Mapping Weeds and Rare Plants to Inform Management and Conservation in the Zaca and Jesusita Fires

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Zaca Fire (2007) 240,207 Acres
Jesusita Fire (2009) 8,733 Acres

Fire Restoration Grant Program to inform post-fire habitat restoration
Project Goals: Where are the weeds?

1. Survey every maintained trail, road and firebreak within both fire scars for **rare** and **invasive plants**.
   - 290 Miles Surveyed
   - 590 Miles round-trip

2. Identify areas in need of recovery projects.
8 Invasive Plants of Concern to the Forest Service

- **Ailanthus altissima**
  - tree-of-heaven

- **Arundo donax**
  - giant reed

- **Centaurea solstitialis**
  - yellow starthistle

- **Centaurea melitensis**
  - tocalote

- **Foeniculum vulgare**
  - fennel

- **Nicotiana glauca**
  - tree tobacco

- **Ricinus communis**
  - castor bean

- **Spartium junceum**
  - Spanish broom
# 21 Weeds Mapped in the Jesusita Fire Scar

<table>
<thead>
<tr>
<th>Forest Service Listed Species</th>
<th>Other Species</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centaurea melitensis</strong> ▲</td>
<td>Ageratina adenophora ▲</td>
</tr>
<tr>
<td><strong>Centaurea solstitialis</strong> ★</td>
<td>Araujia sericifera ●</td>
</tr>
<tr>
<td>Foeniculum vulgare ▲</td>
<td>Carduus pycnocephalus ▲</td>
</tr>
<tr>
<td>Nicotiana glauca ▲</td>
<td>Cistus incanus ▼</td>
</tr>
<tr>
<td>Ricinus communis ●</td>
<td>Conium maculatum ▲</td>
</tr>
<tr>
<td>Spartium junceum ★</td>
<td>Delairea odorata ★</td>
</tr>
<tr>
<td>Dimorphotheca sp. ▲</td>
<td>Salsola sp. ▲</td>
</tr>
</tbody>
</table>

**Cal-IPC Rating:** ★ High ▲ Moderate ● Limited □ Watch □ Not Rated

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**Euphorbia terracina**

**Cistus incanus**

*Amadej Trnkoczy*
21 Weeds
6 Rare Plant Taxa
Restoring Degraded Habitat
### 10 Invasive Plants Mapped in the Zaca Fire Scar

<table>
<thead>
<tr>
<th>Forest Service Listed Species</th>
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<tbody>
<tr>
<td>Centaurea melitensis</td>
<td>Brassica nigra</td>
</tr>
<tr>
<td>Centaurea solstitialis</td>
<td>Bromus tectorum</td>
</tr>
<tr>
<td></td>
<td>Carduus pynocephalus</td>
</tr>
<tr>
<td></td>
<td>Elymus caput-medusae</td>
</tr>
<tr>
<td></td>
<td>Hirschfeldia incana</td>
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<tr>
<td></td>
<td>Marrubium vulgare</td>
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<tr>
<td></td>
<td>Silybum marinum</td>
</tr>
<tr>
<td></td>
<td>Tamarix sp.</td>
</tr>
</tbody>
</table>

#### Cal-IPC Rating:
- **High**
- **Moderate**
- **Limited**
- **Watch**
- **Not Rated**

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**Map Legend:**
- **Roads**
  - Surveyed
  - Not Surveyed
- **Trails**
  - Surveyed
  - Not Surveyed
- **Firebreaks**
  - Surveyed
  - Not Surveyed

- **Rare Plants**
- **Invasive Plants**
C. melitensis Abundance vs. Use

Minimum # of Individuals

- Low
- Medium
- High

- Fall Canyon Trail
- Mission Pine Trail
- Happy Hollow Road
- Madulce Trail
- Dry Canyon Road
- Hurricane Deck
- Sierra Madre Road
- Santa Barbara Canyon Trail
- Santa Cruz Jeepway
- Buckhorn Road
- Judell Trail
- Upper Sisquoc Trail
- Sweetwater Trail
- Sulphur Spring
- Tinta Trail
- Rancho Nuevo Trail
- Deal Canyon Trail
- Hildreth Peak Fire Route
- Potrero Seco Road
- Sierra Madre Firebreak
- Mine Camp Spur
- Caliente Trail
- Pendola Jeepway
- Happy Hollow Firebreak
- Sisquoc Firebreak
- Zaca OHV
- Lower Manzana
- Lost Valley
- Loma Pelona Fire Route
- Don Victor Fire Route
- Potrero
- Upper Manzana
- Mono-Alamar + Alamar Trail
- Santa Cruz Peak Fire Route
Are there other weeds we can control?
Elymus caput-medusae

Caulanthus lemmonii
CNPS 1B.2

Eriophyllum lanatum var. hallii
CNPS 1B.2

Layia heterotricha
CNPS 1B.1

Rare Plants
- E. caput-medusae
Take-home Messages

Jesusita Fire scar
1. Higher use, lots of weeds
2. Recommend habitat restoration
3. Community engagement opportunity

Zaca Fire scar
1. Lower use, fewer weeds
2. Protect refugia for rare plants
3. Potential for species control

Weedy area in the Jesusita Fire scar

Sidalcea hickmanii var. parishii (CNPS 1B.2) on the Mission Pine Trail
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Los Padres Forest Association
Santa Ynez Band of Chumash
California Native Plant Society
Santa Barbara Botanic Garden Staff
Santa Barbara Botanic Garden Volunteers
Thank You!
Use Decision Tree

Accessible:
zero obstructions
(locked gate, 4x4 road)
to trailhead access

Not Accessible:
obstructions present (locked
gate, 4x4 road)

Accessible to Forest Service
Only:
Closed to public, but used by
Forest Service/special use
permits

Use:
A relative measure of # of
individuals encountered on
each trail (hikers, bikers, etc.)
or of documented land use
(grazing, dozer lines, etc.)

Accessible Trailhead or Entrance?  

Accessible by Forest Service and/or Special Use?

High Use?

High Use?

High Use?

Yes  No  Yes  No

High Medium  Medium  Low  Medium  Low