

Down by the Riverside: Big Ungulate Challenges

By Mary O'Brien



What do the following have in common?

- **Bison** (native to the Great Plains, introduced in Grand Canyon National Park)? They're wreaking havoc at Grand Canyon's springs.
- **Mountain Goats** in the alpine area of La Sal Mountains in southeastern Utah (exotic, helicoptered in)? They're tearing through sensitive alpine cushion plants, lichens, and mosses.
- **Elk** in Yellowstone National Park (native, but without predators)? Lamar Valley's cottonwoods, aspen, willow, and beaver didn't have a chance with the elk until wolves were reintroduced.
- **Feral horses** in western North America? Lacking predators, their burgeoning populations are damaging riparian areas and overgrazing uplands.
- **Cattle and sheep** (domesticated and clocking in at 37 times the number of horses and burros on Forest Service and BLM lands)? Protected from predators, their large populations are damaging riparian areas and overgrazing uplands.



Grazing cattle, Oak Flat area, near Hackberry Creek.
Photo by Lisa Fitzner

You're right: they're all **ungulates** (mammals that are mostly hooved, mostly large). Ungulates are a dazzling, diverse, worldwide group – for instance, whales and dolphins are a branch within that group, having evolved from the even-toed ungulates

that include cattle. That makes cattle closer in the evolutionary tree to dolphins than to horses! (Shimamura, et al. 1997).

But such wonders aside, the animals on the bulleted list above also have a common stomping ground all around us in the Southwest: western national public lands (Beschta, et al. 2013). Their numbers aren't being controlled by predators. And they have an appetite for plants (though yes, I've seen a trail camera video of a cow coming upon and eating bird's eggs in a ground nest). And they need to drink water – some more than others.

Another shared feature: Certain people want lots of them. Hunters generally advocate for lots of bison, mountain goats, elk, and deer. Many ranchers want lots of cattle and sheep. And a whole lot of people believe they want lots of horses running loose.

However, the combination of large body size, large populations, relative lack of predators, heavy hooves, need for ever more plants and water amid rising temperatures, and enthusiastic and determined advocates doesn't necessarily spell good times for some other important features of our shared American lands—like fish, birds, toads, butterflies, bumblebees, and beaver - or a diversity of native plants; or cool, clean, season-long water; or adaptation to global warming. It's a tragedy of the commons.



Grazing feral horses, Oak Flat area, near Hackberry Creek.
Photo by Lisa Fitzner

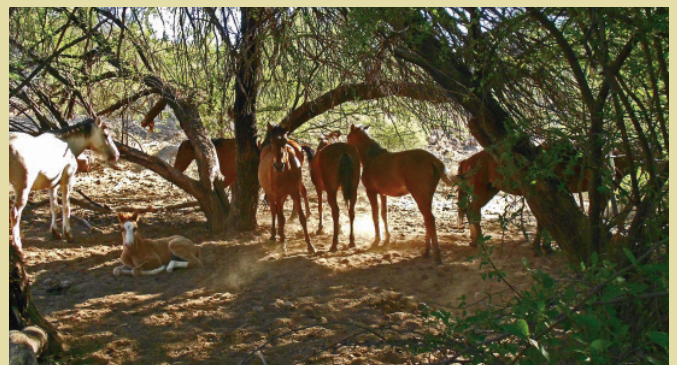
Let's focus on cattle and horses for the moment. That both cattle and horses drink a lot of water is evident in their ample-sized scat. One cow-calf pair will drink, on average about 15 gallons water a day; a horse drinks about 10 (Filley 2005). Hotter temperatures and/or less moist vegetation can drive up their water consumption. (We can empathize with that, right?)

So, thirsty cattle and horses congregate in the riparian areas that comprise about two percent of our national public lands in the West. In addition to water, riparian areas can provide shade, moist and abundant vegetation, and cooler temperatures. The precious water sources – creeks, ponds, springs – can be small in the West, and too many cows or horses (or other ungulates) hanging out by the water too long can quickly pull a riparian area apart.

Cows and Fish, a Canadian NGO that works with communities and landowners on these kinds of problems, helpfully lists obvious signs of problems in riparian areas associated with, as they put it, "too long, too much, and too often" grazing – whether by horses or cows or any other ungulate (Fitch, et al. 2003, slightly adapted):

- declining production of riparian vegetation
- change in plant species to drier, upland forms
- willows have mushroom appearance
- trees and shrubs are hedged, severely browsed
- all trees and tall shrubs are old

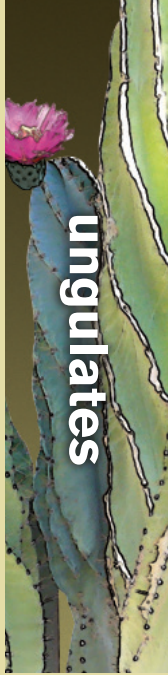
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Butcher Jones Recreation Area, at an inlet of Saguaro Lake, April 3, 2016. Feral horses resting in the shade of a mesquite grove and trampling vegetation. "This is the first time I have seen horses at this location," says photographer MAS President Mark Larson, "and they are damaging the natural system."



East Fork Beaver Creek, Nevada, 1985. Photo by Carol Evans, Elko District BLM. Carol needed to restore the riparian area on behalf of the native Lahontan cutthroat trout, one of three subspecies of cutthroat trout listed as federally threatened.



East Fork Beaver Creek, 1998. Cattle-grazed riparian areas have improved greatly in Elko, Nevada with better grazing management. See the stunning changes in this BLM PowerPoint presentation at: http://www.grandcanyontrust.org/sites/default/files/ut_forests_Evans_NV_powerpoint.pdf

less time in the riparian areas isn't much of an option. Drawing water away from riparian areas to troughs may move excessive numbers of cattle to upland areas...and the cattle may head to the riparian areas anyway for the shade, coolness, and more abundant, moist vegetation – unless they're fenced. Riders can help with cattle, but not with horses. Fencing can be effective, but can we ultimately fence our way out of this problem on thousands of creeks, springs, ponds, and streams? Getting to riparian-friendly numbers of cattle or horses is like keeping fossil fuels in the ground in light of global warming: It's essential. But to bring cattle and horse numbers down, we have to engage with the federal land managers, the public, and the ungulate advocates. No way around it. 🐾

Riparian areas are the lands adjacent to streams, rivers, lakes and wetlands, where the vegetation and soils are strongly influenced by the presence of water. Although they make up only a small fraction of the land, they are among the most productive and valuable of all landscape types and have been the focus of conflicts between resource users. (Fitch, et al. 2003)

References

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- no young woody plants growing above six feet
- no trees or shrubs (where they would be expected)
- reduction in bank or shoreline vegetation
- many bare soil spots
- increased sediment on stream bottom
- undesirable or noxious weed invasion
- poor plant vigor, little or no litter carryover one season to the next, few desirable (native) plants
- streambank shear damage by hoof action
- active bank erosion from exposed soils
- bank caving
- water quality problems, algae blooms
- changes in water quantity, lower water tables, intermittent flow

It's not difficult to understand the implications for long-term health of a riparian area if a combination of these signs are present. It's also not difficult to reword each of the elements in the list to indicate the signs of healthy riparian areas. And it's not difficult for you to photograph and report these signs of degradation (or health) on our shared public lands.

The real challenge, of course, comes in reducing excessive ungulate use. Relatively few options exist for avoiding too long, too much, and too often:. Options are (1) fewer animals, (2) managing the animals for less time in riparian areas, and (3) fencing. Horses roam unmanaged year-round, so managing for