

Impact Of Wild Horses On Wilderness Landscape And Wildfire - Preliminary Findings Report

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*William E. Simpson II – Naturalist is greeted by a mighty wild mountain stallion in the wilderness
Photo courtesy: Carla Bowers*

First a little background...

Purpose and Location of Study:

This study was begun by Laura and William E. Simpson II on and around their wilderness ranch (Wild Horse Ranch) in northern California, that is contiguous to the Soda Mountain Wilderness Area in southern Oregon, in July of 2014 in order to determine if the local wild horses had any negative impact on the native wilderness landscape, as posited by the Bureau of Land Management ('BLM').

This study area as it applies to wild horses is unique in that the area has been virtually devoid of any invasive species herbivores for the past 40-years. Because of this fact, the potential for confused impact data created by commingled livestock is eliminated.

It is now well-known that the BLM submitted a report to the Congress of the United States that contains provably false statements in regard to their written statement; "Wild horses and burros have no natural predators", when in fact, *all predators* on the North American continent are the evolved natural predators of native species wild horses and burros. Numerous other misrepresentations regarding the behavioral ecology of wild horses have been promoted by the BLM, and subsequently the hearsay has spread many falsehoods as to the evolution and behavioral ecology of American wild horses.

[1]

The aggregate of the falsehoods as promoted by the BLM and their cadre of scientists, and the integration of falsehoods into policy and guidance for management plans, has made the management of American wild horses far more difficult and costly than need be.

And all the while, in the background, the overwhelming published science and empirical data prove invasive species cattle and sheep are without any doubt the source of devastating consequences to landscapes as a result of their grazing [2]

The primary area involved in the study takes up approximately 5,000 acres of lands owned an/or controlled by a coalition of the Simpson family and the local horse-friendly community primarily in northern California just south of the Soda Mountain Wilderness Area, but also on privately owned lands in Oregon, where the subject wild horses have ranged for many decades (based upon newspaper articles dating back to the late 1800's, and cultural archaeology).

Duration of Study:

The study was by design to be continuous over the course of five (5) years during all seasons and included daytime and nighttime observations of the behavioral ecology of the local herd of ca. 67 adult wild horses (population as of 2014). This intensive duration required a full-time presence among the wild horses on the landscape.

Methodology:

Documentation of wild horse behavioral ecology and impacts upon local flora and fauna were memorialized via extensive photographic evidence and analysis, which include films and still photography across all 4-seasons over the 5-year period. This methodology was preferred since it has the capability to inform a much broader audience as compared to a dry scientifically-termed paper employing a lexicon that contains scientific terminology largely unfamiliar to a general audience made up of non-scientists.

Photographs and films are far easier to interpret by laypersons and in many cases provide a superior context. In order to accomplish the goals of a close-range study, the principal investigators had to embed themselves into the local ecosystem as human symbionts that did not pose any threat to the wild equids. This also required a diet without any meat, which would cause the investigators to smell like predators.

Study Area; Brief natural history, topography, flora and fauna:

The study area encompasses roughly 5,000 acres of remote wilderness landscape. The area is geologically diverse and contains igneous, metamorphic and sedimentary rocks, as well as fossils (including horse fossils) and petrified wood. The terrain used by the wild horses ranges from about 2,500 feet above sea level to approximately 4,200 feet. The landscape is a matrix of alpine meadows, some of which are roughly 500 acres in size. The area supports forests consisting of white oak, black oak, juniper, ponderosa pine, and douglas fir trees. In some areas several species are commingled. There are diverse native species of grasses and plants, most of which are common across the entire study area and in the surrounding landscape. [3]

There are some invasive species grass and plants present across the landscape including yellow star thistle, medusa head and cheat grasses, which were likely brought into the area via the occasional feeding of bailed hay from outside the area during decades-past winters when invasive species cattle were present in the area in significant numbers on the landscape (about 40-years ago and longer).

Since then, the prodigious numbers of apex predators on the landscape along with difficult terrain and relatively high transport and management costs have driven virtually all cattle and sheep ranchers out of the immediate area and into areas more suited and profitable to such enterprises with fewer predators and better access.

The area ranging from south of Crater Lake in Oregon and down to the Klamath River in California and east of the Interstate 5 to Klamath Falls Oregon has long been known to have wild herds of horses numbering in the hundreds, some of which were occasionally rounded up and pressed into work as ranch horses by local ranchers.

The Findings

Riparian Impacts:

The first and most important resource in wilderness areas (and elsewhere) is water resources and here in the study area, springs and riparian areas.

Over the course of all five years of our study, close observations, as evidenced by hundreds of photos and numerous films, have shown that family bands of wild horses self-regulate their use of water and grazing resources by regularly rotating through the landscape. They move from spring to spring, usually on a daily basis. There are important evolutionary reasons for this behavior, and predators are the key driver in the

constant movement of family bands (and herds) of wild horses. The rate of depredation increases in proportion to the time spent loitering in any given area, especially in areas of water resources. Unlike livestock who did not evolve on the North American continent with the native predators, American native species wild horses understand this instinctively and act accordingly in order to survive.

Therefore, what we have consistently documented (photographically) is that wild horses will move through an area much faster than invasive species livestock do. This behavior allows the grasses and plants to recover quickly from the light grazing-browsing by the wild horses. Moreover, the water sources remain pristine as do the surrounding riparian pastures, as seen in the following photos:



A mountain spring feeding a riparian area and creek that is used by wild horses yet remains pristine.



Alpine pasture with spring-fed creek



Spring-fed creek in pasture seen in photo above

Fire Grazing on Forest Floors:

Wild horses are forest caretakers via the evolutionary mutualisms they share with trees. The trees offer wild horses shelter from sun, rain, wind and snow. In turn, wild horses rub and scratch on the trees and due to their robust size, the dead and dying limbs (aka: fire ladders) are broken-off, resulting in a tree that is limbed up as high as 6 feet above the ground (most cases 5 feet above ground). Added to this, wild horses will graze the grass and brush fuels under the trees they use for shelter. The combination of these two actions results in trees that are made fire-resistant as we see in the photos (and video) below:

VIDEO of wild horses reducing dry fuels off forest floor:

<https://drive.google.com/file/d/1CJeVIYcbPiE5U2PxgDu-1S7wC1Z6DzUU/view>



Wild Horses reducing grass and brush fuels



Wild Horses reducing dry fuels off forest floor

In the photos below, a large dead snag was hit by lightning and caught fire, however the fire did not spread into the surrounding area due to the grass and brush fuels reduction by grazing wild horses. This likely saved the area from a serious wildfire.



Lightening hit this dead snag and it burned; the fire did not spread due to ground fuels reduction by grazing wild horses



Wild horses reducing fuel loading around hard to reach areas



Reduction of fuels, along with reseeding native plants and grasses via droppings keeps the forest landscape vibrant and fire resistant



Wild horse droppings provide humus for native plant and grass seeds that pass through a horse's single stomach undigested



The juniper tree above is used as shelter by wild horses; it has been made wildfire resistant



The deadly Klamathon Wildfire (Siskiyou Co. CA – 2018) burned around and under this tree which survived due to fuels reduction under a tree used by wild horses (horse droppings seen rt. center)

Depredation of Wild Horses in a Natural Ecosystem (an abbreviated overview due to graphic nature):

A constantly published and hearsay myth coming from the Bureau of Land Management ('BLM') and the corrupted science they espouse is that; "Wild horses and burros have no natural predators". This very statement appeared on page one of the Executive Summary of a so called management plan that was prepared with tax dollars and presented to Congress, titled; *'Report to Congress – Management Options for a Sustainable Wild Horse and Burro Program'* (https://www.blm.gov/sites/blm.gov/files/wildhorse_2018ReporttoCongress.pdf).

While this may be true in managed herd areas where taxpayer-funded Wildlife Services have eliminated virtually all the predators to maximize ranchers' profitability by protecting their cattle and sheep (calves and lambs) from losses due to depredation, in wilderness areas, where predators abound, wild horses and burros are taken with regularity.

The foals are taken by coyotes, mountain lions and bears and adults are taken by bears and mountain lions. New York Times correspondent and Pulitzer Prize winner David Phillips has also researched the scientific record and has also found what is obvious to anyone living out in the wilderness; adult wild horses are on the menu for virtually all apex predators in North America.



This 18-month old colt (about 600 pounds) was killed by a mountain lion



The 20-month old 700-pound colt in the photo above was attacked by a mountain lion.



The 4-month old filly in the photo above was attacked and hauled to the ground by a pack of coyotes. The stallion returned and drove them off, allowing the filly to survive yet scarred.



This 14-mo. old (~700 pounds) was killed by a mountain lion. The lion's kill was subsequently scavenged by coyotes, bobcats and vultures.



This 2-month old filly was taken by a mountain lion.

Range Damage:

It's shameful for any scientist with even a token amount of undergraduate study in physics and math to assert that wild horses damage the landscape *mechanically* more than cattle, when it's obvious that, due to the differences in hoof shape and surface area (bottom side) that cattle of equal weight to horses apply significantly more pressure to the ground.

Now we arrive at the simple mechanics of the evolutionary hoof designs of horses and cattle, and how each design uniquely impacts the soils in our forests, rangelands and riparian areas ... and this is straight forward and easy to understand for anyone who has used basic digging tools.



This photo shows the underside of a cow's hoof, which has pointed claws

The photo above shows the underside of a cow's hoof, which as we see, has what are termed as pointed claws. Like the point of a pick-axe tool, the points on these cow claws are very effective at penetrating deeply into soils, especially soft or wet soils. We also note that these claws present a relatively small surface area (pounds/square inch loading) upon which the entire weight of the cow is supported. And this point is obvious on its face.



This is what a cow's claw-like hoof does in soft pastures.

The photo above is an example of what a cow's claw does in soft pasture as a result of the shape and high ground loading (weight/surface area of claws). As we see, the cow that made this imprint (weight est. 800-900 pounds) penetrated the soil at least five inches deep.

Now we turn to the design and effect of the horse's hoof on soils.



The underside of a horse's hoof.

In the photo above we see the underside of a horse's hoof. It is distinctly different from the cow's claw in many ways that protect the soils where they tread. First off, the shape is, as we see, rounded and the surface area is relatively large (lower ground loading in pounds/square inch). The hoof is dished-in on the underside (concave) and that shape tends to trap water and air under the hoof and allows it to 'float' hydraulically on the soil instead of piercing the soil like the pick-shaped cow claw.

As we see, the hoof in the photo above has a lot of surface area compared to the cow claw, and that greater surface area distributes the weight of the horse over more area on the soil, which limits the penetration of a horse's hoof into the soil.



The horse hoof makes an impression in the soil of less than an inch deep.

In the photo above we clearly see the horse hoof makes an impression in the soil of less than one-inch deep (same area/soil which contained cow imprints). The horse that made this imprint in the photo above weighed about 800-900 pounds (similar to the weight of a cow), which is a typical weight for an adult wild horse.



Photo above shows the damage caused to the soil by two cows and a calf through soft springtime pasture.

In the photo above we clearly see the aggregate damage of a few cows tracking through the same area of soft springtime pasture. The damage to the soil is undeniable and was the result of two cows and a calf. As can be seen, the claw-like hooves of cattle are devastating to soft soils, and this of course extends even more so to their ability to devastate riparian areas.

Equids Co-evolved With Cervids:

Wild horses co-evolved with deer, elk, moose and caribou ('cervids') on the North American continent. Over the millennia they developed mutualisms within the various ecosystems where they lived, and unlike cattle, native wild horses are ideally adapted to live in nature in North America. In fact, another interesting evolutionary advantage that

wild horses have is their immunity to the prion-based disease that causes the deadly mad-cow disease in cattle and [chronic wasting disease in cervids](#).



A healthy buck and doe are seen tending a group of wild horses.

During the course of our study, it has become obvious that the deer use the wild horses for cover from predators and are benefitted by the horse's better eye-sight combined with its height advantage and sight line that is about two-feet higher than that of a deer, which provides earlier threat detection. Contrary to many misconceptions, wild horses and deer do not compete for food; there is only a 1% overlap in what they eat according to the well-vetted study titled: 'Foods of Wild Horses, Deer and Cattle in the Douglas Mountain Area, Colorado' by: R.M. Hansen, R.C. Clark and W. Lawhorn [4].

Conclusions:

The evidence is quite clear: wild horses greatly benefit natural ecosystems and reduce both the frequency and intensity of wildfires at no cost to the public. This statement was proven when the deadly catastrophic Klamathon Wildfire (~38,000 acres burned) was unable to successfully spot over and spread into the lands that had been grazed by the local herd of wild horses.

The 9-minute thesis documentary titled '**Fuel, Fire and Wild Horses**' by Colorado College graduate student Micah Robin shines an important light on this critical subject. It can be seen on Vimeo, HERE: <https://vimeo.com/327282987>

Moreover, the savings that might easily be expected from even a miniscule decrease (2-3 percent) in the frequency and intensity of catastrophic wildfire and related health care costs from toxic smoke could easily amount to hundreds of millions of dollars annually.

The browsing-grazing behavior of wild horses combined with their single stomach (post gastric digestion) allows for the distribution of the seeds of native plants across wilderness areas, as opposed to being eaten and fully digested by invasive species ruminant cattle and sheep.

The immediate savings gained from rewilding American wild horses into carefully selected wilderness areas away from livestock enterprises, as opposed to paying contractors annually to hold them in off-range holding areas where they are really no longer free, nor able to breed, is in the many tens of \$-millions annually.

By rewilding American wild horses *away from areas* where they are in conflict with livestock operations and into selected wilderness areas, where predation controls population and provides essential evolutionary natural selection, the gene lines of wild horses are thereby strengthened, as opposed to randomly culling animals without any real knowledge of what genetics are being lost. This also saves all the cost and grief related to the draconian methods related to managing wild horses, which are native species wildlife [5], via birth control drugs and medieval concepts like spaying American wild mares, also another obtuse and expensive path [6].

There is a simple plan that keeps wild horses wild, is free to the taxpayers, and provides a cash-positive benefit while helping to protect the health, safety and welfare of Americans; it is called the **Natural Wildfire Abatement And Forest Protection Plan** (aka: 'Wild Horse Fire Brigade'). Learn more about this Plan and the need to immediately begin a large-scale test as outlined in the documents at this website: www.WHFB.us

References

[1] Three Great Myths About American Wild Horses - William E. Simpson II - <https://www.horsetalk.co.nz/2017/10/23/three-great-myths-america-wild-horses>

[2] Ecological Costs of Livestock Grazing in Western North America - Thomas L. Fleischner, et. al. <http://courses.washington.edu/esrm479/grazing2.pdf>

[3] Effects of Grazing and Climate on Greene's Mariposa Lily in the Cascade-Siskiyou National Monument - Carolyn Menke, Ian Pfingsten and Thomas N Kaye - Institute for

Applied Ecology. <https://appliedeco.org/wp-content/uploads/Calochortus-greenei-final-report.pdf>

[4] 'Foods of Wild Horses, Deer and Cattle in the Douglas Mountain Area, Colorado by: R.M. Hansen, R.C. Clark and W. Lawhorn.
<https://journals.uair.arizona.edu/index.php/jrm/article/view/6687/6297>

[5] The U.S. Ninth Circuit Court of Appeals in California recognized wild horses as native species, explaining that BLM “*establishes Appropriate Management Levels (“AMLs”) for populations of native species - including wild horses, burros, and other wildlife - and introduced animals, such as livestock.*” In *Defense of Animals, et al. v. U.S. Dept. Interior, et al.*, No. 12-17804, *6 (9th Cir. May 12, 2014). On Sep 28, 2011 (See Craters AR at 16698. Memorandum Decision & Order) The court addresses “sensitive” species pursuant to BLM's 2001 Special Status Species Policy. This Policy requires that “sensitive” species be afforded, at a minimum, the same protections as candidate species for listing under the ESA. It called on BLM managers to “obtain and use the best available information deemed necessary to evaluate the status of special status species in areas affected by land use plans” See Policy at § 6840.22A. Under the Policy, those land use plans “shall be sufficiently detailed to identify and resolve significant land use conflicts with special status species without deferring conflict resolution to implementation-level planning.”

[6] 'Are Sanctuaries An Acceptable Solution For “excess” Wild Horses?' - William E. Simpson II - <https://www.horsetalk.co.nz/2019/05/01/are-sanctuaries-acceptable-wild-horses>

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