

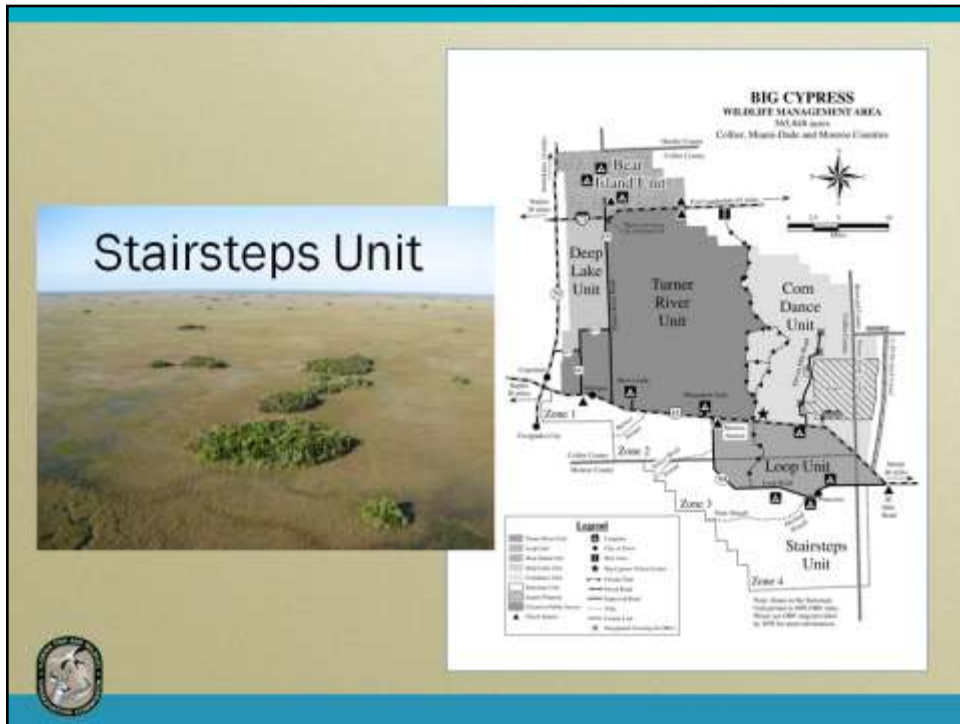


Big Cypress National Preserve - Stairsteps Unit
Proposed Changes to Deer Hunting Regulations
June 2011



Florida Fish and Wildlife Conservation Commission
Division of Hunting and Game Management

The Florida Fish and Wildlife Conservation Commission (FWC) is considering changes to deer hunting regulations for the Stairsteps Unit of Big Cypress National Preserve (BCNP) in response to a significant decline in the deer population.



BCNP is approximately 720,564 acres and is located in southwest Florida. Much of BCNP is established as a wildlife management area (WMA), and hunting on the area is regulated and managed by the FWC. BCNP spans parts of Collier, Dade and Monroe counties and borders Everglades National Park (ENP). Big Cypress WMA consists of approximately 565,848 acres within the BCNP and is divided into 6 management units. The Stairsteps Unit is located in the southern portion of the BCNP and consists of four Zones (1-4) that differ in elevation, vegetation, and hydrology. Zone 1 is closed to ORV use (walk-in only area), Zones 2 and 3 allow limited use of ORVs on designated trails and Zone 4 allows airboats on designated trails. Elevation decreases from north to south in the Stairsteps Unit. This means that the area is wetter as you travel south.

Background

- The Stairsteps Unit is characterized by wet prairies with intermittent tree islands.
- Considered “fringe” habitat for deer.
- Deer hunting is a long-standing tradition in the area.
- Deer harvest is limited to antlered deer with a 2 buck season bag per person.
- Hunters are required to check harvested deer at a check station.



The Stairsteps Unit is characterized by wet prairies with intermittent tree islands and is considered to be “fringe” habitat for deer. This means that the area’s habitat may only be able to support a low abundance of deer under natural conditions.

Deer hunting in the Stairsteps Unit of BCNP is a long-standing tradition. The area provides 30 days of archery, 16 days of muzzleloading gun and 47 to 53 days of general gun hunting for deer with a bag limit of 2 deer per person per season. Deer must have at least one antler 5 inches or more in length to be legal to take and hunters are required to check harvested deer at a check station.

Aerial Survey Results

Total deer counted during summer aerial surveys conducted in Stairsteps Unit's Zone 4 of the Big Cypress National Preserve from 1996 to 2010.



Hunters have reported seeing fewer deer in the Stairsteps Unit in recent years. Deer counts from summer helicopter surveys conducted by BCNP staff have resulted in fewer deer being observed each year since 2001 in Zone 4 of the Stairsteps Unit. Counts from spring helicopter surveys conducted since 1995 were lowest in 2010. The reported harvest of antlered deer has also decreased from the 2000-2001 season to the 2009-2010 season, and hunter effort to harvest a deer has been increasing. All of the available data indicate a declining deer population that has reached a very low density.

Management and Monitoring

- Check station staff began collecting tissue samples and body measurements to assess deer health during the 2009-2010 season.
- Aerial surveys are now being conducted by both Big Cypress staff and FWC to monitor population trends.
- Closure order prohibiting the take of deer was put in place for the 2010-2011 hunting season for Zones 3 and 4 of the Stairsteps Unit.



Check station staff began collecting tissue samples and body measurements to assess deer health during the 2009-2010 season. Most deer that are brought into the check station have already been field dressed or quartered due to the area's remote location and the time it takes to get to a check station. This has resulted in only a few samples being taken. No abnormalities or diseases have been noted in the few whole deer that have been checked.

The FWC initiated aerial surveys within the Stairsteps Unit during the spring of 2010 to gather additional information regarding deer densities. The 2010 FWC aerial surveys conducted from a helicopter in April through June using line transect sampling methods, resulted in a population estimate of 21 deer for Zone 4 and 27 deer for Zones 2 and 4 combined. In response to the low survey estimates, FWC and BCNP staff agreed that the taking of deer should not be allowed in Zones 3 and 4 of the Stairsteps Unit during the 2010-2011 hunting season. This measure was taken as a precaution while FWC and BCNP staff continued to investigate potential causes of the decline.

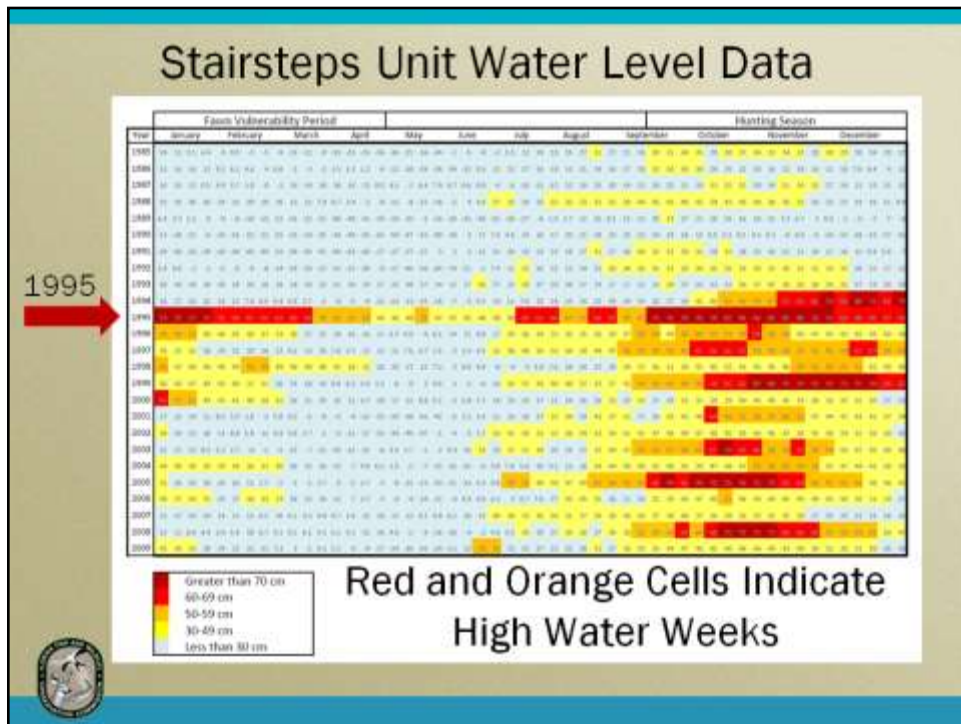
Possible Causes of Declining Deer Densities

- There has been an increase in the number and duration of high water events since 1995.
- Possible predators of deer in the Stairsteps Unit include bobcats, panthers, pythons, bears and alligators. Bobcats and panthers are significant predators of deer in BCNP.



Several possible causes have been proposed for the declining deer numbers in the Stairsteps Unit. The list includes high water events and longer hydroperiods, which could impact survival of adult and, especially, fawn deer; infectious diseases and parasites, harvest; predation; habitat changes; or interactions among several of these factors. There has been an increase in the number and duration of high water events since 1995.

Predation may also be a factor in the decline. Possible predators of deer in the Stairsteps Unit would include bobcats, panthers, pythons, bears, alligators and coyotes (although coyote evidence has been limited to only occasional sightings). Bobcats and panthers are significant predators of deer throughout BCNP.



Water level data for the Stairsteps Unit were analyzed a number of ways to examine possible relationships between water levels and declining deer abundance. The number of high water events has increased significantly since 1995, and both adult and fawn survival may have been impacted by these high water events. Previous studies have found that the recruitment of fawns can be negatively influenced by high water levels. The influence of high water events on fawn survival is likely to result in limited mobility, reduced foraging ability and increased vulnerability to predation or diseases. High water events would also likely force deer to congregate on tree islands where they would be more susceptible to predation.

Based on these findings and this assessment of recent and current conditions, FWC staff believes that survival of fawns, and to a lesser extent, adult female survival likely has been decreased by high water events, habitat changes and high predation rates acting synergistically and resulting in a population decline to the current levels. If the trends in these conditions reverse in the future, recruitment likely would increase and deer populations would likely rebound.

Impacts of Hunting

- A deer population model was developed to estimate how changes in survival rates would impact future deer densities.
- These models indicated that a buck-only harvest would have little impact on the ability of the population to sustain itself.
- Models did indicate that any increase in adult doe or fawn mortality, could result in a declining deer population. Antlerless deer and fawns are not legal to take.



Population modeling is the application of mathematical models to the study of population dynamics. Models allow us to better understand how complex ecological interactions and processes work. Modeling of dynamic interactions in nature can provide a manageable way of understanding how numbers change over time or in relation to each other. Deer population models are concerned with the changes in population size and age distribution within a population over time and include actual estimated densities, birth rates and survival rates of various sex and age classes of deer to estimate future deer densities. Population models developed by University of Florida researchers, indicate that a buck-only harvest would have little impact on the ability of the population to sustain itself. As such, there is a low risk of hunters negatively impacting the reproductive potential of a deer population with a buck-only harvest regime. Deer are polygamous, and a single buck can breed many does. Further, the Stairsteps Unit hunting season has historically occurred after the area's breeding season, meaning that most does would have been bred before the hunting season. These models indicate that any increase in adult doe or fawn mortality, could result in a declining deer population. Antlerless deer and fawns are not legal to take.

Requested Action

Approve staff recommendations for 2011-2012 Season:

- Allow deer hunting in Zones 1-3 of the Stairsteps Unit under the current season lengths that include 30-day archery, 16-day muzzleloading gun, and 47 to 53-day general gun seasons.
- Reduce the annual bag limit for Zone 3 of the Stairsteps Unit from 2 to 1 deer per year.
- Implement a forked antler regulation for Zone 3.
- The taking of deer would be prohibited in Zone 4 of the Stairsteps Unit.



Staff recommends implementing changes by Executive Order for this year.

FWC and BCNP staffs understand the desire to allow traditional hunting opportunities while not limiting the potential for the deer population to rebound if environmental conditions allow. As a reminder, Zones 3 and 4 were closed to deer hunting during the 2010-2011 season. This recommendation would allow hunting in Zones 1 and 2 under current regulations. In addition, deer hunting would be allowed in Zone 3 with a reduced bag limit and a forked antler restriction (Taking of antlered deer not having at least one forked antler and having one or more antlers at least 5 inches in length visible above the hairline would be prohibited. The forked antler would have to have at least two points one inch or greater in length). The take of deer would not be allowed in Zone 4. Zone 4 is consistently wetter than others zones (due to lower elevation) and deer surveys indicate the fewest number of deer being seen in Zone 4. Staff believes that the recommendation would provide a conservative harvest scenario that would allow the deer population to rebound if other conditions become conducive. A forked-antler requirement would protect many 1.5 year-old bucks. Bucks with spike antlers have composed an average of 18% of the harvest on the Stairsteps Unit from 2005-2010.

A forked antler restriction has been used on the Everglades WMA in response to declining deer numbers. Following the high water events of 1995 and a subsequent drop in the deer population, antlerless deer take was prohibited and a forked antler regulation was implemented (beginning with the 1998-1999 hunting season). This allowed hunting under a more conservative harvest format that has resulted in a sustainable harvest of deer while allowing the population to increase. While habitat differences exist between the Stairsteps Unit and Everglades WMA, both habitats have similar productivity from a deer management perspective with high water events limiting deer population numbers.

FWC staff recommends implementing the proposed changes via Executive Order for the 2011-2012 hunting season. Further, FWC and BCNP staff will continue to monitor the Stairsteps Unit deer population to determine if additional hunting opportunities could be allowed in subsequent seasons.