

Nature Happenings

The Tenacity of Desert Plants

by Damian Fagan

Desert wildflowers are an added bonus to an already spectacular landscape. The timeless beauty of the towering redrock cliffs and canyons incised into this landscape, the gravity-defying arches and rock spires, and the rich geologic history exposed in the various formation creates the scenic backdrop highlighted by splashes of wildflower Crayola™.



Narrowleaf yucca

Diverse in shape and structure, these plants exhibit amazing adaptations to this land of little rain. Many wildflowers bear small leaves with a waxy coating called the cuticle which enable the plants to resist moisture loss through the leaves to the atmosphere. Tiny portals or windows on the leaves called stomata, open and close during the day to allow for the passage of carbon dioxide (CO2) into the leaf which is converted into oxygen (O2) and glucose through the process of photosynthesis. Some oxygen is released during the time when these stomata are open or during another process called respiration which may happen day or night.

Annual wildflowers which grow for only one season before they die, produce seeds with a water-impermeable coating which prevents the seed from germinating when soil moisture or temperatures are unfavorable for germination.

These seeds may exist in the soil for years, awaiting the right conditions to sprout and grow. This dormancy is affected by the seed coat and chemical inhibitors that prevent the seed's embryo from germinating prematurely, thus enabling the seed to sprout when conditions are more favorable for success. Of course, there are many variations to this scheme that different plants employ, thus some years there may be an abundance of a certain wildflowers such as spectacle-pod or dwarf lupine while other species don't seem so abundant.



Spectacle pod

Some seeds which depend upon light to germinate may end up being buried by desert sands; hence, they lie in wait for some type of action to bring them up close to the surface where sunlight triggers their germination.

Shrubs and perennial wildflowers which grow for more than one season also exhibit adaptations to the desert such as extensive root systems; small, waxy coated leaves; or spiny

branches to defend against herbivores. These plants play a longer game than the annual wildflowers which race through their life cycle before drying up. Shrubs such as blackbrush, sagebrush, four-wing saltbush, and cliffrose are slow growing and persistent, while common paintbrush, yellow cryptantha, and the Canyonlands biscuitroot add color.



Blackbrush

When conditions are right, these shrubs may have extensive blooms to take advantage of abundant moisture and produce a lot of seed. Like the desert wildflowers, this seed may lay dormant in the soil until conditions to germinate are good.

The classic desert-adapted plant are the cacti of which there are several species that grow in the Canyonlands Region. These plants have evolutionarily gotten rid of their leaves; instead, the stems and pads of the cacti have greenish stems which function like leaves but without the potential moisture loss. Spine tipped for protection against predators and to break up desiccating winds



Claret cup cactus

A NATURAL HISTORY WRITER.

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across their pads, these plants have a whole different system of photosynthesis which they employ, often at night, to exchange gases from the plant to the atmosphere and vice versa. The chemical pathway that these plants use to convert sunlight and gases into various compounds is also vastly different than the one most shrubs and wildflowers use. And, though cacti have a pulpy interior, it's not the "barrel of water" storage that Snoopy's cousin Spike would have us believe.



Eaton penstemon

Prickly pear cacti with their colorful flowers and flattened pads differ from the barrel-shaped Whipple's fishhook or claret-cup cacti, though the later also produce colorful flowers. Finding a clump of claret-cup cacti in bloom at the base of a sandstone cliff is an exceptional treat for any desert explorer.

The parade of spring wildflowers often starts in early February and gains momentum in April and May for a grand finale later in the summer. Timing is everything to these plants and it's amazing to see the progression of species flowering throughout the season. Enjoy the blooms and the pollinators attracted to these plants, and please respect their longevity and perseverance in this land of little rain.



Dwarf lupine



Sand-verbena

Canyonlands Field Institute: Adult Adventure Seminar Series

Canyonlands Field Institute (CFI) is bringing in well-known topic experts, Mike DeHoff, Lanier Nabahe, Semira Crank, and Laura Petersen to facilitate outdoor trips for adults in 2026

CFI announces their Guest Expert lineup for their 2026 Adult Adventure Seminar Series. The Adult Adventure Seminars are educational expeditions down the rivers surrounding Moab, Utah. These unique trips feature guest topic experts to lead lectures throughout the trip and serve as an important fundraising engine for CFI's subsidized youth programming.

In 2026, CFI is leading Adult Adventure Seminars with experts from the Returning Rapids Project, the Nature Conservancy, the Bears Ears Partnership, and Southern Utah Wilderness Alliance.

From Returning Rapids, CFI has brought on Mike DeHoff who is well known for his research into the changing ecology and sedimentology of the San Juan River and Cataract Canyon. Mike is planning on sharing his extensive knowledge with the trip's crew and participants, including photos, scroll maps, historic information, and "...you know, river nerd stuff."



Lanier Nabahe

Lanier Nabahe is also joining CFI's 2026 faculty. Lanier is the San Juan River Basin Project Manager for the **Nature Conservancy's Colorado River Program** where he works in collaboration with the water managers, agricultural users, and Tribal communities to secure water for nature and people. He has over 25 years of experience working with rural and Tribal communities around water usage and management.

From the **Bears Ears Partnership,** CFI will be joined by Semira Crank, who will share insights and knowledge around the impact of Leave No Trace principles, especially when it comes to archaeological resources.

Finally, Laura Petersen from **Southern Utah Wilderness Alliance (SUWA)** joins CFI's faculty, bringing an attorney's lens to the current issues and policy changes regarding land management around the Green River and Labyrinth Canyon. Laura's practice focuses on road vehicle management, cultural resource preservation, and land protection.

With all of their programming, CFI is committed to representing voices and knowledge bases across many different backgrounds, combining scientific, anthropological, Tribal, and modern histories for a well rounded program faculty.

These programs are fundraisers; all proceeds go toward youth scholarships for CFI summer camps and programs.

For more information, visit cfimoab.org/adult-adventures. You can also call 435 259-7750 or email info@cfimoab.org.



Mike DeHoff



Semira Crank

Dates and Themes for CFI's Adult Adventure Seminars:

May 10 - 15: Flowing Through History, The Past, Present, and Future of the Lower San Juan

September 21 - 25: Women and Water: Reflections of Labyrinth Canyon




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