

Feral Horses

A feral horse population census and a preliminary study of habitat division between horses, marsh rabbits, and white-tailed deer were conducted March 19 to 27, 1983, on Cumberland Island National Seashore by a team of graduate students under the leadership of Dr. Frank Golley and Dr. Susan Bratton. The students, all specializing in ecology or wildlife management, worked on a volunteer basis and contributed over 1000 person hours of field and data analysis time to the projects.

Supervised by the NPS Cooperative at the Institute of Ecology, University of Georgia, the horse census is part of a program designed to:

- 1) monitor the size, structure, and condition of the feral animal populations on Cumberland Island;
- 2) provide information on the ecosystem impacts of feral animals, and
- 3) quantify interactions between native and non-native animal species.

The horse herd first was censused by Mark Lenarz in 1981. Lenarz located 144 individual animals, largely in small family groups of one stallion and one or more mares with subadults and foals. He also described several bachelor troops. The 1983 census located 154 horses, with an estimated error of plus 10 to 20 animals. Since foaling was still in progress during the 1983 census, possible increases in the population were calculated by comparing the adult and subadult numbers to Lenarz's figures. The 1983 census found 34 more adult animals but a slight decrease in the subadult population. It was estimated the population had increased by about 20

animals. Although the differences between the 1981 and 1983 could be due to sampling error, similarities between the sex ratios and the herd locations for the two sampling periods strengthen the conclusion the Cumberland horse population has increased in numbers.

Lenarz also studied food habits in 1981 and made observations on habitat utilization. As was the case in Lenarz's study, the 1983 census team observed extensive horse use of spartina marsh, but unlike Lenarz's study (which concentrated on

horses on the south end of the island) also found horses using interior forests.

The preliminary analysis of horse, deer, and rabbit habitat use, using scat counts, indicated the horses used inter-dune, salt-marsh and oak forests with open grassy understories but that they rarely used oak forests with dense palmetto understories. Little evidence of deer activity was found in the horses' preferred salt marsh feeding areas, but concentrations of both deer and horses sign were found in the interdune grasslands. The majority of rabbit scat

was found in the ecotonal areas between the forest and the dunes and the forest and the salt marsh. Observations made during the census and the habitat study indicate the feral horses use all types of upland habitats on the island at least occasionally.

More studies presently are planned for Cumberland including an analysis of horse interactions with salt marsh ecosystems and a detailed analysis of large mammal impacts on interdune and live oak forest vegetation.