WHIPPET Species Assessment Form

Fill out this form to keep track of and justify your reasoning for scoring species.

Species Scientific Name:
Species Common Name:

General comments:

Insert Photo and credit Here

Impact

Impact to Wildlands

Answer the four questions below (Q 1.1, 1.2, 1.3, & 1.4) and use the scoring matrix to determine the equivalent Cal-IPC Inventory Impact Score for Section 1. Ecological Impact (equivalent, pg 6-7):

WHIPPET Score (A=10, B= 6, C/U=3, D=1, or very low =0):

Question 1.1

Impact on abiotic ecosystem processes

Consider the impact on the natural range and variation of abiotic ecosystem processes and systemwide parameters in ways that significantly diminish the ability of native species to survive and reproduce. Alterations that determine the types of communities that can exist in a given area are of greatest concern. Examples of abiotic processes include:

- fire occurrence, frequency, and intensity;
- geomorphological changes such as erosion and sedimentation rates;
- hydrological regimes, including soil water table;
- nutrient and mineral dynamics, including salinity, alkalinity, and pH;
- light availability (e.g. when an aquatic invader covers an entire water body that would otherwise be open).

Select the one letter below that best describes this species' most severe impact on an abiotic ecosystem process:

Selection	Letter	Description
	A	Severe, possibly irreversible, alteration or disruption of an ecosystem process.
	B	Moderate alteration of an ecosystem process.
	C	Minor alteration of an ecosystem process.
	D	Negligible perceived impact on an ecosystem process.

	U	Unknown

Justification/Reference:

Question 1.2
Impact on plant community composition, structure, and interactions

Consider the cumulative ecological impact of this species to the plant communities it invades. Give more weight to changes in plant composition, structure, and interactions that involve rare or keystone species or rare community types. Examples of severe impacts include:

- formation of stands dominated (>75% cover) by the species;
- occlusion (>75% cover) of a native canopy, including a water surface, that eliminates or degrades layers below;
- significant reduction or extirpation of populations of one or more native species.
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Examples of impacts usually less than severe include:

- reduction in propagule dispersal, seedling recruitment, or survivorship of native species;
- creation of a new structural layer, including substantial thatch or litter, without elimination or replacement of a pre-existing layer;
- change in density or depth of a structural layer;
- change in horizontal distribution patterns or fragmentation of a native community;
- creation of a vector or intermediate host of pests or pathogens that infect native plant species.

Select the one letter below that best describes this species' impact on community composition, structure and interactions:

Selection	Letter	Description
	A	Severe alteration of plant community composition, structure, or interactions.
	B	Moderate alteration of plant community composition.
	C	Minor alteration of community composition.
	D	Negligible impact known; causes no perceivable change in community composition, structure, or interactions.
	U	Unknown

Justification/Reference:

Question 1.3
Impacts on higher trophic levels

Consider the cumulative impact of this species on the animals, fungi, microbes, and other organisms in the communities that it invades. Although a non-native species may provide resources for one or a few native species (e.g. by providing food, nesting sites, etc.), the ranking should be based on the species' net impact on all native species. Give more weight to changes in composition and interactions involving rare or keystone species or rare community types.
Examples of severe impacts include:

- extirpation or endangerment of an existing native species or population;
- elimination or significant reduction in native species' nesting or foraging sites, cover, or other critical resources (i.e., native species habitat), including migratory corridors.

Examples of impacts that are usually less than severe include:

- minor reduction in nesting or foraging sites, cover, etc. for native animals;
- minor reduction in habitat connectivity or migratory corridors;
- interference with native pollinators;
- injurious components, such as awns or spines that damage the mouth and gut of native wildlife species, or production of anti-digestive or acutely toxic chemical that can poison native wildlife species.

Select the one letter below that best describes this species' impact on community composition and interactions:

Selection	Letter	Description
	A	Severe alteration of higher trophic populations, communities, or interactions.
	B	Moderate alteration of higher trophic level populations, communities, or interactions.
	C	Minor alteration of higher trophic level populations, communities or interactions.
	D	Negligible impact; causes no perceivable change in higher trophic level populations, communities, or interactions.
	U	Unknown

Justification/Reference:

Question 1.4
Impact on genetic integrity

Consider whether the species can hybridize with and influence the proportion of individuals with nonnative genes within populations of native species.
Mechanisms and possible outcomes include:

- *f* production of fertile or sterile hybrids that can outcompete the native species;
- *f* production of sterile hybrids that lower the reproductive output of the native species.

Select the one letter below that best describes this species' impact on genetic integrity:

Selection	Letter	Description
	A	Severe (high proportion of individuals).
	B	Moderate (medium proportion of individuals).
	C	Minor (low proportion of individuals).
	D	No known hybridization.
	U	Unknown

Justification/Reference:

Table: Scoring Matrix for Impact to Wildlands.

Section 1 Scoring Matrix				
Q 1.1	***Q 1.2***	***Q 1.3***	***Q 1.4***	**Score**
A	*A*	*Any*	*Any*	**A**
A	*B*	*A,B*	*Any*	**A**
A	*B*	*C,D,U*	*Any*	**B**
A	*C,D,U*	*Any*	*Any*	**B**
B	*A*	*A*	*Any*	**A**
B	*A*	*B*	*A*	**A**
B	*A*	*B,C*	*B-D,U*	**B**
B	*A*	*C,D,U*	*A*	**A**
B	*A*	*C,D,U*	*B-D,U*	**B**
B	*B*	*A*	*A*	**A**
B	*C,D,U*	*A*	*A*	**B**
B	*B-D*	*A*	*B-D,U*	**B**
B	*B-D*	*B-D,U*	*Any*	**B**
B	*D,U*	*C,D,U*	*A-B*	**B**
B	*D,U*	*C,D,U*	*C,D,U*	**C**
C-D,U	*A*	*A*	*Any*	**A**
C	*B*	*A*	*Any*	**B**
C	*A,B*	*B-D,U*	*Any*	**B**
C	*C,D,U*	*Any*	*Any*	**C**
D	*A,B*	*B*	*Any*	**B**
D	*A,B*	*C,D,U*	*Any*	**C**
D	*C*	*Any*	*Any*	**C**
D	*D,U*	*Any*	*Any*	**D**
U	*A*	*B,C*	*Any*	**B**
U	*B,C*	*A,B*	*Any*	**B**
U	*B,C*	*C,D,U*	*Any*	**C**
U	*U*	*Any*	*Any*	**U**

Invasiveness

Spread Rate

Max rate of spread without management (Cal-IPC Inventory Invasive Potential score Q2.2 or equivalent, pg 8):

WHIPPET Score (A=10, B=6, C/U=3, D=1, or Very Low =0):

Question 2.2

Local rate of spread with no management

Assess this species' rate of spread in existing localized infestations where the proportion of available habitat invaded is still small when no management measures are implemented.

Select the one letter below that best describes the rate of spread:

Selection	Letter	Description
	A	Increases rapidly (doubling in <10 years)
	B	Increases, but less rapidly
	C	Stable
	D	Declining
	U	Unknown

Justification/Reference:

Feasibility of Eradication

Reproductive Ability

Reproductive Ability (Cal-IPC Inventory Invasive Potential score Q2.4 or equivalent, pg 8):

WHIPPET Score (D=10, C/U= 6, B=3, A=1, or very high =0):

Question 2.4

Innate reproductive potential

Assess the innate reproductive potential of this species by counting the attributes below that apply to this species. (Note any other related traits this species possesses.) Score this question by counting the number of questions to which the answer is "Yes." Some questions are worth 2 points, the rest 1 point.

Rate of maturation:

Reaches reproductive maturity in 2 years or less.

Yes No Unknown (1 point)

Reproduces by seed:

Dense infestations produce >1,000 viable seed per square meter.

Yes No Unknown (2 points)

Populations of this species produce seeds every year.

Yes No Unknown (1 point)

Seed production sustained over 3 or more months within a population annually.

Yes No Unknown (1 point)

Seeds remain viable in soil for three or more years.

Yes No Unknown (2 points)

Viable seed produced with both self-pollination and cross-pollination.

Yes No Unknown (1 point)

Reproduces vegetatively:

Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes.

Yes No Unknown (1 point)

Fragments easily and fragments can become established elsewhere.

Yes No Unknown (2 points)

Resprouts readily when cut, grazed, or burned

Yes No Unknown (1 point)

Based on your total from counting "Yes" answers above, select the one letter below that best describes the reproductive characteristics of this species:

Selection	Letter	Description
	A	High reproductive potential (6 or more points).
	B	Moderate reproductive potential (4-5 points).
	C	Low reproductive potential (3 points or less and less than 3 Unknowns).
	D	Very low reproductive potential (zero points and no unknowns)
	U	Unknown (3 or fewer points and 3 or more unknowns)

Justification/Reference:

Detectability

Is weed readily visible against background vegetation before flowering?:
Justification/Reference:
WHIPPET Score (Highly visible=10, Visible=6, Moderately Visible=3, Somewhat Visible=1, or Cryptic=0):

Control Effectiveness

Number of treatments required to kill a mature individual?:
Justification/Reference:
WHIPPET Score (Very High=10, High=6, Moderate=3, Low=1, or Very Low=0):

Control Cost

On-site control method (avg $/acre) & number of follow-up treatments needed to achieve 100% control:
Justification/Reference:
WHIPPET Score (Very Low=10, Low=6, Moderate=3, High=1, or Very High=0):

References

1. Cal-IPC Plant Assessment Form:

2. DiTomaso, J.M. and E.A. Healy (2007) Weeds of California and Other Western States. University of California Agriculture and Natural Resources Publication 3488, Page #:
3. Expert personal communication:
4. Other sources: