

## SLIP SLIDING AWAY

As big a story as the rainfall was this winter, another important tale has received less focused attention. Erosion, resulting in massive soil dislocation, creek bank alteration and road damage, had a huge impact on our area and all of California during this latest storm season.

There are different forms of erosion, natural forces at work that include water, wind, soil types and the earth's gravitational pull. Water's role can include rainfall, natural or human-caused flooding, and damage from ocean storm surges, driven increasingly by sea level rise.

The erosive process is called "mass wasting" by geologists—the dynamic reduction of one mass and transport to a new site of the eroded material. If you drive up Santa Rosa Creek, to where the road is still closed, you can see the process of mass wasting very clearly. The entire creek bank has been restructured by the collapse of a section that included, unhappily, a large chunk of Santa Rosa Creek Road.

This dramatic alteration of many local creeks occurred in part because of the debris buildup that happened over several years of drought, when stream flows in midwinter looked more like midsummer. Dead wood and loose rocks piled up along the creek banks. Now, that debris covers Moonstone and San Simeon beaches, miles from its origins. In its wild ride downstream, the debris bashed into banks composed of the relatively unstable topsoil of our watersheds, combining with the force of water to exaggerate the impact.

Erosion is a constant geological activity. It's also a costly problem in our creeks and along our coast. The major damage to Highway One north of Ragged Point is only the most obvious example. When erosion continues unchecked, farms and ranches are affected, losing valuable crop and grazing land. In areas prone to flash flooding, the arroyos that develop are a danger to the livelihood of the land-

owners and safety of livestock.

The condition of the soil in our area also leads to another form of erosion—slipping. South of Harmony, on the east side of Highway One, you can see clear examples—large chunks of grass-covered earth have broken away and slid down the steep hillside. The mixed topsoil and somewhat unstable underlying Franciscan formation make the area prone to such collapses when the ground becomes over-saturated.

Movement of this type indicates that such sites are not suitable for residential development. Building in similar areas has resulted in catastrophes like the landslide at La Conchita, south of Santa Barbara, in 2005.



Trail Erosion at Harmony Headlands Photo: Connie Gannon

Erosion is not a neutral factor when it comes to

human activity, whether agricultural, commercial or residential. "Extreme erosion causes serious problems such as water pollution, increased flood hazard, loss of fish populations, degradation of habitat and general impairment of the stream ecosystem. Eroded material accumulates in our streams where it buries spawning areas, makes water unsuitable for human use and reduces channel capacity." (*US-LTRCD Erosion Handbook*, 2005) Erosion also causes loss of the valuable nutrients in topsoil ecosystems that develop only over hundreds of years.

What can be done to minimize the effects of soil erosion? Along creeks, bank restoration projects are helpful. These include lowering the floodplain to prevent channel incision, stabilizing eroded banks with rock revetments and root masses, creating "braided" creek channels, which mimic a natural flow pattern and reintroducing native riparian trees and plants. Such strategies can make badly eroded creeks into healthier habitats and protect neighboring residences, pastures and farmland.

In its 29-year history, Greenspace has undertaken a number of restoration projects. Other landowners also are undertaking native tree and chaparral replanting on their properties to stabilize topsoil. If a period of alternating droughts and heavy rains ensues due to climate change, then erosion will be yet another factor we must consider in creating more resilient communities in California's coastal valleys.

## COON CREEK WILDFLOWER WALK WITH DAVID CHIPPING



Trillium along Coon Creek

Photo: David Chipping

Join Greenspace on Saturday, April 15, 9:00 a.m.-12:30 p.m., for a fascinating hike up Coon Creek Trail in Montana de Oro State Park! Dr. David Chipping, geologist and conservation chairperson of

the California Native Plant Society of San Luis Obispo County. Dr. Chipping will help us identify the wonderful variety of wildflowers along the creek and will provide us with an overview of the geologic forces which created the Montana de Oro and Morro Bay region. This not-to-be-missed benefit hike includes a gourmet boxed lunch from Indigo Moon. Cost is \$40 and proceeds go to support the conservation work of Greenspace.

Reservation deadline is April 13<sup>th</sup>. Please call 805/927-2866 or email [info@greenspacecambria.org](mailto:info@greenspacecambria.org)

## EARTH DAY 2017!



Zen Mountain Poets to Perform in Cambria

Photo: ZMP

Come out to Greenspace's Creekside Reserve on Saturday, April 22, from 1 to 3 p.m. for a great dance concert with alt-rock-jazz-string band **Zen Mountain Poets**. This is a chance to celebrate Earth Day in Cambria, with a raffle for a unique piece of art or lunch for two at Indigo Moon. Tickets are \$10 at the gate. True Earth Deli sandwiches, beer, wine, beverages and cookies will be available.

Greenspace will provide information on how to get involved in environmental protection globally, nationally and locally. Our own native Monterey pine seedlings will be for sale, along with our renowned canvas bags, water bottles and Greenspace caps. This is the perfect day to show your support for land conservation, forest and creek protection, and environmental education right here in Cambria! More information, 927-2866 or the email below

[info@greenspacecambria.org](mailto:info@greenspacecambria.org)



The North Coast area of San Luis Obispo County is a national treasure. Greenspace will protect and enhance its ecological systems, cultural resources and marine habitats through land acquisition, education and advocacy.