

# THE WAR AGAINST TAMARISK...HAVE WE FINALLY WON? ...and an unexpected and unpredictable side effect...the rise of the willows

By Jim Stiles

I have had a long and peculiar relationship with tamarisk ever since it was introduced to me, decades ago, when I first landed in canyon country. Of course tamarisk was itself introduced to the American Southwest many years earlier, to control bank erosion along California canals and waterways.

I have no particular fondness for the exotic plant and, in fact, it is the only living entity besides a human being that I have ever actually tried to punch (I had become so entangled and trapped in a dense tamarisk thicket on a particularly hot summer day, that I truly believed the plant was holding me against my will and I took a swing at it!)

It is reported that tamarisk has infested almost 1.6 million acres of riparian habitat in the Southwest. It consumes massive amounts of precious water and is said to have a "devastating impact on watershed biodiversity and ecosystem health."

Still, the damn weed is there....it's everywhere, and until very recently, all the millions of hours of labor and barrels of toxic poisons and the expenditures of millions and millions of dollars to "control" the plant struck me as absurd.

Many years ago, I waged a long and gruesome battle with my old employers at Arches National Park over a plan to burn and poison tamarisk at the lower end of Salt Valley. The tamarisk was very old and had, in fact, stabilized the wash enough that other native vegetation could take hold. And deep in the shadows of the densest of the tamarisk thickets was a waterhole which provided a perennial drinking spot for the native wildlife. Ultimately I lost the battle to defend the tamarisks and the waterhole as well...Last time I checked, it was gone.

(Thanks to the internet and The Zephyr web site, you can read that long tale in its entirety without me being redundant. Just click here to read my story of the Secret Spring in the Aug/Sep 2004 issue).

[www.canyoncountryzephyr.com/oldzephyr/aug-sept2004/defending.htm](http://www.canyoncountryzephyr.com/oldzephyr/aug-sept2004/defending.htm)

But a few years ago, scientists thought they may have found a way to eradicate the tamarisk biologically, without poisons and all that labor intensive cutting and burning. If it worked, what it meant was that all those years of battling the tamarisk with herbicides and chain saws had not only been an utter waste of time and money, but ultimately even counterproductive.

Still, we can only look ahead---an organization called the Tamarisk Coalition has taken a leadership role in monitoring and evaluating this latest development. According to the Coalition:

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*The primary objective of our project is to monitor a biological control called the tamarisk leaf beetle. Biological control, or bio-control, uses specific organisms to control an undesirable organism, in this case tamarisk. The tamarisk leaf beetle works to control tamarisk by repeatedly defoliating the plant over several years, stressing it to the point of death. The Colorado Department of Agriculture's Palisade Insectary released the bio-control in 2005, after several years of intense collaborative research by many different agencies and universities. As a result, the tamarisk beetles have defoliated trees along hundreds of river miles. This is now one of the most dramatic cases of biological control in history with the potential to alter ecosystem processes on a scale that spans three states and thousands of river miles.*

And it appears the little tamarisk chomping beetles have been successful beyond all expectations. Since I spend most of my time away from Moab these days, I had not taken a drive along the river road in almost a year. Even in August 2008, it was evident that the beetles were effectively killing off the tamarisk. Along miles and miles of the Colorado River, the tamarisks had turned brown and looked as if they were on their way to an early demise, which is precisely what everyone was hoping for.

But a few weeks ago, I revisited the river for the first time in almost a year and I was shocked by what I saw. In just a year, the beetle infestation had weakened the tamarisk so severely, that not only was it dying off more rapidly than I had ever anticipated, but a lush fringe of willow trees, a native plant, was already establishing a beautiful silver-green fringe of foliage along the Colorado River. I was delighted.

And then I thought about the transformation a bit. My recollection of old photographs of the Colorado River, along the main channel at least, was that much of the shoreline was free of any heavy vegetation, including willows. The willow has a very shallow root system that tends to spread horizontally, but not deeply into the riverbank. The tamarisk, on the other hand, is notorious for its deep tap roots. Not only was it able to suck water from deep below the surface, it was downright impossible to uproot the cursed plant. It's why the tamarisk was, in most cases, able to withstand the great floods of 1983 and 1984. While the highwater---it approached 150,000 cfs in Cataract Canyon---practically took out Glen Canyon dam, the tamarisks barely took notice.

Now, with a new native plant species taking hold in vast numbers, sometimes in places it could never get a foothold before, what would happen if the river was hit with another great flood? Would the shallow rooted willow be able to withstand the high fast flowing river?

Nobody is sure.

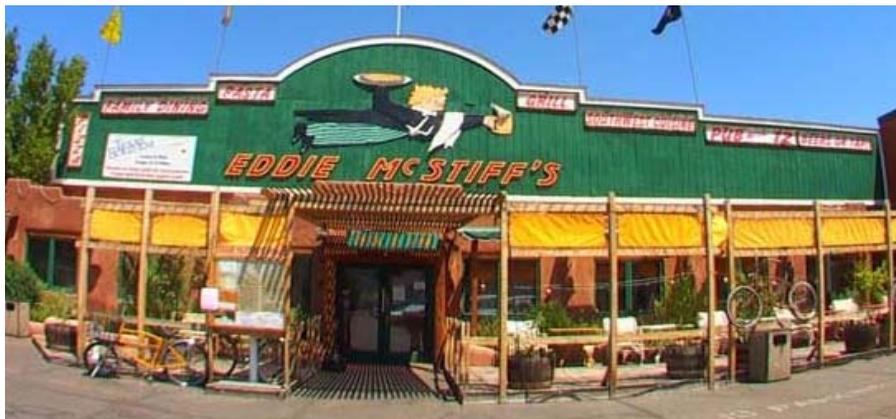
Tim Carlson, Research and Policy Director for the Tamarisk Coalition, believes many of the newly established willows may indeed be uprooted by a major flood, though he notes that flooding isn't nearly as frequent as it once was, before the era of dams and controlled river flow releases. But they can happen, even now. 1983 is proof of that. Could a hundred year flood send millions of willows down the Colorado River into the upper end of Lake Powell? Carlson even thinks that might be a benefit to the lake since an influx of organic material may provide needed nutrients to a reservoir that grows more dead and stagnant each year. But that's a lot of "nutrients" arriving all at once. Try to picture the reservoir around Hite for moment after such an exodus of willow trees...the mind boggles.

Still the prospect of navigating a river with a million uprooted willow trees may be a



daunting task for the boatman of the future. Ultimately, no matter how diligently we try to fix the man-caused errors of the past, we always seem to create new ones.

I wonder what would happen if we could just leave Nature alone for a century or two and let her try to sort things out on her own...somehow I doubt we'll ever know.



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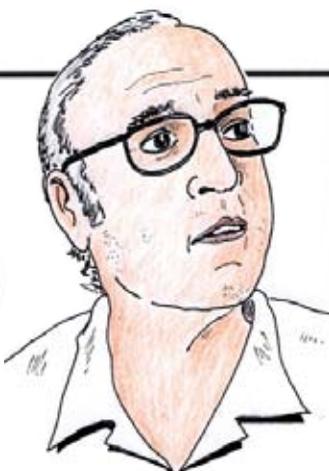
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