



Florida Panther *Update*

Field Stories

February 2012

Texting Panthers Credited with Research Advancements

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What do Florida panthers eat? How often do they take prey? Where do they typically kill or cache their prey? How long do they remain at a kill site? What are their movement patterns between kills? Current data addressing these and other related questions are being gathered by the FWC in the course of a panther predation study that began in late 2011. This two- to three-year research project may provide answers to some hot-button questions regarding the intermingled dynamics of panthers, wild prey, domestic livestock, and sportsmen/women.

Prior Studies: Several historic studies of the Florida panther have attempted to delve into these questions. In many cases panther predation patterns were assessed by using aerial (telemetry) locations to assume when and where kills occurred. Multiple flight locations at the same spot, termed a cluster, were presumed to represent a kill. While these data provided useful information, not all clusters were visited to verify whether or not a kill actually occurred at those sites. Other studies which also relied on aerial telemetry data, focused on the Everglades ecosystem, which although important, is environmentally very different and some distance from the core population of panthers in southwest Florida. The current study will build and improve upon those of the past and, most noteworthy, will utilize new technology now available to collect real-time GPS data to answer these research questions in finer detail and with more accuracy than ever before.

Tracking Technology: The FWC has been experimenting with GPS-GSM (Global Positioning System-Global System for Mobile Communications) collars since 2006. These collars have the ability to collect lots of data (e.g. hourly locations compared to the three locations a week from telemetry flights). These data can provide the answers to more varied research questions and with greater accuracy. For the predation study, a panther's collar attempts to send hourly locations to researchers as a text message via email when the cat is within range of a cell tower (The panthers are not literally doing the texting; they'd be all paws!). Position points are then collected from a one- to two-week period and run through a computer program to identify clusters of points. Ultimately, this program produces a data file that 1) identifies clusters that have a certain probability of being a kill (i.e., from zero to one), and 2) provides coordinates for the center or "centroid" of each cluster, which is used to direct field visits to those sites. These centroids, along with the movement path of the animal during the sampling period, are mapped in GIS (Geographic Information System), printed, and used in the field to embark on what often seems like a "treasure hunt". Well, hopefully the treasure is discovered, but sometimes it's simply been bed sites and scat. Nonetheless, data accrued by sampling bed sites and scats can also supplement our findings (e.g., When are bed sites used? What habitat is preferred? What prey items dominate in scat?).

Interesting Hikes: As you can imagine, venturing out to the haunts of a Florida panther can make for some "interesting" hiking. During the last 90 days of 2011, we followed FP189, a young



Above: October trail-camera photo of prey-study subject FP183 on the Florida Panther National Wildlife Refuge (FPNWR). Photo Credit Dave Shindle and Larry Richardson, USFWS
Middle/Lower (close-up): A cluster of FP183's locations conveniently situated near a FPNWR trail. The cluster included over seventy-five points (hourly fixes) over a four-day period. Yellow circled area identifies the centroid. The kill was a white-tailed deer. FWC Photos

male between three and four years old, as he bounced around from citrus groves, tomato fields, willow patches (surrounded by six feet of water), cattle pastures, the Sunniland store, and down to the Bear Island unit of Big Cypress National Preserve. We also spent time following FP183 (see January 2012 Panther Update), a large adult male who roams the Florida Panther National Wildlife Refuge, Bear Island, the Fakahatchee Strand Preserve State Park, and the eastern edge of the Picayune Strand State Forest. Typically, a crew of at least two biologists is essential to improve the likelihood of finding kill/cache/bed sites when in the field.

Once on scene, the crew spends twenty minutes searching within a one-hundred-meter radius from the cluster centroid for panther sign. In most cases, when a kill has been made, we find the remains within the first five minutes of searching. Invariably, some have been trickier to find than others. This is especially true for small prey, including raccoons, where the only clue remaining can sometimes be a small part of the snout left behind by the panther.



Raccoon snout found at a panther prey site. FWC Photo

Data: We collect a variety of data at each site, including prey species, age and sex when possible, coordinates, and habitat. Additionally, GPS data sent to researchers will be further analyzed to determine time spent at the kill site, how many days/hours between kills, and what time of day the kill was made, among other variables. All of this information should allow us to delineate predation patterns of panthers at a level that was previously not possible with aerial data. In addition, smaller prey items will be found with more frequency using GPS data, as small prey can be easily missed using flight data since panthers consume them in a short period of time.

Field Discoveries: So far, we have found a variety of prey items, including armadillos, raccoons, and opossums as well as white-

tailed deer (both bucks and does) and even a coyote. One of the most impressive finds was a kill site for FP183 which was located only two hundred meters west of SR29 in a flooded cypress dome. As we approached the cluster, we wondered what in the heck FP183 could have killed in the near two feet of water we were sloshing through. On this occasion, we expected our treasure hunt to end in failure or at best, a bed site (waterbed site at that). Then, as the sun began to set, we saw a small, wooded island (only four-by-twelve feet of dry land) in the middle of the dome. On that small island, with hardly enough open space for a panther to lie down, were the remains of a large buck. What a scene that must have been when 183 relished his hard-earned meal surrounded by water and cypress knees on his "Island of Fortitude" (see photo below).

If this project proceeds as planned, we should eventually collect predation data from a multitude of panthers on public and private lands. These data will not only give us a more complete picture of the prey requirements for panthers, they will also allow us to understand how we may be able to better manage prey for the benefit of panthers and sportsmen and women.



FWC's Marc Crifffield studies the remains of a deer kill on FP183's "Island of Fortitude". FWC Photo

Notices and Links

FP194 KILLED IN FIGHT WITH ANOTHER PANTHER. On Friday, January 13, FWC's Dr. Mark Cunningham announced via email communication that FP194 (see January 2011 Panther Update) had died at about 5:45 AM upon his arrival in Gainesville for medical treatment. Cause of death was later confirmed as septic shock secondary to severe intraspecific aggression injuries. Look for an article by Rebecca Rising, biologist/BCNP volunteer, regarding FP194's final days in next month's Update.

On January 12, the FWC released an article entitled, "**Three Florida panthers die in early 2012.**" www.floridapanther.net.org/index.php/news/item/1948

Defenders of Wildlife Blogs: January 6, "**New Year Brings New Technology and Hope for Panthers.**" www.defendersblog.org/2012/01/new-year-brings-new-technology-and-hope-for-panthers

January 5, "**Looking for Ways Panthers and Ranchers Can Coexist In Florida.**" www.defendersblog.org/2012/01/looking-for-ways-panthers-and-ranchers-can-coexist-in-florida

On January 2, the News Press released an article by Kevin Lollar, "**Florida Panther Population Steady but at Risk Proposal to Move Some Cats North of Caloosahatchee Could Help Improve Their Numbers.**" www.newspress.com/apps/pbcs.dll/article?AID=2012301030021

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