



# SOCIAL TRAILS

## Restoring Fragile Desert Landscape

**WHAT ARE SOCIAL TRAILS?** Social trails are unmarked paths created by visitor traffic that diverges from established trails, usually as shortcuts to a destination. A social trail often times cuts through sensitive vegetation, such as scrubs and grass fields. In Joshua Tree, most social trails are caused by climbers who travel to various rock formations, crags and boulders.

### SOCIAL TRAILS PROJECT OBJECTIVES

Joshua Tree National Park has been studying the impacts caused by social trails for over 13 years. The current project aims complete the following:

- ◆ Restore ecosystem function, soil health, hydrological function, and native biodiversity
- ◆ Inventory and improve existing trails
- ◆ Educate visitors about the damage human traffic causes and involve climbing community in restoration efforts.

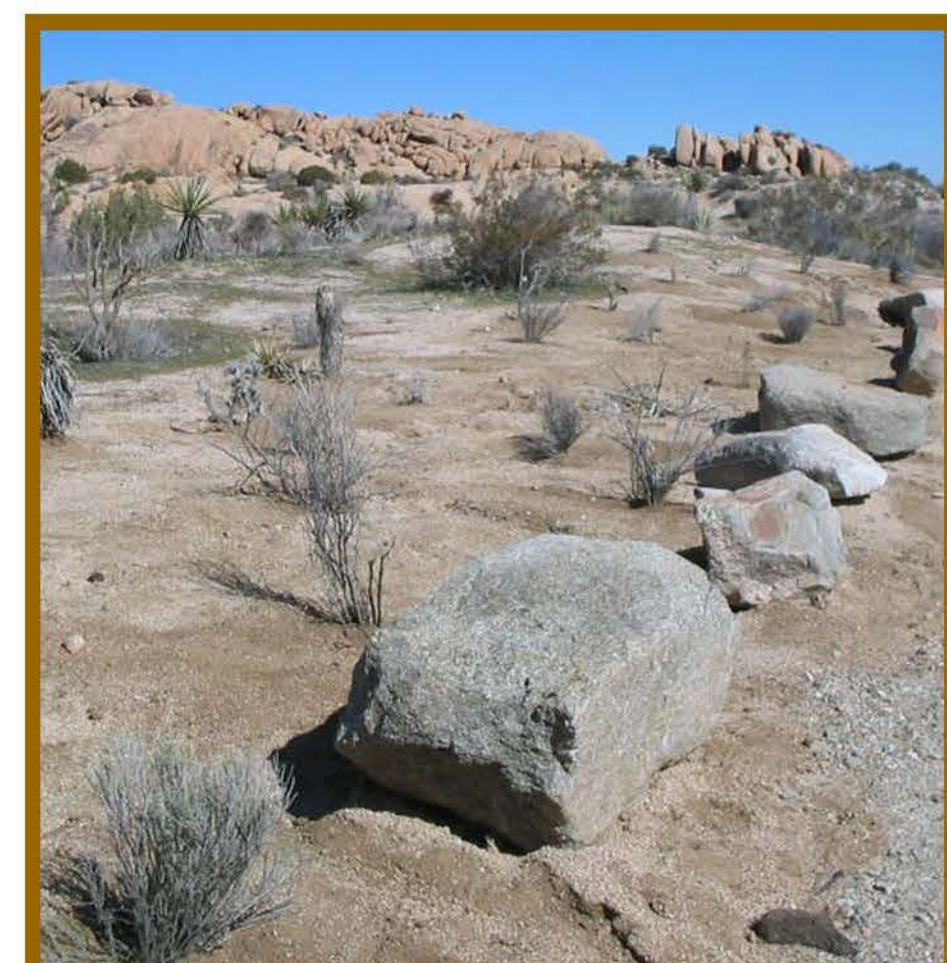
### IMPACTS OF SOCIAL TRAILS

Social Trails spread visitor impacts over a large area, rather than concentrating them along designated, carefully placed trails. Natural resource impacts include:

- ◆ Increased soil erosion and compaction
- ◆ Destruction of cryptobiotic soil
- ◆ Loss of soil biological crust and crust organism
- ◆ Reduced growth and recruitment rate for native species
- ◆ Changes in plant community compositions



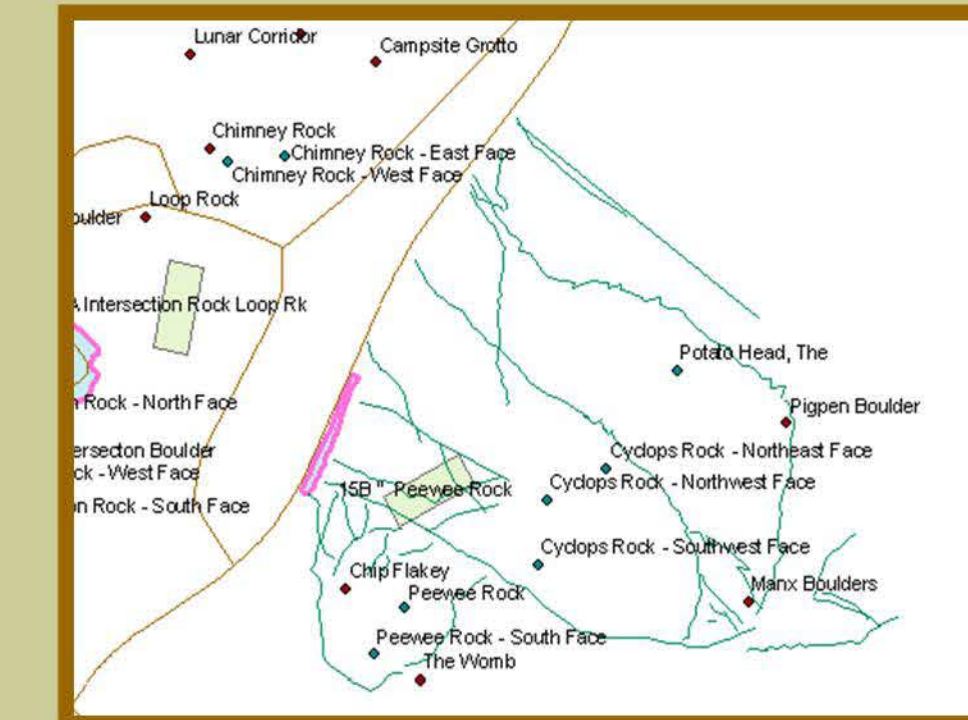
Social trail damage at Echo Cove, a popular climbing area in Joshua Tree National Park. Photo taken in the Fall of 2005 by NPS staff.



### WHY PLANT DEAD PLANTS?

Erosion control and the restoration of bare, sandy, and highly compacted areas can be a difficult and expensive process. The park uses a technique known as **Vertical Mulching** to increase the success of trail restoration. Vertical mulching is the process of placing dead plant material upright in the soil. It has been shown to increase soil moisture up to 20% by capturing rain water and providing channels for deep water infiltration. It also provides safe sites for native wind borne seeds to lodge and sprout, shade and cover for seedlings, and a source of organic matter below ground.

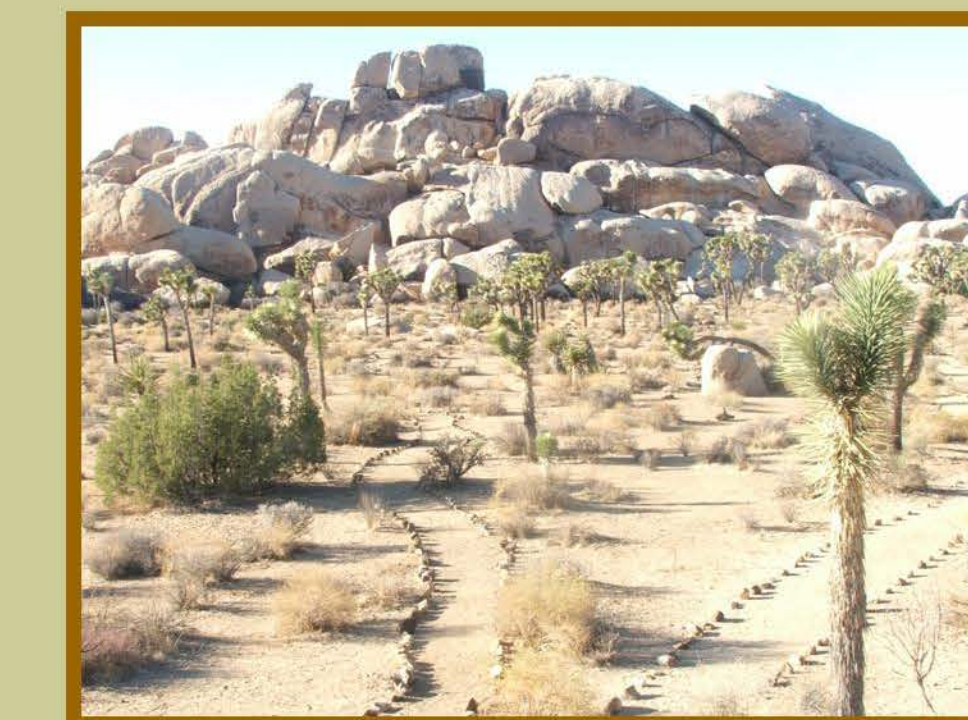
## RESTORATION METHODS



**INVENTORY** social trails to prioritize restoration areas in terms of damage and degree of restoration required



**ESTABLISH** vertical mulch at densities that match surrounding vegetation



**DESIGNATE** access routes by scratching and hardening trail surfaces, and lining them with rocks and dead vegetation



**INSTALL** brown carsonite posts at regular intervals along well established trails leading to climbing crags



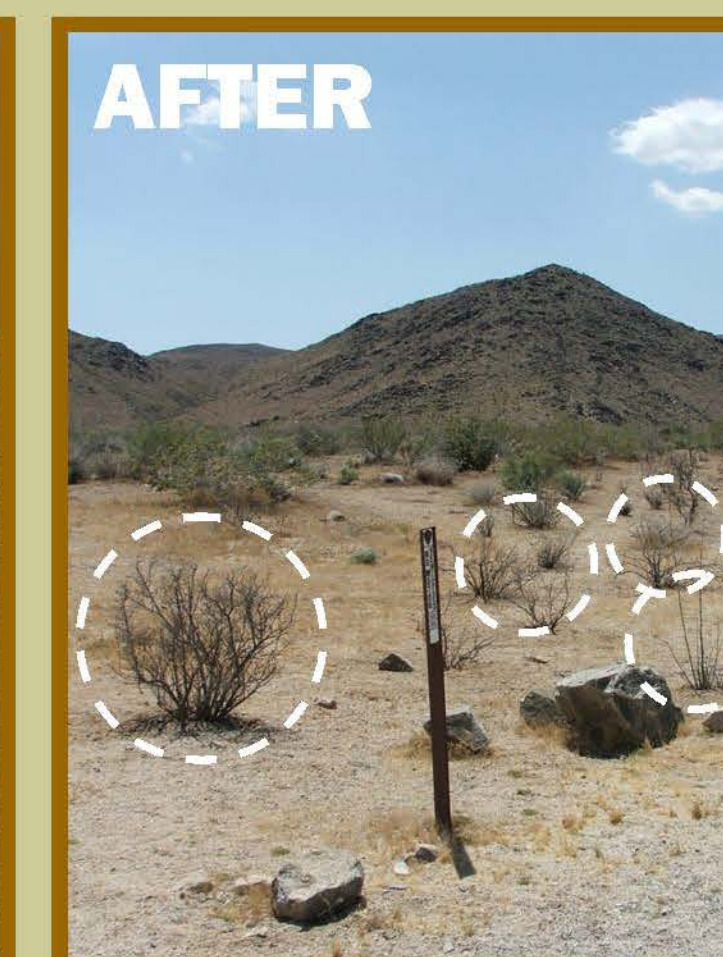
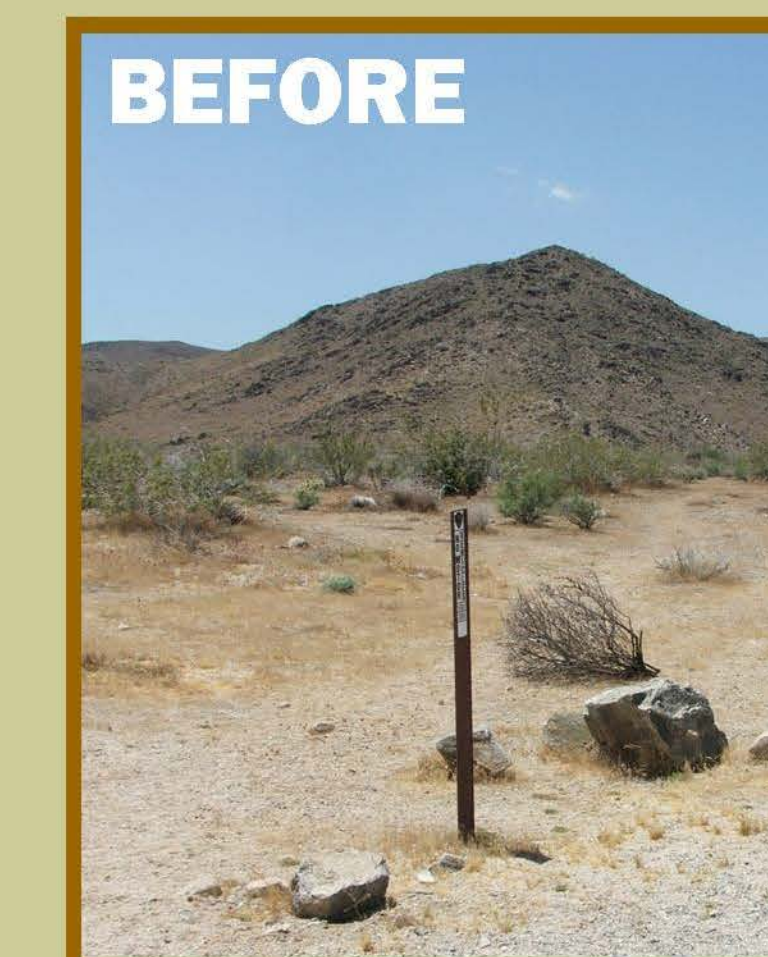
**FENCE** in parking areas to direct visitors to the proper trailheads



**PLANT** young vegetation, propagated by the Center for Arid Lands Restoration



**MAP** the existing social trails and decide which to further delineate, based on visitor use patterns. Picture taken of Echo Cove in 2007 by NPS staff.



**MONITOR** the effectiveness of vertical mulching by determining the rate of native plant reestablishment on previously impacted social trails, as well as the extent to which it redirects foot traffic back to well established trails.