

**Cape Lookout National Seashore
Shackleford Banks Horses
2012 Annual Findings Report**



National Park Service
Cape Lookout National Seashore
131 Charles Street
Harkers Island, NC 28531

Introduction

Federal legislation, passed in 1998, protects the wild (also called feral) horses within Cape Lookout National Seashore and requires an annual report on the status of the herd. This report covers the calendar year 2012.

The horses are cooperatively managed by the National Park Service (park) and the Foundation for Shackleford Horses, Inc. (Foundation), pursuant to the legislation and a Memorandum of Understanding updated in 2007.

Site

Cape Lookout National Seashore is located in the southern Outer Banks of North Carolina between Beaufort and Ocracoke Inlets. Here, the park protects fifty-six miles of barrier islands. Shackleford Banks is the southernmost island in the park between Barden's Inlet to the east and Beaufort Inlet to the west. It is 9 miles long and ranges from less than one half mile wide to more than 1 ½ miles wide where eastern marsh islands are included. (See Figure 1)



Figure 1 - Shackleford Banks

Horse Monitoring

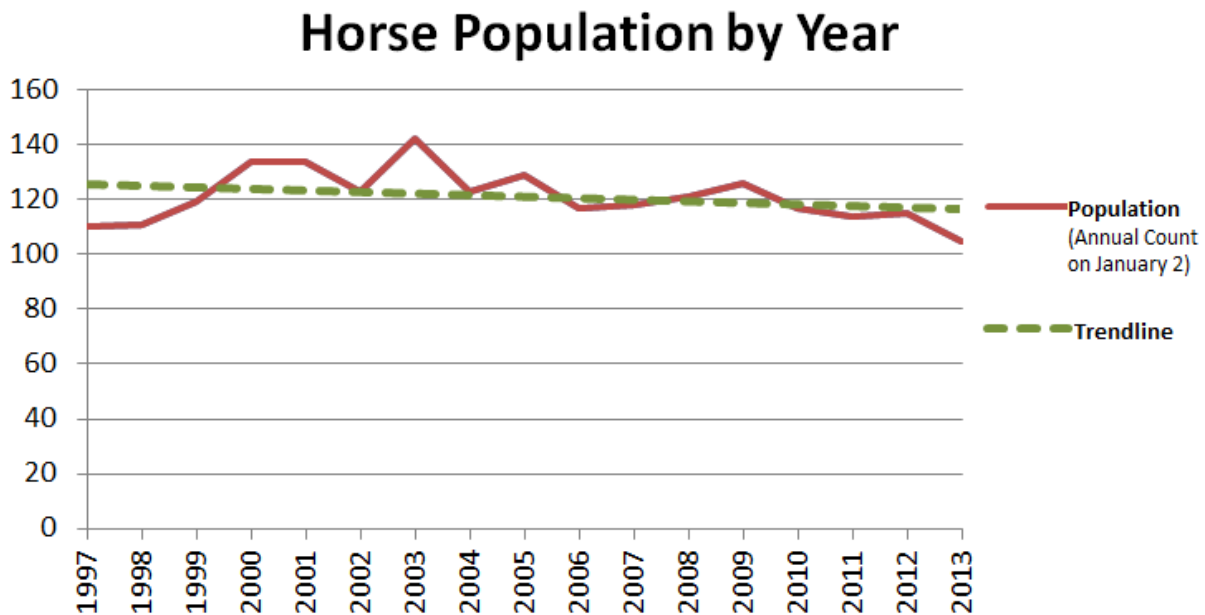
Horses are identified and monitored throughout the year. Identification is by a number of criteria including body color, mane and tail color, white face markings, and social group associations. Each horse is assigned an ID number. Some of the horses are freeze branded on their left haunch with their number. Previously, all horses were branded, but now it is done only when positive identification is difficult. Generally, the numbers represent the birth order within the year and the letter represents the year of birth. (See Table 1).

1-103	Through 1996	L	2001	T	2007
701 – 710	1997	M	2002	U	2008
G	1997	N	2003	W	2009
H	1998	P	2004	X	2010
J	1999	R	2005	Y	2011
K	2000	S	2006	Z	2012

Table 1 - Horse Numbering and Lettering System

Population

The population is managed with a legislated target range of 120 to 130 horses. As of January 1, 2013, there were 105 horses on Shackleford Banks. (See Graph 1).



Graph 1 - Horse Population by Year

Births and Foal Mortality

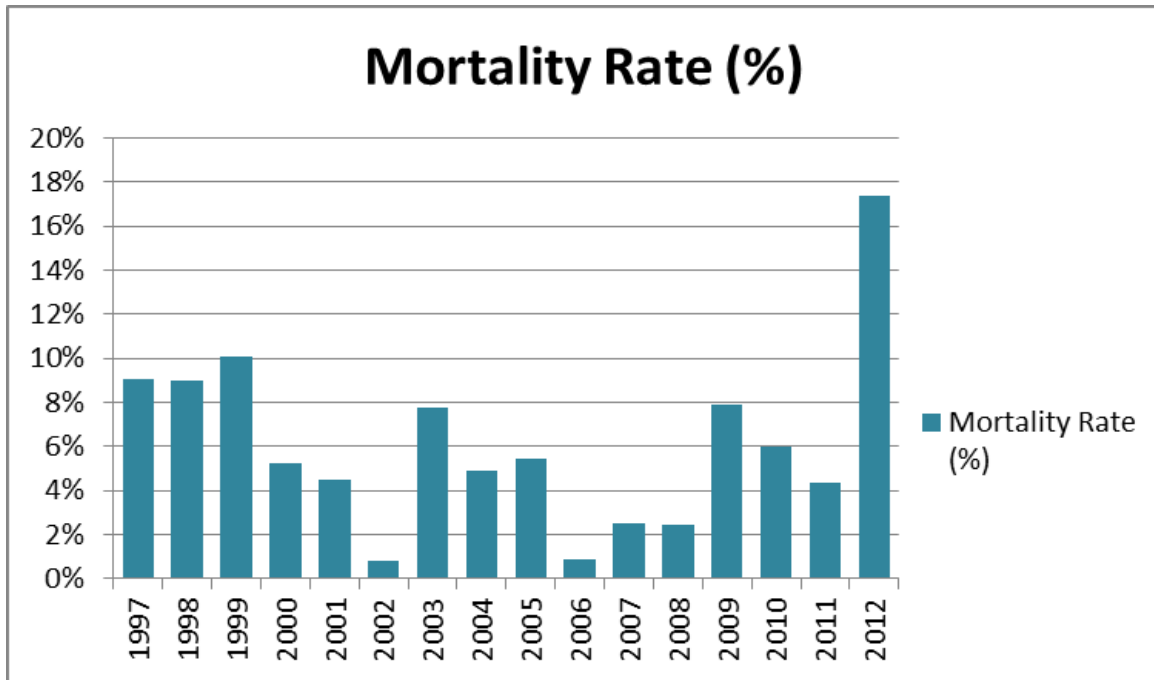
Eleven foals were born in 2012. This is an increase in births over 2010 (5 foals) and 2011 (6 foals). The birth month pattern was typical: one was born in January, eight were born in April through August, one in September and one in December. Most foals are born in the months when green grass is most available.

Foal mortality was above average; four of the eleven died before they reached one year of age. Of these four, one mare had been observed with a filling udder but no foal was subsequently found (this foal count pattern is consistent through the years); one foal was found dead after an apparently difficult birth; one newborn was found dead near its dam; and one foal died at 3 ½ months of age.

Mortality

Mortality was higher in 2012 (17%) than in any previous recorded year, (see Graph 2); this is also the first year exposure to Eastern Equine Encephalitis (EEE) has been documented. The

average mortality for 1997 through 2011 was 5%. Adding in 2012, the average mortality is 6%. Autopsy results from one summer death (July 22) showed extensive internal damage due to parasites, colic and a positive test for exposure to Eastern Equine Encephalitis (EEE) which is carried by certain mosquitoes. Of the 15 adult (4 years and older) deaths, nine horses died in June, July and August when mosquitoes were active; it is possible that these horses were exposed to EEE.



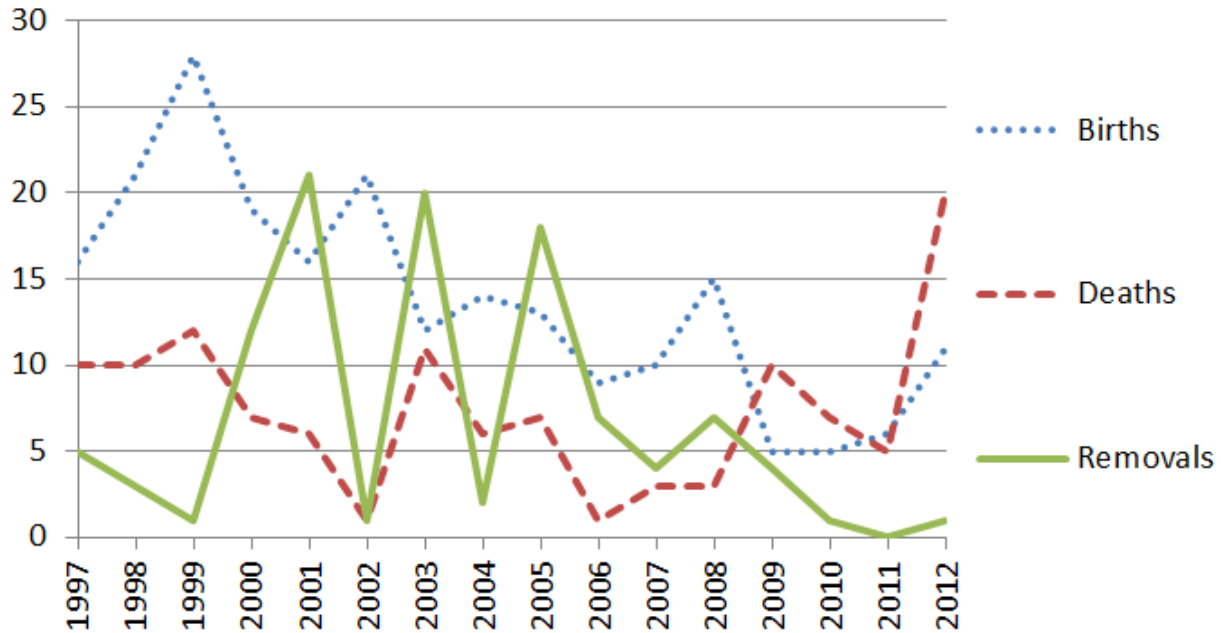
Graph 2 – Horse Mortality Rate in Percent

Adaptive Population Management

The population is adaptively managed using contraception and removal as needed. The generally decreasing birth rate has been due to the success of the contraception program. No mares have been contracepted for population control reasons since 2009 so the birth rate is now rising. When the population was high, horses were removed. The population has not been high so no horses have been removed for population reasons since 2009. The management goal is to use contraception adaptively so that the population and viability are maintained without needing to remove horses in the future.

Mortality is taken into account as are projected births when planning contraception strategies. Based on past years, five or more foals are likely in 2013.

Births, Deaths, Removals by Year

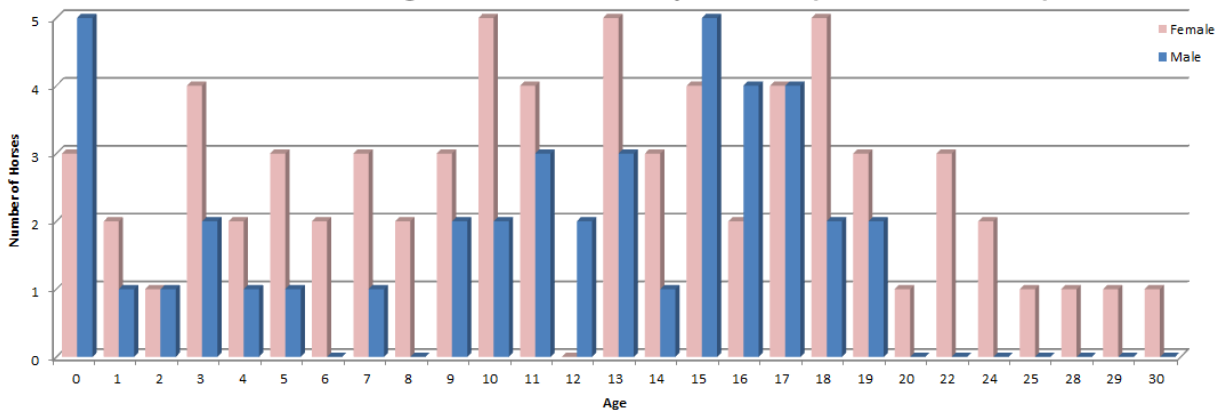


Graph 3 - Births, Deaths, Removals by Year

Herd Age and Gender Structure

The age and gender structure as of January 2, 2012 is shown. (See Graph 3). The significantly larger number of females in the oldest age classes is due to the effects of contraception; contraception has been shown to contribute to longevity of recipient females.

Male/Female Age Structure of Population (as of 1/2/2012)



Graph 4 - Male/Female Age Structure of Population (as of 1/2/2012)

Removal

Historically, horses were removed during roundups when a number of horses needed to be removed at once but now, with fewer births and with effective remote-delivery sedatives available, horses are removed individually as needed. Therefore, no roundups are planned for the foreseeable future. A goal of the adaptive management program is to avoid having to remove horses by using contraception adaptively

No horses were removed in 2012 for population control reasons because the population is below the legislated range. One six-month-old was removed with the aid of a veterinarian for health reasons. This horse was added to the adoption program managed by the Foundation. Horses that were removed in previous years are also available for adoption by the public from the Foundation.

Contraception

Contraception has been used adaptively to manage the wild horse population, and currently is the choice over removal in management. The porcine zona pellucida (PZP) vaccine is delivered remotely under field conditions by Pneu-Darts with a projector/capture gun appropriate to the darts and distances. The drug is generally administered in the spring before breeding season begins and prevents the dosed mares from conceiving that year and foaling the following year.

Wild Horse Public Education Campaign

The Wild Horse Public Education Campaign (WHPEC) was begun in 2011. WHPEC involves Cape Lookout National Seashore, the Foundation for Shackleford Horses, and the nearby Rachel Carson Reserve (part of the North Carolina Coastal Reserve and National Estuarine Research Reserve system). The aim of the campaign is to educate people about the horses with an emphasis on safety of the horses, park/Reserve visitors, and pets. The general message is to watch the horses without interacting with them or interrupting their natural behavior.