

Population Growth

In our Proposal, "The Path Forward," the number of horses that initially need to be gathered and removed, **alongside** the scaling up of proven safe and humane fertility control, may seem alarming. It is important to realize that this is a population-wide *model* which gives us an idea of what may be necessary in terms of time, applicability, and financial considerations. Many wild horse populations now grow at 18-25% per year ("Counting America's Wild Horses and Burros: Better Estimates for Population Management," United States Geologic Survey, Fort Collins Science Center, 2018), with population growth rates affected by population density, food limitation, body condition, disease, parasitism, predation, climate events, or deterministic (known properties) or stochastic (random properties) mechanisms (Ransom, J.I., et al, Wild and feral equid population dynamics, pp. 68-86 in Wild equids: ecology, management, and conservation, 2016. Johns Hopkins University Press.) The table below shows what could happen to horse and burro populations across BLM lands, assuming a starting population of 88,090 horses and burros, a 20% population growth rate, and no management:

YEAR	# HORSES AT START	20% GROWTH RATE
2019	88,090	
2020		105,708
2021		126,850
2022		152,220
2023		182,664
2024		219,197
2025		263,036
2026		315,643
2027		378,772
2028		454,526
2029		545,431

The following table shows how numbers of horses on the range continue to increase with a BLM "business as usual" approach to wild horse and burro management: it assumes a starting population of 88,090 wild horses and burros, a 20% population growth rate, and 12,000 horses and burros gathered and removed each year (with no application of fertility control):

YEAR	# HORSES AT START	20% - 12,000 removed	TOTAL ON RANGE
2019	88,090		
2020		105,708-12,000	93,708
2021		112,450-12,000	100,450
2022		120,540-12,000	108,540
2023		130,248-12,000	118,248
2024		141,898-12,000	129,898
2025		155,878-12,000	143,878
2026		172,654-12,000	160,654
2027		192,785-12,000	180,785
2028		216,942-12,000	204,942
2029		245,930-12,000	233,930

Notice that even with 12,000 horses gathered each year for 10 years (a total of 120,000 horses gathered), there is *no reduction in population growth rates on the range* (i.e., populations continue to grow even as gather-removals continue). Our Proposal does, unfortunately, require continued gathers, with larger numbers of animals removed in the first years of the Proposal, but with those numbers dropping over time, and gather-removal-warehousing being phased out as the management paradigm.

With the implementation of our Proposal, wild horse and burro numbers **on range** can be seen in the graph below (numbers off-range would rise significantly in the first years of the Proposal, but would even out and drop off over time). The green line represents “business as usual” (gather and remove 12,000 horses per year, no other management). The yellow line represents managing only with fertility control (assume PZP). The blue line represents a combination of gather-removal and fertility control (removing 20,000 in Years 1-4, then 10,000 in Years 5 and 6, then 5,000 removed every year – which adoptions can keep up with - plus dart-treating 3000/year and scaling up gather-treat: 4000 in Years 1-2, 8,000 in Years 3-6, and 10,000/year after that).

The graph below assumed a slightly higher starting population (95,000) and a slightly lower population growth rate (17%, based on peer-reviewed, published data at the time of the analysis in 2018) than our tables on the previous page. The population trends, however, are the same.

Again, this is a population-wide *model* which gives us an idea of what may be necessary in terms of time, applicability, and financial considerations. It is a **tool** for determining how to implement and support sustainable management, and does not address an HMA-by-HMA response.

