<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the species highly domesticated?</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Has the species become naturalised where grown?</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Does the species have weedy races?</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Species suited to FL climates (USDA hardiness zones; 0 low, 1 intermediate, 2 high)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Quality of climate match data (0 low; 1 intermediate; 2 high)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Broad climate suitability (environmental versatility)</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Native or naturalized in regions with an average of 1160 inches of annual precipitation</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Does the species have a history of repeated introductions outside its natural range?</td>
<td>y</td>
<td></td>
</tr>
<tr>
<td>Naturalized beyond native range</td>
<td>y</td>
<td>2</td>
</tr>
<tr>
<td>Garden/amenity/disturbance weed</td>
<td>y</td>
<td>2</td>
</tr>
<tr>
<td>Weed of agriculture</td>
<td>y</td>
<td>4</td>
</tr>
<tr>
<td>Environmental weed</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Congeneric weed</td>
<td>y</td>
<td>2</td>
</tr>
<tr>
<td>Produces spines, thorns or burrs</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Allopathic</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Unpalatable to grazing animals</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Toxic to animals</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Host for recognised pests and pathogens</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Causes allergies or is otherwise toxic to humans</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Creates a fire hazard in natural ecosystems</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Is a shade tolerant plant at some stage of its life cycle</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North &amp; Central Zones: infertile soils; South Zone: shallow limerock or Histisols.</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Climbing or smothering growth habit</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Forms dense thickets</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Aquatic</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Grass</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Nitrogen fixing woody plant</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Geophyte</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Evidence of substantial reproductive failure in native habitat</td>
<td>n</td>
<td>0</td>
</tr>
<tr>
<td>Produces viable seed</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Hybridizes naturally</td>
<td>y?</td>
<td>1</td>
</tr>
<tr>
<td>Self compatible or apomictic</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Requires specialist pollinators</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Reproduction by vegetative propagation</td>
<td>n</td>
<td>-1</td>
</tr>
<tr>
<td>Minimum generative time (years)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Propagules dispersed intentionally by people</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Propagules likely to disperse as a produce contaminant</td>
<td>n</td>
<td>-1</td>
</tr>
<tr>
<td>Propagules adapted to wind dispersal</td>
<td>n</td>
<td>-1</td>
</tr>
<tr>
<td>Propagules water dispersed</td>
<td>y</td>
<td>1</td>
</tr>
<tr>
<td>Propagules bird dispersed</td>
<td>y</td>
<td></td>
</tr>
<tr>
<td>Propagules dispersed by other animals (externally)</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Propagules dispersed by other animals (internally)</td>
<td>?</td>
<td></td>
</tr>
</tbody>
</table>

**Leonotis nepetifolia—Christmas candlestick, lion’s-ear**
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Score</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.01</td>
<td>Prolific seed production</td>
<td>n</td>
<td>-1</td>
</tr>
<tr>
<td>8.02</td>
<td>Evidence that a persistent propagule bank is formed (&gt;1 yr)</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>8.03</td>
<td>Well controlled by herbicides</td>
<td>y</td>
<td>-1</td>
</tr>
<tr>
<td>8.04</td>
<td>Tolerates, or benefits from, mutilation or cultivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.05</td>
<td>Effective natural enemies present in U.S.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Score** | 14<br><br><br>**Implemented Pacific Second Screening** | No<br><br><br>**Risk Assessment Results** | High Risk

<table>
<thead>
<tr>
<th>Section</th>
<th># Questions Answered</th>
<th>Satisfy Minimum?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10</td>
<td>yes</td>
</tr>
<tr>
<td>B</td>
<td>6</td>
<td>yes</td>
</tr>
<tr>
<td>C</td>
<td>16</td>
<td>yes</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>yes</td>
</tr>
<tr>
<td>Reference</td>
<td>Source data</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>1.01</td>
<td>cultivated, but no evidence of selection for reduced weediness</td>
<td></td>
</tr>
</tbody>
</table>

| 1.03      | 1. Distribution in the native and cultivated ranges is very widespread, so there are most likely at least 3 climatic groups. 2. "Distributional range: pantropic weed, origin tropical Africa". 3. "L. nepetifolia is native to tropical Africa, but is introduced and naturalized in many tropical regions." |
| 2.02      | 1. Microsoft Encarta World Precipitation and Average Rainfall [http://uk.encarta.msn.com/encnet/RefPages/RefMedia.aspx?refid=461530746&artrefid=761554737&pn=3&sec=-1]. For Africa (tropical): ranges from under 10 inches to over 80 inches [not specific enough to determine whether precipitation falls into the given ranges]. |
| 2.03      | 1. "L. nepetifolia is native to tropical Africa, but is introduced and naturalized in many tropical regions." 2. "Leonotis nepetifolia is native to the Old World tropics but now is widespread in the tropics and subtropics of both hemispheres." |
| 3.01      | 1. "L. nepetifolia is native to tropical Africa, but is introduced and naturalized in many tropical regions." 2. "Native to tropical Africa, widely naturalized; in Hawaii...now naturalized in low elevation, dry to occasionally wet, disturbed habitats"

| 3.03      | 1. "Weed of waste-places and cultivated areas" 2. "This nuisance plant is fairly common throughout the country, generally infesting cultivated soils and vacant lots"

| 3.04      | no evidence |
| 3.05      | no description of these traits |
| 4.01      | L. mollissima considered a common weed in Kenya. |

no description of parasitism

no evidence

no evidence


"Unshaded plants in the open fields bore fewer flowers than those growing in shaded areas close to Acacia trees and secondary scrub growth."


"Histisols do not occur in the native habitat of this species. 2. "On sandy soil" [L. nepetifolia var. nepetifolia] BUT 3. "It prefers fertile, well-drained soil".


"The dense thickets formed are a nuisance"; up to 2 m high. 2. "In this region, Leonotis nepetifolia grows in dense large stands in maize fields left fallow for 1-2 years."


Growth habit: forb/herb.


"Reproducing by seed".

"We did notice two apparent hybrid plants, L. mollissima × L. nepetifolia" in a locality where both species occurred. 2. "Leonotis nepetifolia is self-compatible".

"Spread is solely by seed".
| 7.01 | Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. | "Seed also is moved in mud adhering to stock, machinery and other vehicles and some are spread during road grading." |
| 7.03 | no evidence |
| 7.04 | Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. | Seed "has no special adaptations to aid dispersal". |
| 7.05 | Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. | "Seeds shaken out of the mature fruit are readily moved in water as is indicated by the numerous riverbank colonies of the weed." |
| 7.06 | no evidence |
| 7.07 | Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. | "Seed also is moved in mud adhering to stock" [a minor means of dispersal?] |
| 7.08 | no evidence |
| 8.01 | 1. Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. 2. Gill and Conway (1979) Floral biology of Leonotis nepetifolia (L.) R. Br. (Labiatae). Proceedings of the Academy of Natural Sciences of Philadelphia 131: 244-256. | 1. "Prolific seeding habits"; four 1-seeded nutlets per capsule. 2. "Maximum flower densities reached were 250-300 flowers per square meter." [250-300 flowers x 4 seeds per fruit = 1,000-1,200 seeds per square meter - does not meet minimum requirement for annuals of 5,000 seeds per square meter] |
| 8.02 | Lal and Ambasht (1982) Ecological studies on seed germination of Leonotis nepetifolia (L.) Ait. f. in relation to environmental factors, with emphasis on fluoride polluted soils. Geo-Eco-Trop 6: 229-237. | "Fresh seeds were dormant due to the presence of a water soluble inhibitor in the seed coat. Dormancy ended naturally on dry storage for six months at 15-35 degrees C" [not in soil, and only for 6 months] |
| 8.03 | Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing. | "Where cultivation is not practicable, herbicides give good control. Spray plants in the vegetative stage before flowering with amine 2,4-D to run-off and repeat when new seedlings appear." |
| 8.04 | No evidence found. |