

# HOW WILD HORSES & BURROS HELP NORTH AMERICAN ECOSYSTEMS

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1. The natural comeback of the returned native horse (*equus caballus*) in a large-mammal-impoverished north america is a benign reoccupation of a recently dis-occupied ecological niche. This constitutes a natural restoration, including in the west.
2. Similarly to the horse, the burro can trace its not-far-removed origin to North America; and in certain parts of this continent, such as the southwest, wild ass fossil remains testify that a niche similar to that of the burro was occupied for prolonged periods of time and until the close of the last ice age.
3. The horse family equidae has developed many mutually beneficial relationships with the native North American plants and animals with which its members have coexisted for many millions of years.
4. Indeed, the horse can stake the claim as one of the very most ancient and longstanding members of the North American life community, more so than either the bighorn sheep or the bison, species whose origin was in Eurasia before they occupied North America after crossing the Bering Strait land bridge (when oceans receded with the tie up of global moisture during the ice age). Also members of the deer family, cervidae, have their roots in the old world and are relative newcomers to North America.
5. Both horses and burros possess a caecal, or post-gastric, digestive system that does not as thoroughly decompose the vegetation they ingest when compared with ruminant grazers, such as cattle or sheep, deer or elk, which comprise the vast majority of large grazers in North America today. In contrast to the ruminant digestive system, the post-gastric system allows the seeds of many plant species to pass through the digestive tract intact and ready to germinate in a soil that equids richly fertilize by their droppings. In this way, many plant species have been and continue to be successfully dispersed over large

areas by wild equids. Since wild horses and burros roam over large home ranges, which themselves shift over the generations, each plant species thus dispersed is able to occupy its ecological niche over a more extensive geographical area than it would were it not for the wild equids.

6. Since North America is the evolutionary cradle of the horse family, which includes the burros, many such mutually beneficial (mutualistic) symbiotic relationships have evolved between the horse family in general, on the one hand, and the food plants that sustain them, on the other.
7. It logically follows that if many native plant species are so benefited by horses and burros in North America, then all the animals that depend in some degree upon these plant species are likewise benefited, from fellow herbivores that consume the plants to predatory animals that consume the plant eaters, and on up the food chain. Equids can thus be viewed as complementary to many of the ruminant species.
8. As concerns mutualistic relations, we again note that horse feces contain less thoroughly decomposed vegetable matter than would a ruminant's and, for this reason, more greatly aid in building the nutrient-rich humus component of healthy soils. This leads to better water retention and nutrient levels for root absorption, and the overall well-being of the horse- or burro-inhabited ecosystem. Also the less-digested feces majorly feed the ecological food chain, benefiting a host of organisms and species from tiny microorganisms to beetles and bugs, worms, birds, rodents, lizards, and larger animals that feed upon these. Additionally, both wild horses and burros are major prey species that contribute substantially to natural predator species such as puma, wolf, and bear. They should be regarded as one with the great tapestry of these large-predator-containing ecosystems and incorporated in regions of wolf, bear (especially grizzly) and puma reintroduction.
9. The fact that the horse and burro are not committed to as thoroughly decompose the plants they ingest as compared to ruminants, coupled with the fact that they spread their grazing pressure over vast areas, not camping on any one area (unless so forced by human

interference with their habitat, e.g. Fences, fenced off water holes, etc.) Makes them the perfect reducers of dry, parched and flammable vegetation and so the perfect preventers of the catastrophic wildfires that are on the increase, especially in the west where the wild equids are found. The drying of large portions of the west due to global warming makes the equid role particularly critical. Again, their building of more moisture-retaining soils makes them very important in this respect, since soil moisture dampens out incipient fires and makes the air coating the earth also more moist. Horses and burros are much better equipped for this increasingly important service to all the life community, including man, than ruminant grazers, particularly domesticated ones. Indeed, these equids refill a significant empty niche within the North American ecosystem.

10. Behaviorally, wild horses and burros greatly aid their fellow animals in accessing food and water, both during freezing winter and parching summer seasons. This they do by dint of their strong bodies and hard solid hooves. These allow them to break through frozen water sources or icy snow drifts, or other life-depriving barriers imposed by wintry conditions. Many animals are not able to access food and water without the horses and burros with whom they have coevolved for -- not just thousands but in many cases for millions of years!
11. During hot summers when water tables recede, horses and burros can detect water far off through their keen olfaction, or sense of smell. After air-borne humidity has led them to water, when necessary, they are able to dig down to adequate underground sources, or to similarly enlarge tiny seeps so that they can survive through the critical dry period of the year. This greatly benefits many other species of animals whose individual members would otherwise be unable to access water and would perish.
12. The horses' and burros' habit of individually wallowing creates natural water catchments when it rains. These benefit many diverse animals and plants, such as desert birds, rodents and lizards, tiny insects, tiny herbs and the seedlings of brush and tree species. This is much preferable to excavating massive catchments with life-wounding caterpillars as do government and private parties to increase water sources, especially during the critical dry periods of the year.

13. It makes beautiful sense that the longer a given community of plants and animals have evolved together, the more mutualistic relations they establish. And there is increased stability in ecosystems that contain increased diversity of life forms, or species, for the safety web is broader and can better resist the vicissitudes of time. According to this solid naturalistic logic, America's last wild horses and burros count among the very most mutually integrated and ecologically valuable of species precisely because (1) North America is the ancient cradle of evolution for all three branches of the horse family, including that of the burro, and for the very modern horse species itself and (2) horses and their kindred have among the very longest evolutionary histories of any species or related group of species here. They are restorers and healers of the land, par excellence, and, so too, healers of our spirits, especially in North America. There is a great harmonizing force at work with these animals that we must learn to recognize, just as we learn to value wild horse- and burro- containing ecosystems and to allow for their adequate establishment.
14. The broad-ranging movements and foraging patterns of wild equids serve to rest rotate their grazing and foraging pressures, when fences and other barriers erected by people do not prevent these as part of their ecologically attuned lifestyle. The realization of this lifestyle depends upon their living freely and naturally upon vast tracks of complete and appropriate habitat.
15. Wild horse/burro-containing ecosystems are enhanced life homes. As it clearly states in the wild free roaming horse and burro act of 1971: "...congress finds and declares that wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the west; that they contribute to the diversity of life forms within the nation and enrich the lives of the american people ..." their presence in freedom on the public lands constitutes a great natural, moral and aesthetic value, and people must learn to appreciate them in their own right rather than continue to scapegoat them for ecological abuses that have been and continue to be caused by the backward ways of people themselves. In this regard, it is extremely dishonest and dishonorable to use wild horses or burros as red herrings for the enormous

ecological destruction that has been and continues to be caused by the public lands livestock industry, among other human-engendered and blind traditions! The good news, however, is that all this can and most surely will soon change.

*\* many of these points extracted/modified from Downer, Craig C. 2005 (dec.) Wild and free-roaming horses and burros of North America: factual and sensitive statement – how they help the ecosystem. Natural horse, volume 7, issue 3.*