

Monitoring Results for Sticky Buckwheat (*Eriogonum viscidulum*) in Lake Mead National Recreation Area, Year 2000

Submitted by Elizabeth Powell, August 2001

Introduction

Sticky buckwheat (*Eriogonum viscidulum*) was abundant on beaches at Lime Cove and Kline Hole prior to the high water event of 1998 and 1999. Water levels in Lake Mead have declined in years 2000 and 2001. This has created new beach area for reestablishment of Sticky buckwheat on open sand. It is unknown how quickly Sticky buckwheat will reestablish on the open sandy beaches, if at all.

Methods

Monitoring for Sticky buckwheat populations was set for four populations of the plant: at Lime Cove, Kline Hole, Ann Margaret Beach, and Overton Beach Road (see Figure 1). These four sites were visited in year 2000 in June and early July. Only the Overton Beach Road site was visited in year 2001. The number of plants was noted at each site and associated species recorded. Weeds on the site were recorded. Disturbance to site was also noted.

Results

At Lime Cove, only 23 plants were seen in year 2000. Certain areas of the sandy beach had abundant Tumbleweed (*Salsola tragus*). Over 50 Tumbleweed plants were pulled up from the beach area. All plants were small. Small Saltcedar (*Tamarix ramosissima*) seedlings were pulled up along the open sand. There was evidence of light use by burros: some excrement, burro tracks, and evidence of browsing on Galleta grass (*Pleuraphis rigida*). Plant species associated with Sticky buckwheat were these: *Palafoxia arida*, *Salsola tragus*, *Sphaeralcea ambigua*, *Ambrosia dumosa*, *Tiquilia latior*, *Croton californica*, *Pleuraphis rigida*, *Sporobolus cryptandrus*, *Schismus barbata*, *Tamarix ramosissima*, *Pluchea sericea*.

At Kline Hole, 57 plants were found above high water mark on hillsides on rock covered with sand. These plants were associated with *Dicoria canescens*, *Sporobolus cryptandrus*, *Palafoxia arida*, *Croton californica*, *Ambrosia dumosa*, *Ephedra nevadensis*, *Machaeranthera canescens* var. *leucanthemifolia*, *Tiquilia latior*, *Sphaeralcea ambigua*, and *Salsola tragus*. The area exhibited light use by burros and people: burro excrement, browsed galleta grass, and footprints were found on the beach.

At Ann Margaret Beach only 1 plants was found. Large numbers of Tumbleweed were found here in a wash near the single plant. There was no evidence of burros. Associated plant species were these: *Sporobolus cryptandrus*, *Stephanomeria pauciflora*, *Salsola tragus*, *Croton californica*, *Dicoria canescens*, *Ambrosia dumosa*, and *Palafoxia arida*.

At Overton Beach Road, about 50 plants were found that could be seen easily by walking over entire area. The estimated population on the dune was about 100 individuals. No disturbance was obvious, no recent burro damage was noted. Associated species were these: *Ambrosia dumosa*, *Oenothera deltoides*, *Croton californica*, *Ephedra torreyana*, *Krameria grayi*, *Stephanomeria pauciflora*, *Sphaeralcea ambigua*, *Tiquilia*

litor, *Sporobolus cryptandrus*, *Larrea tridentata*, *Chamaesyce species*, *Achnatherum hymenoides*, *Opuntia echinocarpa*, *Psoralea fremontii*, and *Machaeranthera canescens* var. *leucanthemifolia*.

Overton Beach Road site was visited again in year 2001. The number of plants on the site that could be seen easily by walking along single trail over site was about 146 individuals. Site showed no disturbance.

It is apparent that very few plants had reestablished after the high water events at any of the monitoring sites. It appears unlikely that rapid recolonization of the sites by Sticky buckwheat would occur. The number of individuals at the Overton Beach Road site has stayed reasonably stable over several years: estimated 200 plants in 1997; 100 plants in 1998; an estimated population of 180 plants in 1999; estimated 100 plants in year 2000 and about 150 plants in 2001. No obvious disturbance to site has been evident in the last two seasons. Beach sites will be monitored again in 2002.

Management Needs and Actions

The sandy beaches preferred by Sticky buckwheat are heavily used by boaters at Lake Mead Recreation Area. These beaches, because sand is not solidified, will also experience disturbance from wind. As water levels drop over the next few years, beaches will become larger. Usually only the part of the beach closest to the water is heavily utilized by people. Sticky buckwheat currently occurs only on the portions of the beaches above high water line. This portion of the beach is seldom used by boaters, picnickers, and campers. The sandy areas at water line are typically devoid of vegetation of any kind, due to the effects of inundation by water. Boater use of this portion of the beaches is probably an insignificant factor affecting the reestablishment of Sticky buckwheat.

Burros will browse on Sticky buckwheat, but while plants are scarce, browsing is also expected to be sparse. It is unknown whether the presence of burros will inhibit the reestablishment on Sticky buckwheat on the beaches. Burro removals are ongoing at Lake Mead National Recreation Area.

One of the largest factors in the inhibition of Sticky buckwheat appears to be the presence of other vegetation, particularly shrubs such as Saltcedar or Arrowweed (*Pluchea sericea*). Most of the Saltcedar on the beaches was killed by the high water of 1998 and 1999, but with water levels declining, Saltcedar has reestablished in certain areas of the beaches. Saltcedar will be removed from these beaches as it establishes. Other weeds such as Tumbleweed or Tourneforts birdrape (*Brassica tournefortii*) that may establish in areas of high Sticky buckwheat concentrations will also be removed on a yearly basis. It is not expected that chronic removals of weeds from these areas will result in an obvious decline in weed establishment on the beaches or dunes. Weeds may reestablish by distribution by people, burros, or wind. Saltcedar is present throughout the Recreation Area and seed are tiny, numerous and wind born. As water levels shift from year to year, new seedlings of Saltcedar are expected to establish on the beaches. Arrowweed is a native plant, has not reestablished in most areas and currently is not thought to be a threat to Sticky buckwheat reestablishment.