

The Key Deer: Back From the Brink

by Philip A. Frank, Barry W. Stieglitz, Jay Slack, and Roel R. Lopez



Photo by John and Karen Hollingsworth

The Key deer (*Odocoileus virginianus clavium*) is the smallest subspecies of the white-tailed deer, and it occurs on only a few islands in the Lower Florida Keys at the southern tip of the Florida peninsula. Hunting Key deer was popular in the 1920s, leading local residents and conservationists to fear it was on the brink of extinction. Concern about these animals came to national attention through a 1934 cartoon by “Ding” Darling, who referred to them as “toy” deer. This dramatic illustration showed these tiny deer being forced from their thick island forests into the ocean where they were killed by dogs and club-wielding men.

In 1939, the State of Florida banned the hunting of Key deer, though illegal hunting continued. Numbers fell to about 100 deer in the 1940s. In 1947, public sentiment was again stirred by 11-year-old Glenn Allen from Miami. Allen organized Boy Scouts and others in a letter-writing campaign that led to the establishment of National Key Deer Refuge in 1957. The refuge provides protection for Key deer, several other threatened and endangered species, and a diversity of semi-tropical plants and animals. The approximately 8,600 acres (3,475 hectares) includes 2,280 acres (920 ha) of federally designated Wilderness. Although legal protection for Key deer began in 1939, the Key deer was formally listed as endangered by the U.S. Fish and Wildlife Service in 1967 under a precursor to the Endangered Species Act of 1973.

The recovery plan for the Key deer is contained within the 1999 South Florida Multi-Species Recovery Plan. The efforts identified in the plan are intended to improve the status of the Key deer by

protecting, managing, and restoring habitat, increasing population size, and expanding the Key deer’s range. Habitat protection in the form of land acquisition has been quite successful, with State and local agencies contributing significant lands to those previously acquired by the Service. For example, acquisition on Big Pine and No Name Keys, the core range of the Key deer, has resulted in the protection of approximately 70 percent of these two islands. While future acquisitions are anticipated, the bulk of the quality habitat on these critical islands has been acquired. Habitat management for Key deer includes prescribed fire, invasive plant control, and habitat restoration. The National Key Deer Refuge has an active habitat management program that includes State and municipally owned lands as well as Service owned lands. In addition, a Habitat Conservation Plan being prepared for Big Pine and No Name Keys by Monroe County and the State of Florida is nearly complete, and will result in the protection of virtually all significant Key deer habitat in the core area. The progress that has been achieved in protecting habitat on the core islands, both through fee simple acquisition and regulatory measures, has resulted in increased security for the Key deer population as a whole.

The early legal protections afforded Key deer, along with habitat protection and management by the refuge and its partners, have dramatically improved the core population of Key deer. A study of Key deer (Lopez 2001) estimated the total population is between 700 and 800, with the population on Big Pine Key and No Name Keys estimated to be 600 and another 100 to 200 on other islands.

Additional data on herd population dynamics, patterns of browse and the condition of the vegetation, and the prevalence of density-dependent diseases observed in the population also suggest that the Key deer may be at or near their biological carrying capacity on Big Pine and No Name Keys.

A major part of the recovery plan for the Key deer that has not yet been initiated involves ensuring that Key deer are distributed throughout their historic range, rather than concentrated on Big Pine and No Name Keys. The historic range of the Key deer extended from Little Pine Key to Key West, a distance of approximately 40 miles (64 kilometers), and the current range includes approximately 26 islands from Big Pine Key to Sugarloaf Key. Populations of Key deer at the western edge of the range have declined dramatically since the 1970s, and only a few deer inhabit Sugarloaf and Cudjoe Keys (Lopez 2001). The Service has committed to implementing this aspect of the recovery plan by augmenting the existing Key deer populations on Sugarloaf and Cudjoe Keys with individuals taken from Big Pine and No Name Keys. In addition to a direct numerical increase in these small populations, the augmentations will enhance the limited gene pool of these largely isolated populations.

A previous translocation in 1999 that involved moving three Key deer from Big Pine Key to Little Pine Key was unsuccessful; two of the three translocated deer swam back to Big Pine Key. Because of this homing behavior, Key deer will be translocated to Sugarloaf and Cudjoe Keys using “soft release” techniques, where deer are maintained in enclosures for several months to assist in developing site fidelity. We anticipate moving approximately eight deer (equal numbers of males and females) per year to each island in each of three consecutive years. All translocated deer will be fitted with radio transmitters that will allow biologists to monitor them. Success will be measured by the survival and reproduction of the translocated deer.



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We hope that this translocation effort will ensure the persistence of these small but important populations and represent a major step in the ongoing efforts to recover the Key deer.

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Top: This 1934 cartoon by “Ding” Darling sparked national concern for the Key or “toy” deer.

Above: Researchers release a collared Key deer.
USFWS photo

References:

Lopez, R.R. 2001. Population ecology of the Florida Key deer. Ph.D. Dissertation. Texas A&M University, College Station. 202 pp.
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