

**Cape Lookout National Seashore
Shackleford Banks Horses
2014 Annual Report**



Three mares. NPS photo By Britt Brown, 2014.

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

Introduction

Federal legislation passed in 1998 (Pub.L. 105-202 (July 16, 1998) and *verbatim* Pub.L. 105-229 (August 13, 1998); 16 U.S.C. §459g-4 (“1998 Amendment”)) protects the wild horses within Cape Lookout National Seashore and requires an annual report on the status of the herd. This report covers the calendar year 2014.

The horses are cooperatively managed by the National Park Service (NPS) 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. The NPS manages 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 approximately 9 miles long and ranges from less than one half mile wide to more than 1.5 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 gender, body color, mane and tail color, white face markings, mane side, home range and social group associations.

Each horse has an assigned identification (ID) number or number-letter. Some horses have this freeze branded on their left haunches. Previously, when roundups were conducted, all horses were branded, but now it is done with veterinary sedation on an as-needed basis when positive identification from a distance is difficult.

The numbers from 1 to 103 were assigned beginning in 1996. Horses born in 1997 and later are assigned a number-letter ID in which the number represents the birth order within the year and

the letter represents the year of birth. For example, horse 1B was the first horse born in 2014 (see Table 1).

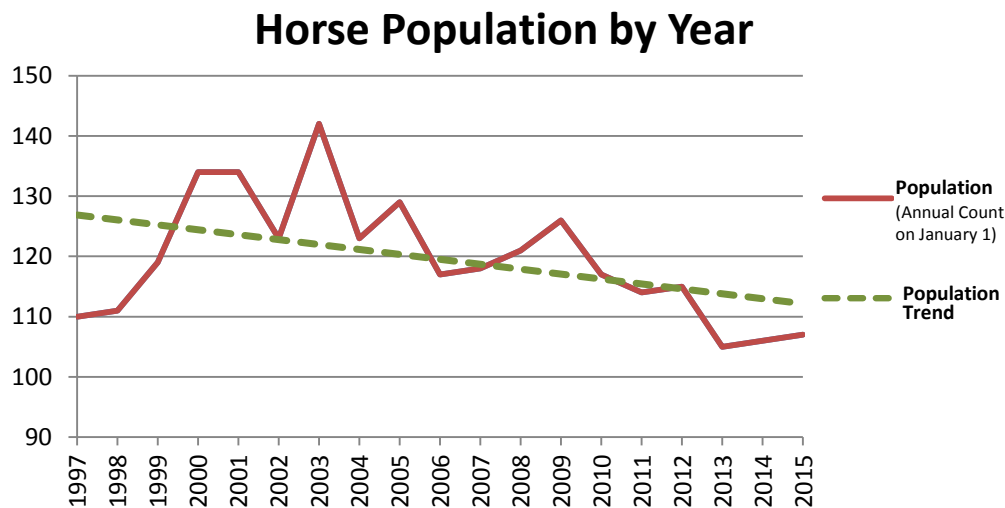
1-103	Through 1996	M	2002	W	2009
701 – 710	1997	N	2003	X	2010
G	1997	P	2004	Y	2011
H	1998	R	2005	Z	2012
J	1999	S	2006	A	2013
K	2000	T	2007	B	2014
L	2001	U	2008	C	2015

Table 1 - Horse Numbering and Lettering System

Monitoring includes a number of data points. Mares are assessed for pregnancy and births are noted. Newborns are identified so they may be tracked through their lives. Mortalities are noted when either a body is found or the horse is not sighted for many months. Social group associations and home range location on the island are recorded.

Population

The population is managed with a legislated target range of 120 to 130 horses. As of January 1, 2015, the official population on Shackleford Banks was 107. This number might differ from that in subsequent reports if a horse counted as alive is later determined to have died months ago in 2014. Over time, the horse population has generally increased, generally decreased, and in the past two years has increased (see Graph 1).



Graph 1 - Horse Population by Year

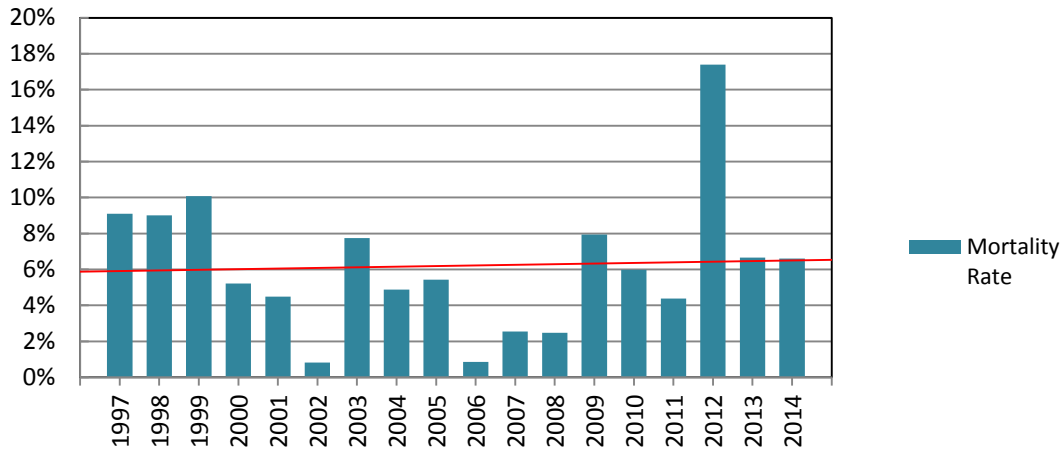
Births and Foal Mortality

Eight foals were born in 2014. Foal mortality was below average; one of the eight foals died before it reached one year of age.

Mortality

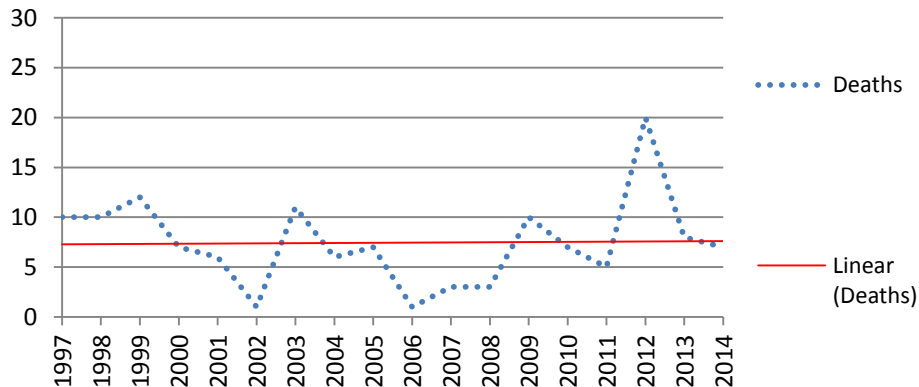
In 2014 mortality was 7% (see Graph 2) with 7 deaths (see Graph 3). This is slightly higher than the average mortality from 1997 through 2014 which was 6%. Three adult males died at ages 18, 18 and 20. Three adult females died at 10, 12 and 19. A several-day-old colt also died. Horses' average age at death since 2000 has been 9.3 years. This also means that horses live on average to be 9.3 years old.

Mortality Rate



Graph 2 – Horse Mortality Rate in Percent

Deaths by Year



Graph 3 - Deaths by Year

Genetics Data

Dung or hair was collected for DNA analysis. The foals of 2014 were sampled along with several adults for whom more complete genotypes were needed. Genetics is used to determine paternity and confirm maternity. Kinship is used for decision making in adaptive management.

Adaptive Population Management

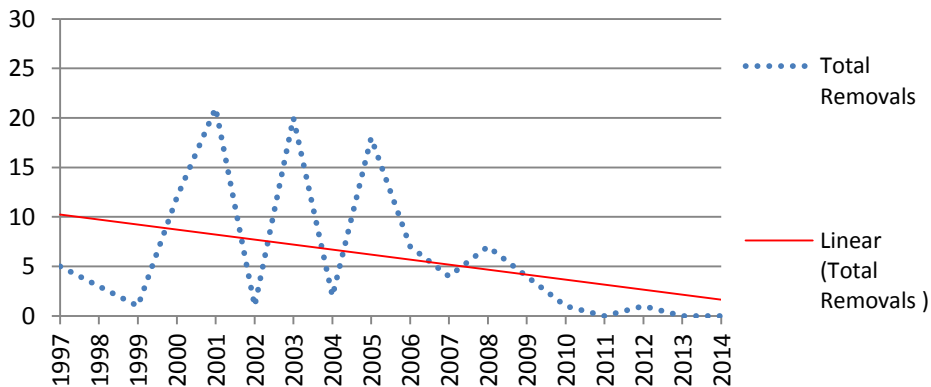
The population is adaptively managed using contraception and removal as needed. The generally decreasing birth rate (see Graph 4) has been due to the success of the contraception program. No mares have been contracepted for population control reasons since 2009 so the birth rate is generally rising. In accordance with the Management Plan horses have been removed when the population exceeded the legislatively established range. No horses have been removed for population reasons since 2009 (see Graph 5). Mortality is taken into account as are projected births when planning contraception strategies. Based on pregnancy test results, around ten foals are expected in 2015.

Births by Year



Graph 4 - Births by Year

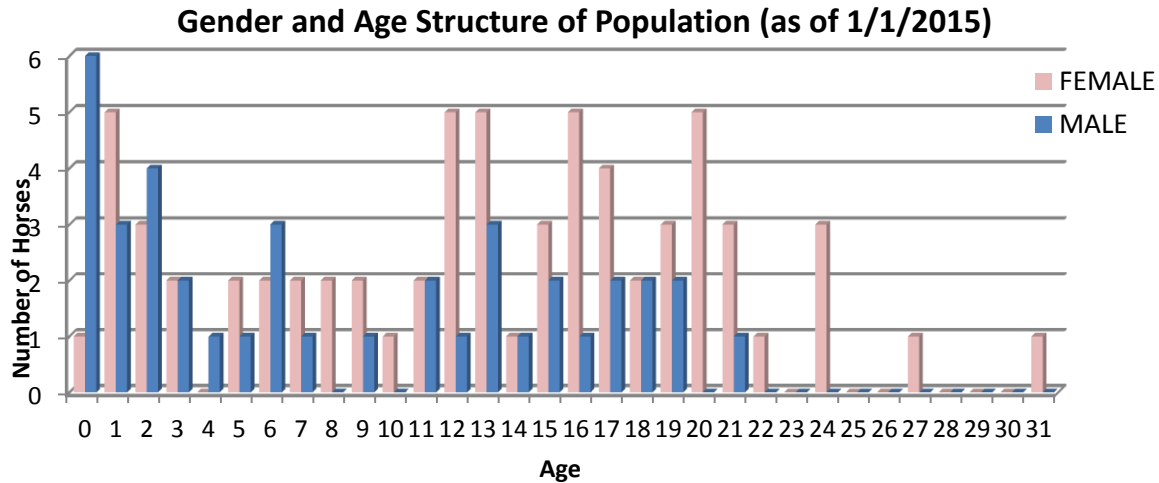
Total Removals by Year



Graph 5 - Total Removals by Year

Gender and Age Structure

The age and gender structure as of January 1, 2015, is shown (see Graph 6). 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. The average age of horses on Shackleford as of January 1, 2015 is 11.9 years.



Graph 6 – Gender and Age Structure of Population (as of 1/1/2015)

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.

No horses were removed in 2014 because the population is below the legislated range. Horses that were removed in previous years are 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 zonae pellucidae (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. The vaccine does not harm unborn foals.

Five very thin mares received birth control in 2015. They either were pregnant or had produced foals recently. The birth control gave them a chance to regain body condition before potentially foaling again.

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.

This year the cooperators met with the Crystal Coast Hospitality Association; guidelines for safe horse watching and answers to frequently asked questions were provided to all forty business members of the association. The Protecting Our Local Wild Horses rack cards were revised and reprinted for wide distribution to visitors, locals and tourism-oriented businesses. Cape Lookout staff discussed safely watching wild horses at a Read Across America event at Tiller School. Facebook and Twitter postings during the year are designed to keep the horse protection message fresh in the minds of social media followers.