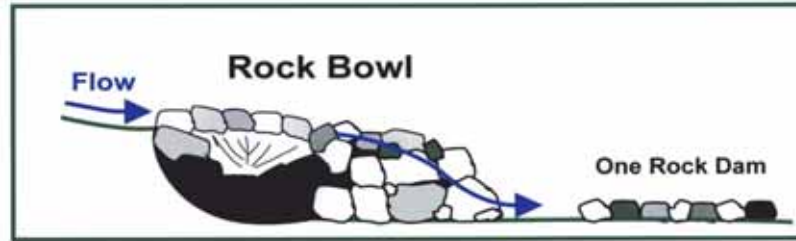


ROCK BOWL

Headcut Treatments

The higher the falls, the more power is available for eroding soil substrates at the base of the cut and the more difficult it is to repair the headcut. Turbulence at the base of the falls undercuts the headwall, which leads to cracking and sloughing. Exposure to sun and air during no-flow periods further dehydrates the soil.



Headcuts are characterized by:

- a waterfall or abrupt change in slope of a streambed;
- a fragile, cracked, or crumbling lip of the falls;
- a bowl-shaped pool at the base of the falls (plunge pool);
- undercutting; and
- rapid head-ward erosion during flood flows; followed by drying, cracking, and sloughing during low-flow or no-flow periods.

Healing Principles:

- Lower the height of the falls to reduce the force of falling water.
- Widen the lip of the falls to disperse the flow.
- Harden the base of the falls to protect substrates.
- Conserve soil moisture to enhance plant growth and develop an erosion-resistant root mass.

Successful headcut control depends on the successful application of the above principles. These are some techniques that have been shown to be effective:

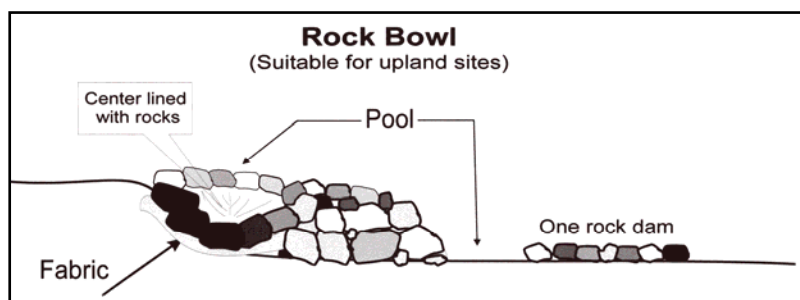
•Worm Ditches

•Log and Fabric Step Falls.

•Rock Bowls

Rock Bowls can be used to heal low headcuts up to 2 feet high. Rock bowls harden the base of the cut to stop scour and undercutting; protect the face of the headcut from drying, sloughing and frost heave; and conserve moisture for enhanced plant growth. The rocks capture sediments, debris, seeds, and plant propagates, and acts as rock mulch that protects young plants.

Rock bowls usually require 2 to 4 wheel-barrow loads of soccer to basketball-sized rocks. Line the pool, face, and sides of the headcut with rocks up to the original ground level, but not higher. Next, move down channel from the lip of the cut about 3-4 feet and build a dam about one-half the height of the cut. Make it broad and wide and blend it with the lining to form a bowl shaped depression that will catch water pouring over the lip of the headcut. The face of the bowl should layer gradually down slope to blend with the bottom of the gully.



Lining the bowl with silt fabric will help to catch sediment and detain more moisture. If lining is used, be sure to cover it with rock to secure it in place and hide it from view. Fabric is ugly!

Finally, go down the channel and build a one-rock dam about 8-10 feet downstream of the headcut.

Example of a rock bowl and one-rock dam form
Comanche Point Gully restoration



Holman Meadow Gully healing after treatment
with rock bowls and one-rock dams.

