

Alien Species –  
They're knocking on your front door!

Yellow starthistle in Rim Country

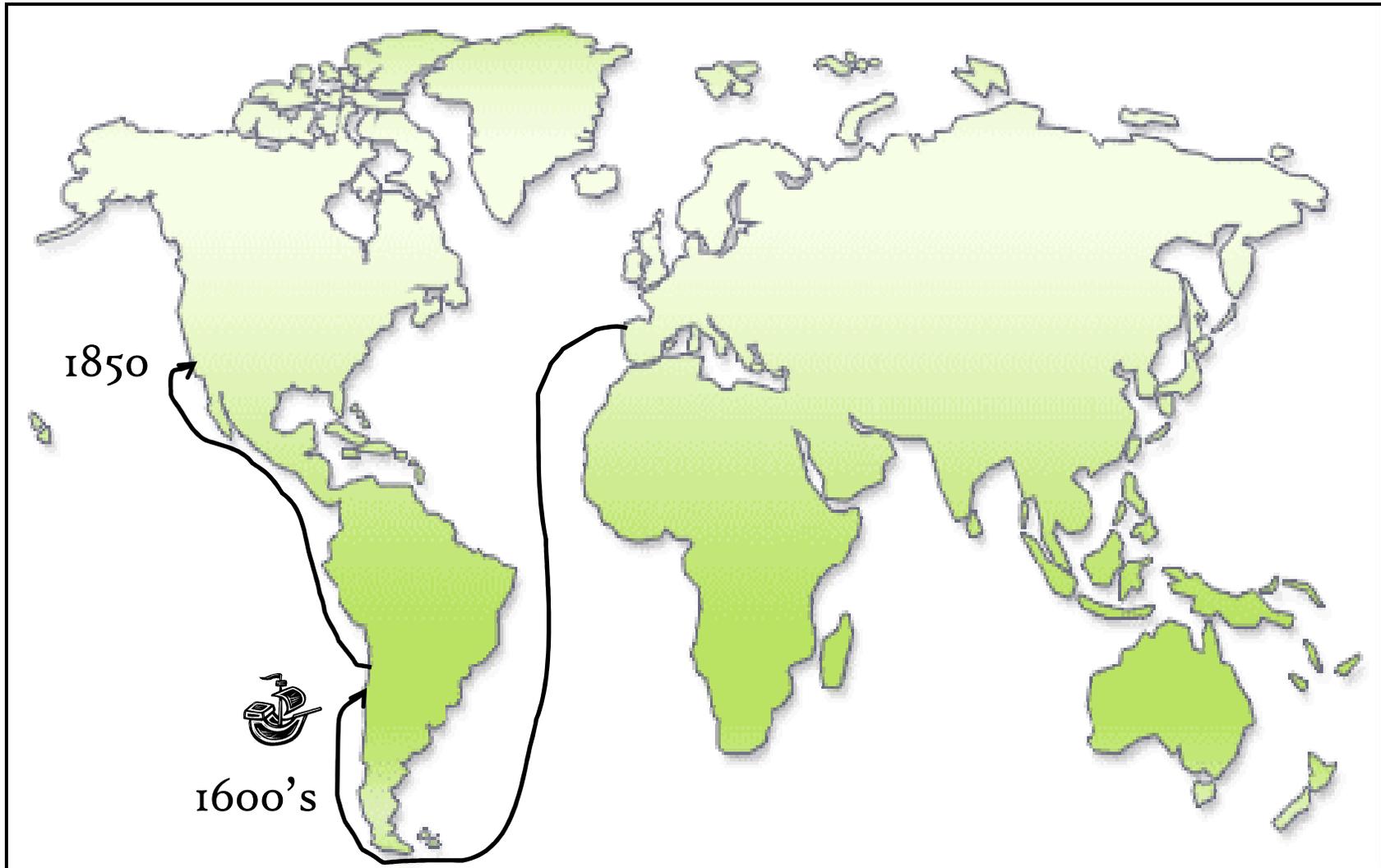


# Why is the Forest Service so concerned about a few weeds in the town of Payson?



They don't stay in one place – in fact they seed prolifically, and infestations move from street corners in town to the National Forest.

# Where did it come from?



About 50 seeds per flower.



Remember this number. For later in the show.....

# What Yellow starthistle affects:

- Ecosystem function
- Wildlife habitat
- Horses and ranchers
- Soil stability
- Land values
- Scenic values
- Road & facility maintenance costs

# Yellow starthistle is toxic to horses



UC Davis Weed Science Program  
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Photo by Jim McHenry



It contains a neurotoxin that causes brain lesions. Damage is cumulative – that means if a horse eats small amounts for a long period of time it's as damaging as eating a lot at one time. The damage is irreversible, always ending in death of the horse.

# How does yellow starthistle get the upper hand over plants that have evolved in the southwest for millenia?



Incredibly rapid root growth. While starthistle looks like a small rosette above ground, it's putting all its energy into mining water from the soil, so that native plants experience what amounts to a "soil drought".

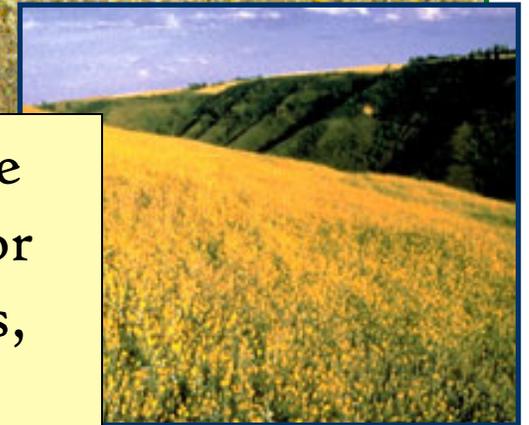
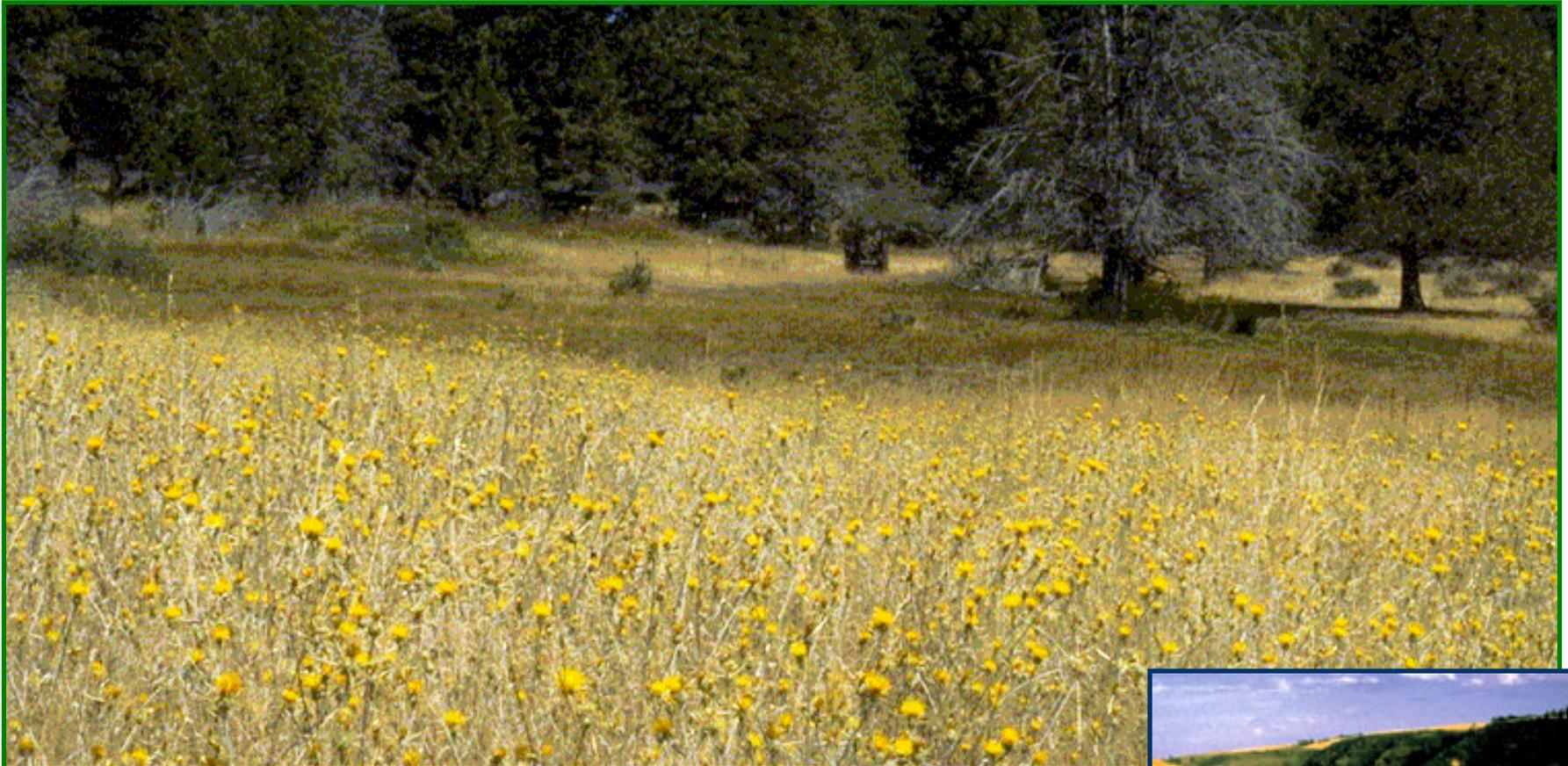


Average at least 20 flowers per plant....



Here's another number to remember....

Don't worry, it's only Oregon.



This used to be a pretty meadow, with a diverse array of grasses and forbs. Now it's not good for anything – not wildlife, not a pasture for horses, certainly not a picnic!

# This is Payson



This is the wash between the fire station and the batting cages. We've been working on this infestation for a couple of years now. It's private land, but that doesn't mean it's not going to spread to neighbors.



Yes, it's Payson again

This wash runs through many parcels of private land in town and eventually onto the National Forest – it's a conduit for weed seeds during rainstorms.

Now you can use those numbers we asked you to remember earlier....Do a little math:

Just a few plants this year.

$3 \text{ plants} \times 20 \text{ flowers/plant} \times 50 \text{ seeds/flower} = 3000 \text{ seeds}$

Say only half of these seeds germinate & grow to maturity.

Next year, 1500 new plants.

**1500 new plants**  $\times 20 \text{ flowers/plant} \times 50 \text{ seeds/flower} = 150,000 \text{ seeds}$

Year 3:

**75,000 new plants**  $\times 20 \text{ flowers/plant} \times 50 \text{ seeds/flower} = 7,500,000 \text{ seeds}$

Year 4:

**3,750,000 new plants**  $\times 20 \text{ flowers/plant} \times 50 \text{ seeds/flower} = 375,000,000 \text{ seeds}$

**Year 5 there would be 187,500,000 new plants**

And it's Out of Control!!

# First thing to do – STOP SPREADING IT!!



## What can we do?

- ⇒ Educate local citizens so they can detect and control their own weeds
- ⇒ Start a Rim Country coalition to work together, since weeds know no boundaries.
- ⇒ Partner with the Tonto National Forest to obtain grants to work together

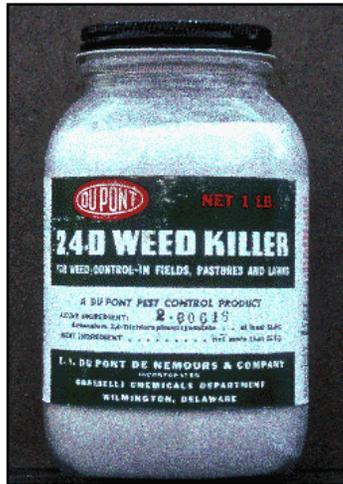
# Integrated Vegetation Management



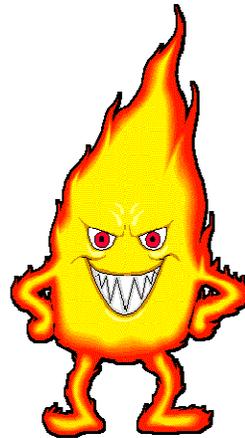
Manual & Mechanical



Biological



Herbicide



Prescribed burning  
or flaming



Cultural



Salt cedar or Tamarisk. Latin name is *Tamarix*

# Salt cedar pioneering in bare sandy areas along the Verde River



You can remove very young ones by hand pulling....

But it is labor intensive and time consuming.

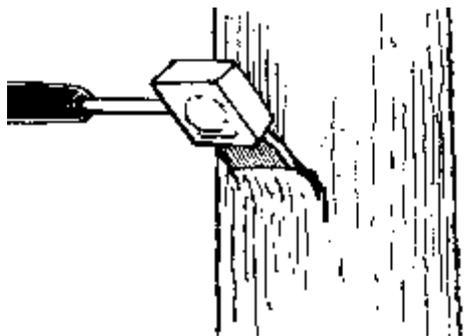
This river ranger worked for several hours to remove salt cedar seedlings from this silt deposit on the Verde.



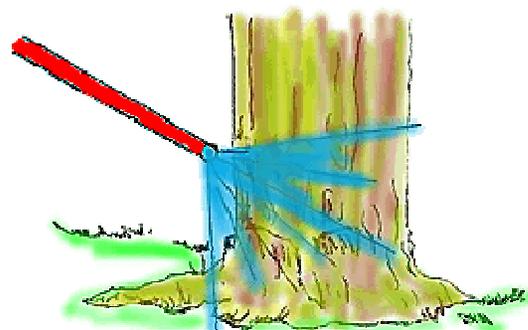
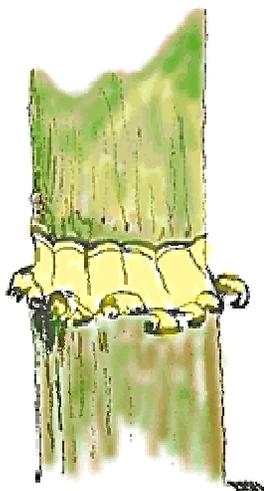


This is what is meant by the term “ladder fuel” -- It looks like a ladder for fire. Salt cedar groves accumulate lots of dead material, so they are very prone to burning.

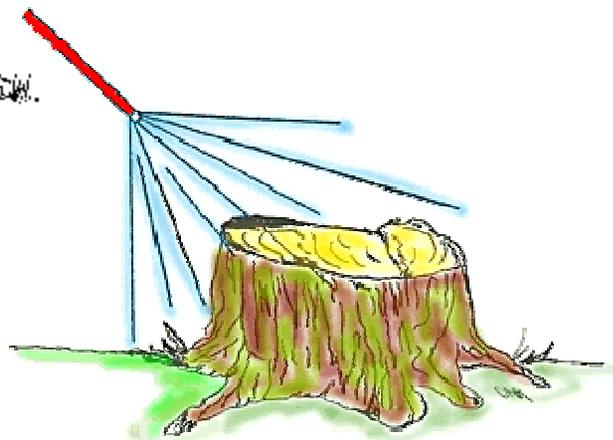
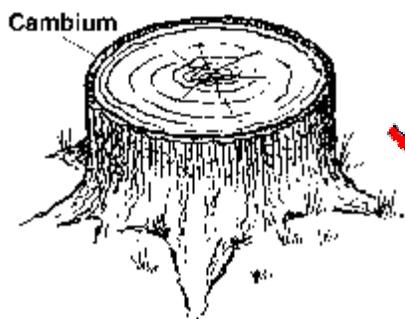
# Proven techniques to kill salt cedar with herbicide



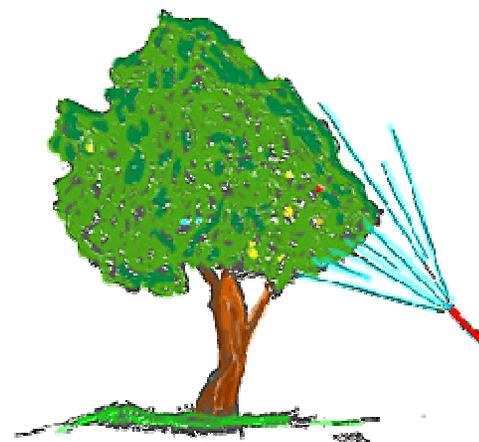
Frilling – shallow cuts,  
then apply herbicide



Basal bark application –  
for younger trees



Cut stump –  
apply herbicide immediately

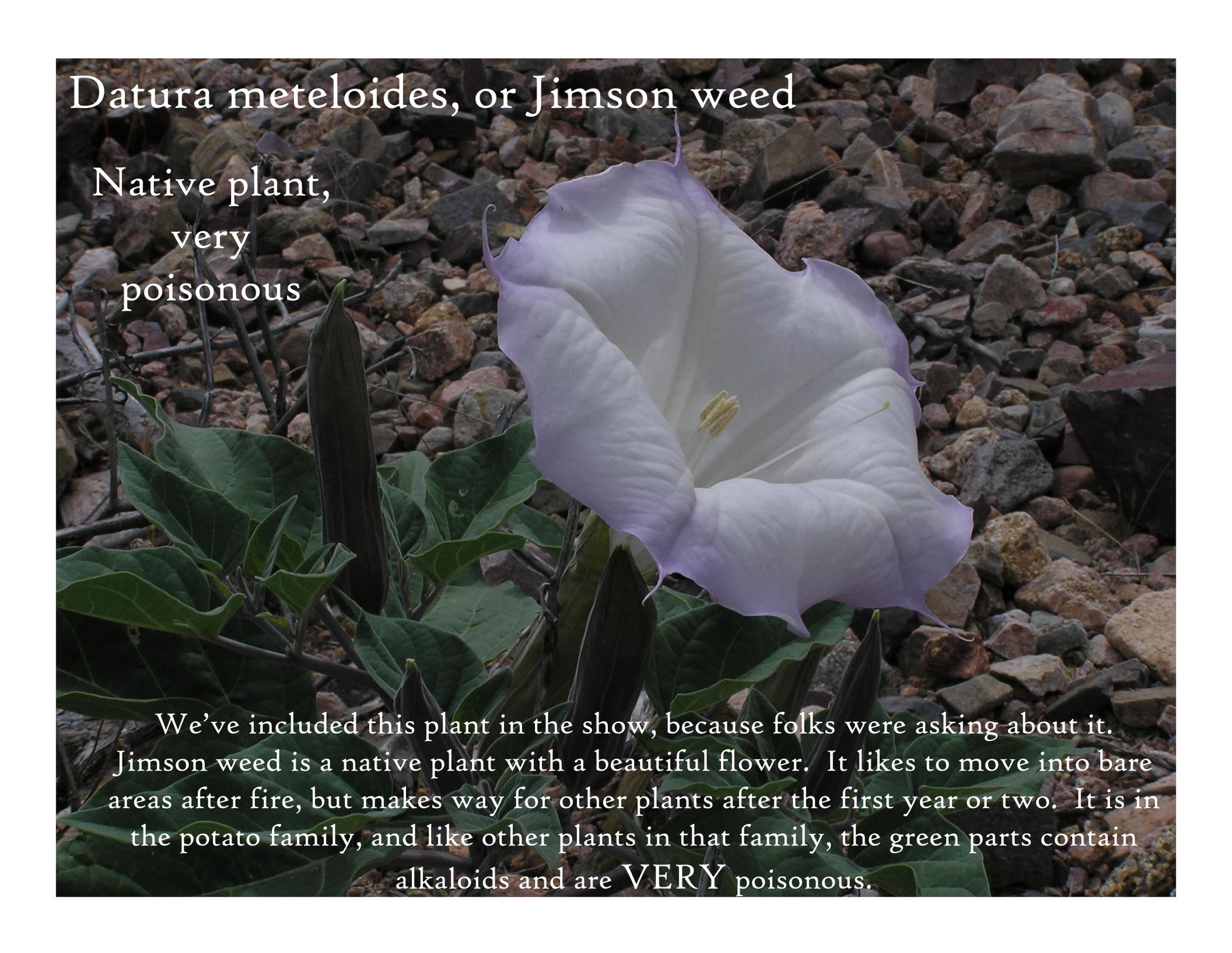


Foliar spray – be careful of  
drift and overspray!

# Field sandbur – Ouch!

Not native to our  
ecosystems. Invasive.  
Best way to combat this invasive  
grass is to grow and maintain a  
good groundcover of native grasses  
so it can't gain a foothold.





# Datura meteloides, or Jimson weed

Native plant,  
very  
poisonous

We've included this plant in the show, because folks were asking about it. Jimson weed is a native plant with a beautiful flower. It likes to move into bare areas after fire, but makes way for other plants after the first year or two. It is in the potato family, and like other plants in that family, the green parts contain alkaloids and are **VERY** poisonous.



Managing invasive plant populations is a long-term, multifaceted effort that requires coordination and cooperation among diverse land users and citizens.

