

# Monitoring for Invasive Tamarisk and Oleander Plants in Arnett Creek

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# Accessing Arnett Creek and Telegraph Canyon

**Arnett Creek** lies several miles southwest of the town of **Superior, Arizona** and can be easily accessed via the **Picketpost Trailhead** for the **Arizona National Scenic Trail**. This is a popular hiking and riding area, and many people use both Arnett Creek and Telegraph Canyon as part of a loop with the Arizona Trail around Picketpost Mountain.

From **Superior**, travel west on U.S. Highway 60 for approximately 5 miles. Following signs for the Picketpost Trailhead, turn left (south) onto Uno Trail. Continue for 1/2 mile before turning left (east) onto Saddleridge Trail. Follow this road  $\frac{3}{4}$  mile to its end at the **Picketpost Trailhead**.

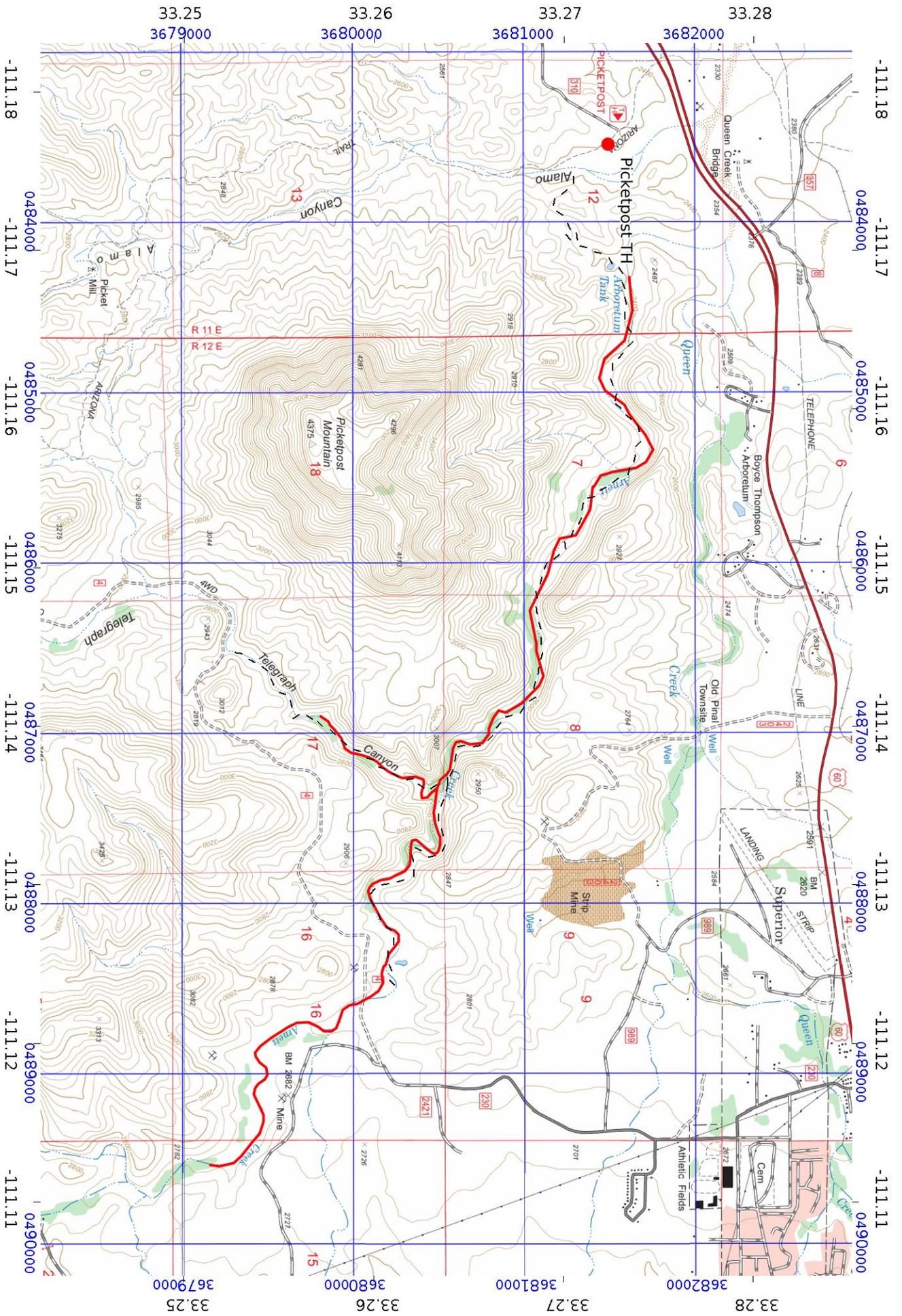
Google Maps link to trailhead: <https://goo.gl/maps/LfiVvoYvqUHupWd18>

**To hike into Arnett Creek from the Picketpost Trailhead**, follow the Arizona National Scenic Trail south out of the trailhead for nearly  $\frac{1}{4}$  mile until reaching a junction with the **L.O.S.T. Trail #221** which branches left (southeast) off the Arizona Trail. Follow this for approximately  $\frac{2}{3}$  mile until reaching a junction with the L.O.S.T. Loop Trail and a sign detailing the Arnett Creek Restoration project. This is the west (downstream) end of the monitoring area. (33.2730, -111.1686)

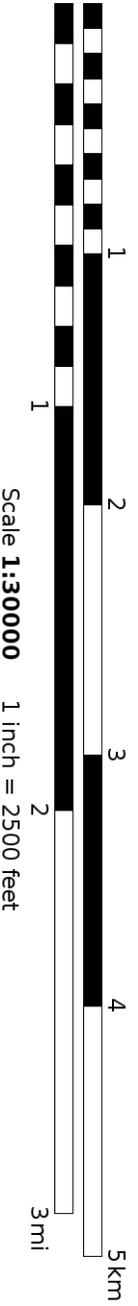
The east (upstream) end of the monitoring area is located 4.6 miles upstream where a barbed wire fence crosses the canyon bottom. (33.2514, -111.1123)

The Telegraph Canyon portion of the monitoring area is located between its confluence with Arnett Creek, which is marked by a sign, (33.2633, -111.1360) and a location 0.6 mile upstream. (33.2572, -111.1406)





Arnett Creek  
 WGS84  
 UTM Zone 12S  
**CAL TOPO**



# Identifying Tamarisk

**Saltcedar** (synonyms: salt cedar, salt-cedar, tamarix, **tamarisk**) is an invasive plant in the family Tamaricaceae, which has 4 genera with 54 species worldwide. Salt cedar is found in many riparian areas throughout the West. It was introduced in the early 1800's as an ornamental and for erosion control.

Salt cedars are fire-adapted species and have long tap roots that allow them to intercept deep water tables and interfere with natural aquatic systems. They can also increase the risk of fire in riparian ecosystems through deposition of flammable fuels (Brooks & Minnich in press).

Salt cedar disrupts the structure and stability of native plant communities and degrades native wildlife habitat by out-competing and replacing native plant species, monopolizing limited moisture, and increasing the frequency, intensity and effect of fires. The foliage of tamarisk can add salt deposits to the soil, inhibiting growth of other species (Egan et al. 1993, Brotherson & Field 1987). Although it provides some shelter, the foliage and flowers of salt cedar provide little food value for native wildlife species that depend on nutrient-rich native plant resources (Muzika & Swearingen 2005b, Brooks & Minnich, In press).

Salt cedar is able to use salty water. It does this by absorbing the salts through cell membranes. It avoids the toxic effects by using special glands to excrete the salts and by dropping salt-filled leaves. The leaves dropped each fall accumulate to a considerable depth under the canopy. Through this process, salt cedar acts as a salt pump concentrating salts from deep in the ground onto the soil surface. Over time, salts in the mulch layer kill existing plants and prevent others, especially desirable riparian species, from becoming established. As a result, the ground under a salt cedar or within a salt cedar thicket is void of plants except, on occasion, another salt tolerant species (Johnson et al 2002).

## Plant Characteristics

Most salt cedars, or tamarisks, are deciduous shrubs or small trees growing to 12 -15 feet in height and forming dense thickets. Salt cedars are characterized by slender branches and gray-green foliage. The bark of young branches is smooth and reddish-brown. As the plants age, the bark becomes brownish-purple, ridged and furrowed. Leaves are scale-like, about 1/16 inch long and overlap each other along the stem. They are often encrusted with salt secretions. From March to September, large numbers of pink to white flowers appear in dense masses on 2-inch long spikes at branch tips. Salt cedar spreads vegetatively, by adventitious roots or submerged stems, and sexually. Each flower can produce thousands of tiny (1/25-inch diameter) seeds that are contained in a small capsule usually capped with a tuft of hair that aids in wind dispersal. Seeds can also be dispersed by water. Seedlings require extended periods of soil saturation for establishment. The fragile seeds remain viable for at most 45 days under ideal conditions. (Stevens 1990).



# Identifying Oleander

*Nerium oleander*, most commonly known as **oleander** or nerium, is a shrub or small tree belonging to subfamily Apocynoideae of the dogbane family Apocynaceae and is cultivated worldwide in temperate and subtropical areas as an ornamental and landscaping plant. It is the only species currently classified in the genus *Nerium*. It is so widely cultivated that no precise region of origin has been identified, though it is usually associated with the Mediterranean Basin.

## Plant Characteristics

Nerium grows to 2–6 m (7–20 ft) tall. It is most commonly grown in its natural shrub form, but can be trained into a small tree with a single trunk. It is tolerant to both drought and inundation, but not to prolonged frost. White, pink or red five-lobed flowers grow in clusters year-round, peaking during the summer. The fruit is a long narrow pair of follicles, which splits open at maturity to release numerous downy seeds.

Several compounds in nerium exhibit toxicity, and it has historically been considered a poisonous plant. However, its bitterness renders it unpalatable to humans and most animals, so poisoning cases are rare and the general risk for human mortality is low. Ingestion of larger amounts may cause nausea, vomiting, excess salivation, abdominal pain, bloody diarrhea and irregular heart rhythm. Prolonged contact with sap may cause skin irritation, eye inflammation and dermatitis.

Its lance-shaped leaves are smooth, narrow, thick, and dark green, ranging from 4–7 inches long. Young plants can have lighter green color leaves. These leaves can be confused with other species nearby which are not as thick or smooth and often have serrated edges compared to Oleander's smooth-edged leaves.



# How to Monitor for Tamarisk and Oleander Plants

Whether you're out for a hike and want to keep an eye out for invasive plants while you're doing so, or you'd like to conduct a thorough survey of the canyon, your efforts to help with invasive plant monitoring will be very useful in helping our ongoing efforts to restore the native riparian habitat of this beautiful desert canyon.

## Using the Survey123 App on your Phone

Download the free **Survey123** app from the iOS App Store or Google Play store.

When launching the app, select **Continue without signing in** at the bottom of the screen.

Then, on your phone, load

<https://survey123.arcgis.app/?itemID=5e4b808be962437eb98cd48e27583e1a> in your web browser or scan the QR code below to load the *Arnett Creek & Telegraph Canyon Oleander & Tamarisk Monitoring* form into the Survey123 app.



While you're out hiking in Arnett Creek or Telegraph Canyon, if you see any live tamarisk or oleander plants within the project area, open up the app, tap on the *Arnett Creek and Telegraph Canyon Oleander & Tamarisk Monitoring* form, and either follow the instructions in the form or tap the **Collect** button to document each plant individually. Be sure to **only document living plants**—if there's no evidence of life on the plant, there's no need to document it!

If you don't have internet access while monitoring in the canyon, that's okay—you can collect data even while on airplane mode. It will prompt you to **Save in Outbox**. When you're back in service, re-open Survey123, tap the **Outbox** button at the bottom of the screen, and tap **Send** to sync all your collected data with us.

If you have any questions, please contact **Jonathan Patt** at [jonathan@wildarizona.org](mailto:jonathan@wildarizona.org).