

# Grand Canyon

## Vegetation Management – Exotic Plant Species

National Park Service  
U.S. Department of the Interior

Grand Canyon National Park  
Arizona



*The National Park Service will strive to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes, systems, and values of the parks (NPS Management Policies 2001)*

Grand Canyon National Park (GCNP) encompasses 1.2 million acres of diverse terrain that ranges from 1,155 ft to 9,165 feet in elevation and includes nine vegetative zones. There are over 1,770 vascular plant species in the park, 187 of these are considered exotic (also called non-native or alien). About 60 of the exotic plant species currently found in the park are considered **invasive**, and are the primary focus of control efforts. Some examples of these species that occur in the inner canyon include:

- Russian olive
- Camelthorn
- Knapweeds
- Cheatgrass
- Whitetop
- Sow thistles
- Tree-of-heaven
- Tamarisk
- Ravenna
- Puncturevine
- Date palm
- Sahara mustard

These plants have characteristics that allow them to spread rapidly once established. Examples of these characteristics are high seed output, rapid seedling growth, vigorous vegetative reproduction, and long distance seed dispersal. These and other characteristics may provide them with competitive advantages over native species.

The invasion and spread of exotic species is a serious threat to park ecosystems, and if exotics are not actively and aggressively managed, the National Park System is at risk of losing a portion of its biological resources.

Exotic species have the ability to:

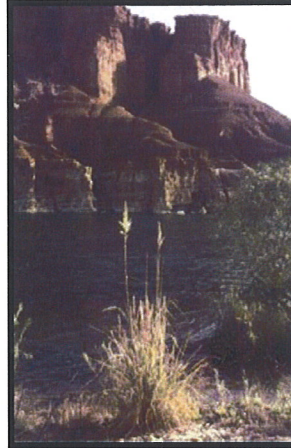
- ❖ Disrupt complex ecosystems
- ❖ Reduce biodiversity
- ❖ Degrade wildlife habitat
- ❖ Jeopardize endangered species
- ❖ Alter genetic diversity

*If you have spent any time along the Colorado River in the Grand Canyon, you may know this plant.*

*The roots of camelthorn can reach a depth of 45ft and can extend more than 24ft from the parent. This is an aggressive species that has taken over many campsites and beaches.*



Photo by Glenn Rink



*One ravenna grass plant can produce thousands of seeds that are readily transported by wind and water.*

*This is a highly competitive species that can alter plant community diversity.*



*Tamarisk usurps critical water resources that wildlife and native plants depend on in this fragile desert environment. Park biologists are working on a multi-year effort to remove tamarisk from 130 tributaries of the Colorado River.*



*Have you ever found seeds in your socks after a hike?*

*YOU may be spreading exotic plant species!*

Exotic plant management will require a long-term, partner-based management approach. Grand Canyon National Park has been pro-active; current efforts in the inner canyon include:

- Tamarisk Management and Tributary Restoration
- Ongoing control of ravenna grass and Sahara mustard
- Removal of Himalaya Blackberry and restoration of Garden Creek