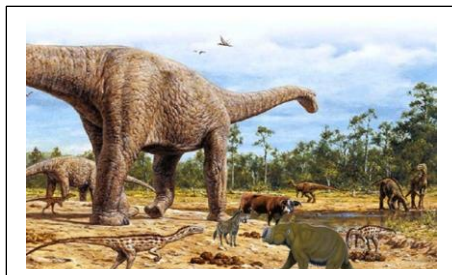


SUBMISSION: Wild Horses

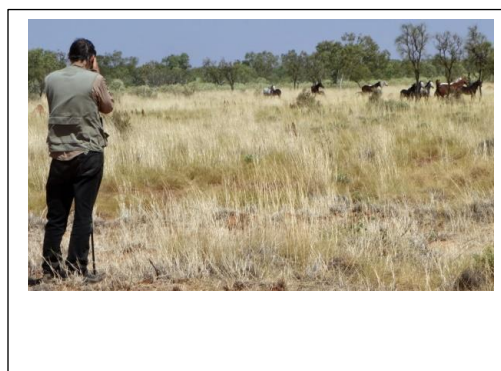
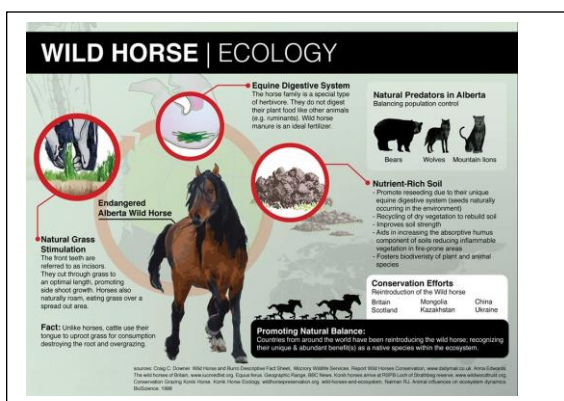
Kimberley Inc.



Our submission offers research information about the control of wild horse numbers in areas of biodiversity and ecological importance.

Our organization has, for many years, worked to discover the effects of keeping wild horses in a conservation area near Broome as well as studying how this is done in other countries.

The renowned Ecologist Craig Downer came to join us and examine the areas where we have protected wild horses. His summary of two of the areas, Lake Gregory{Paruku}, and Water-bank, is attached.



C.Downer poster for address to conference. Craig Downer at Paruku.

HOW WILD HORSES & BURROS HELP THE ECOSYSTEM

By Craig C.Downer, Wildlife Ecologist, A.B., M.S., Ph.D

1.

NB ;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.**
- 2. 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**

 - 3. 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**
 - 4. 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.**
 - 5. The horses' and burros' habit of individually wallowing in the ground 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.**
 - 6.**

- NB ;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.**
- 7. 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**
 - 8. 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**
 - 9. 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.**
 - 10.**

The horses' and burros' habit of individually wallowing in the ground 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.

GELDING TO CONTROL NUMBERS-Wild Horses Kimberley Inc.

Our first method is the gelding of stallions to control herd size and health.

This is easily done by setting up mobile panels at water sources where horses come daily to drink, usually in the evening. Using a lure (usually hay) and a swing gate horses walk into a yard where stallions can be darted and gelded, given a tetanus injection and released once they are walking safely. Stallions will walk into a smaller round yard from the main yard and are easily separated for gelding.

Wild horses usually have a territory which is theirs and they frequent this area so its easy to check each herd. Each herd usually has one, particular, drinking spot and if open mobile yards are put there, with hay to start with, they will continue to just use that spot to drink and not damage other areas.

We have found that leaving one stallion entire in each herd keeps the herd balance, protects the mares from passing bachelor stallions and that geldings live happily in the herd together.

If mares are rehomed a group of just geldings will live happily in a herd together.

The cost of yards, gelding by vets and hay plus fuel is far less than the hire of helicopters and cruel culling practices and the horses bring benefits to the environment. This also reduces the numbers of Dingoes which would otherwise gather to eat carcasses and other wildlife.

Horses have long lasting relationships which keep them together as a herd. When young stallions reach maturity they are usually ousted from the herd by the lead stallion and will go to live in a bachelor herd until they are able to steal mares from other herds. In this way inbreeding is avoided. Bachelor herds can be gelded together and will remain together as friends/family.

WILD HORSES AND PROTECTION OF THE ENVIRONMENT

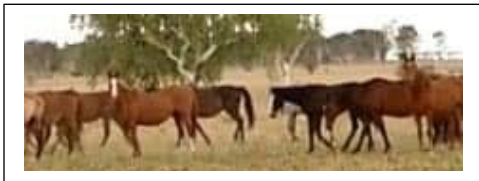
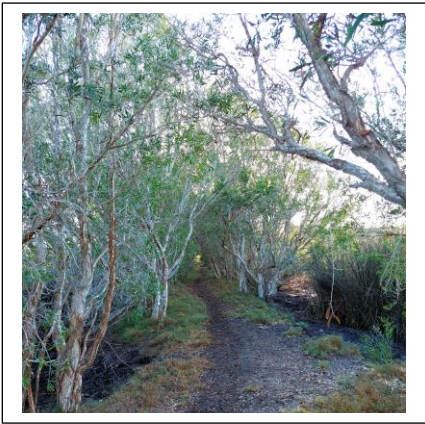
There are several ways in which horses bring great benefits to the ecology of an area.

1. The digestive system of the horse enables seeds to pass through and be spread over their area to promote regrowth. Horses are particular in what they eat, usually avoiding shrubs and trees and varying their diet between wet and dry grasses.
2. Horses graze at a slow pace and avoid stepping on nests and reptiles but when on the move as a herd form a line, nose to tail, and in this way make a single track which works as a firebreak which is effective in stopping ground fires or slowing them down.
3. Horses graze the tops of grasses thus reducing the fuel load of an area for fires but research at Princeton University has shown that this allows horses to live with cattle which usually eat the whole plant.
4. The large hoof of the horse creates a pug hole near water sources where tadpoles can live and seeds can naturally replant.
5. Horses create passageways through dense forest and across thorny open areas which other wild life use. (Wallabies, reptiles) especially in thick reeded areas to reach water.
6. The seeds in horse feces provide food for birds and the feces are food for plants.
7. Wild horses in Australia have evolved after over 100 years into a special species which is skilled in distance judging, weather interpretation and hardy to survive the harsh climate. Left to live naturally and practice herd behavior wild horses are extremely intelligent and their curiosity lends them to develop good relationships with humans.

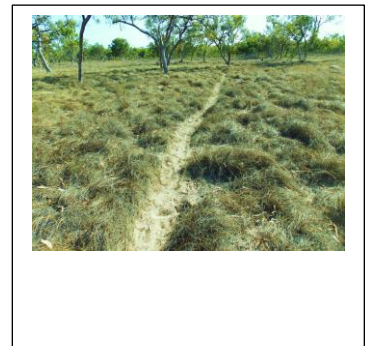
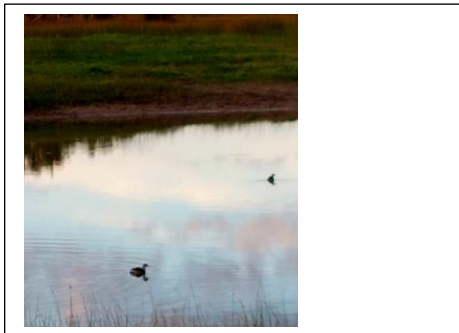
Australian wild horses are much sought after by overseas breeders and riders for their skills and endurance. Sheik Mohamed bin Rashid al Maktoum sent his vet to meet with us and trap 13 wild horses which were flown to Dubai for the Sheik's stables.

Research in Europe and England has led to the Rewilding projects in which horses are now introduced to conservation areas with the knowledge that they will benefit the ecological health and preserve the biological balance. Countries participating to now are; England, Wales, Netherlands, Portugal, Czechoslovakia, Germany, France and USA.

Information about the success of these projects is attached



Horse path leading to water. Horses walking in line to water. Wild horse taken to Dubai by Sheik Mohamed bin Rashid al Maktoum.



Photos showing regrowth in horse feces, regrowth at horse drinking spot, regrowth on horse track, monitor lizard on horse track, drinking spot with ducks on lake, firebreak made by horses on flats.

Culling as a method to reduce horse numbers

These photos show the cruelty and barbaric results of culling wild horses by helicopter. Horses shot in the neck left to die, eaten alive by dingoes. Mare lying in lake giving birth as she dies, water polluted, horse shot in stomach and leg wounded while trying to escape, eaten alive. Orphaned foals die slowly beside their dead mothers.



Foals found next to dying mothers



In our research we work closely with Indigenous communities. All of these communities have lived with wild horses for decades and have good knowledge of

horse movements and behavior. When a cull was proposed by the Aboriginal Lands Trust at Paruku the Traditional Owners called us in to help stop it.

They all signed a letter requested that their horses be allowed to remain. This letter was ignored by the ALT(Aboriginal Lands Trust) and many horses shot, left to die in heat and eaten alive.

T.O.meeting Paruku

Mare shot in shoulder and left to die slowly



In the conservation area where our gelding herd lives our research shows that wildlife is prospering. Birds happily share the little dams where horses have drinking spots, frogs abound in all the water sources and undergrowth as do many species of lizards and snakes and insects.

An ideal way to prevent wild horses from using streams for drinking would be for small dams or 'turkeys nests' to be built in fragile areas where underground water is close to the surface or connected to stream.

Fragile spots where frogs are living could easily be fenced off with mobile panels.

Ecologist C.Downer has written papers on Reserve Design which is based on his studies of wild horses and their territorial behavior and a way to keep herds separated, thus preventing inter herd breeding.

Please see attached information on the Rewilding projects which show how wild horses can benefit the environment and other species

Elizabeth Lovegrove. BA Grad Dip. Anthrop. Manager WHK Inc.