarner@mcn.org; 707/937-9172.

Worksheet A

Complete this worksheet to answer Question 2.4.

Reaches reproductive maturity in 2 years or less	No: 0 pt
Dense infestations produce >1,000 viable seed per square meter	No: 0 pts
Populations of this species produce seeds every year.	Yes: 1 pt
Seed production sustained over 3 or more months within a population annually	Yes: 1 pt
Seeds remain viable in soil for three or more years	No: 0 pts
Viable seed produced with <i>both</i> self-pollination and cross-pollination	No: 0 pt
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	No: 0 pt
Fragments easily and fragments can become established elsewhere	No: 0 pts
Resprouts readily when cut, grazed, or burned	No: 0 pt
	3 pts Total Unknowns
	C (1-3)
Note any related traits: enter text here	

Worksheet C - California Ecological Types

(*sensu* Holland 1986)

Major Ecological Types	Minor Ecological Types	Code*
Marine Systems	marine systems	score
Freshwater and Estuarine Aquatic Systems	lakes, ponds, reservoirs	score
	rivers, streams, canals	score
	estuaries	score
Dunes	coastal	D. present
	desert	score
	interior	score
Scrub and Chaparral	coastal bluff scrub	score
	coastal scrub	C
	Sonoran desert scrub	score
	Mojavean desert scrub (incl. Joshua tree woodland)	score
	Great Basin scrub	score
	chenopod scrub	score
	montane dwarf scrub	score
	Upper Sonoran subshrub scrub	score
Grasslands, Vernal Pools, Meadows, and other Herb Communities	coastal prairie	C. 5-20%
	valley and foothill grassland	score
	Great Basin grassland	score
	vernal pool	score
	meadow and seep	score
	alkali playa	score
	pebble plain	score
Bog and Marsh	bog and fen	score
	marsh and swamp	score
Riparian and Bottomland	riparian forest	D. present
	riparian woodland	D. present
	riparian scrub (incl. desert washes)	D. present
Woodland	cismontane woodland	score
	piñon and juniper woodland	score
	Sonoran thorn woodland	score
Forest	broadleaved upland forest	score
	North Coast coniferous forest	score
	closed cone coniferous forest	score
	lower montane coniferous forest	score
	upper montane coniferous forest	score
	subalpine coniferous forest	score
Alpine Habitats	alpine boulder and rock field	score
	alpine dwarf scrub	score

* A. means >50% of type occurrences are invaded; B means >20% to 50%; C. means >5% to 20%; D. means present but ≤5%; U. means unknown (unable to estimate percentage of occurrences invaded).