

December 25, 2005

Thirsty, alien invader a threat

By **Launce Rake**

[<lrake@lasvegassun.com>](mailto:lrake@lasvegassun.com)

Las Vegas Sun

If one were to design a plant from scratch that would take over the precious wetlands of the desert Southwest, it would look something like this: It would spread rapidly, it would displace any rival species, and it would be fire and freeze resistant.

In short, it would be the tamarisk, or salt cedar, a Eurasian native that is taking over desert wetlands and drinking up water supplies dearly needed by human rivals throughout the Southwest.

Researcher Joseph Di Tomaso, writing in *Weed Technology* in 1998, said that in the 1920s, when people first realized how tenacious the plant could be, it covered about 10,000 acres in the Southwest.

By 2004 the federal government estimated the plant covered more than 1.6 million acres throughout the West.

The invader is drinking up the water that keeps the Southwest alive. Di Tomaso found that one large tree can absorb 200 gallons a day, noting that collectively, the plants "in all heavily infested areas of the Southwest are estimated to consume almost twice as much water per year as the major cities of Southern California."

Researchers believe channel vegetation, of which tamarisk is the major component, is responsible for the Colorado River system losing as much as 568,000 acre-feet of water, almost twice Southern Nevada's annual allocation from Lake Mead.



Elizabeth Bickmore, an environmental biologist with the Southern Nevada Water Authority, looks over a thicket of tamarisk trees along the Las Vegas Wash near the Pabco Road weir Tuesday, December 20, 2005.

[Steve Marcus](#) / LAS VEGAS SUN

A few hardy souls are working to beat back the invasion. Elizabeth Bickmore, a biologist with the Southern Nevada Water Authority, leads bands of volunteers -- and occasionally prisoners working under the supervision of the Nevada Division of Forestry -- in efforts to replace tamarisk with native plants in the Las Vegas Wash.

Bickmore and allies have replaced 75 acres of thick tamarisk infestation with native vegetation. Another 60 acres of tamarisk have been burned off, freeing the land from the infestation but still waiting to be replanted. (Although fire resistant, the plant is not fire proof.)

Next year, the Water Authority and allies -- including Clark County, state and federal agencies -- plan to take out at least another 75 acres.

But all agree that is just a start. Bickmore estimates that there are 1,500 acres covered in thick tamarisk forest in and around the Las Vegas Wash.

Years of growth have turned the wash's banks into a gloomy forest carpeted with the tamarisk's tiny leaves.

"It's really the shark of the plant world," Bickmore said. "It roots very deeply. It seeds very quickly. It doesn't provide habitat for wildlife ... It just takes over. It's just a complete monoculture."

One tamarisk tree uses about as much water as a cottonwood tree, but the difference is that a stand of cottonwoods might include a dozen trees 10 feet or more apart.

Tamarisk infestations are much more dense, she said.

The densities are a byproduct of one of the tamarisk's great advantages over other vegetations. As the plant grows, it sucks up salt from the soil, which it deposits in its feathery branches and leaves. Those branches and leaves fall and coat the ground with a salty layer that effectively kills other vegetation.

"It poisons the ground," Bickmore said.

Vernon Bostick, a 91-year-old retired environmental scientist, works with Bickmore. He moved to Southern Nevada more than four decades ago to work at the Nevada Test Site; at that time, the plant already had established colonies.

"It started to spread all over the country in the 1930s," Bostick said. "By the time I got here, which was in 1961, tamarisk was all over the vacant land."

Bostick said local conservationists have had some isolated victories in eradicating tamarisk from refuges.

"You've got to cut it down, then you've got to poison the stump right," he said. "It can be controlled, but it's expensive. It's not easy."

Bickmore said the arsenal of weapons she has to control the plant includes fire, bulldozers, hand tools and small amounts of herbicide applied to the stumps of the tamarisk trees. In the wash, she pointed with pride to the growth of willows, cottonwoods, and other wetland vegetation that has replaced tamarisk.

But the plant still dominates the land around the restored habitat. Total eradication might not be feasible, Bickmore said.

"With tamarisk, we're just looking for control," she said.

One new approach to controlling the invasion is through importing a Eurasian beetle that eats tamarisk. Bickmore said the insect has shown promise in attacking tamarisk in Lovelock, north of Reno, but the insect cannot survive this far south because of the amount of sunlight it would receive.

Stanley Smith, a UNLV biologist, said the use of insects is controversial because they could snack on some other native plants and become yet another invading species.

"I'm not necessarily for the beetle, but it deserves further research," Smith said.

Like his colleagues, Smith has a lot of respect for this alien invader.

"It is an amazing plant," he said. "I have spent a lot of grueling hours out in the field studying it. It will send its root system a meter deep within a year. The second year they'll be 3 feet high. They get that root to the water table first, then they just explode."

He believes the plant can be controlled or even eradicated, but it will not be easy.

"One way to do it is spend millions of dollars using mechanical means to get rid of it," Smith said. "There's got to be another way to do it ... Eradication? If you throw enough money at it, you could do it, but it would really cost a lot of money."

Launce Rake can be reached at 259-4127 or at lrake@lasvegassun.com.