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Is There Good News, Or Bad News, To Relate Concerning the Florida Panther?

by Kurt Repanshek

Among the pine forests and palmetto thickets of south Florida something of a miracle in wildlife biology has played out during the course of three decades. A creature once thought destined to endure a fate similar to that of the Passenger Pigeon has rebounded and seems poised to move towards a sustainable population.

But while there has been some good news this spring regarding the immediate fate of the highly endangered Florida panther, a tangle of issues nevertheless is threatening to doom the big cats that roam Big Cypress National Preserve and Everglades National Park.

Do population numbers tell the whole story of the recovery effort for Florida panthers? *U.S. Fish and Wildlife Service photo*.

These stealthy cats, which have officially been categorized as "endangered" under the Endangered Species Act since 1973, require considerable acreage. Males, which can measure 8 feet tail tip to tip of the nose and weigh as much as 160 pounds, roam home ranges of 150-200 square miles, while females lay claim to about 80 square miles. Covering 20 miles a day is not unusual for the panthers as they hunt white-tail deer, wild hogs, and other small game. Though nocturnal and rarely seen, their screams can be unmistakable and frightful.

While in the 1980s there were thought to be only about two dozen of these cats in south Florida, today the number is at least 100, perhaps a dozen or two more. According to U.S. Fish and Wildlife Service officials, data collected during annual captures and radio-collaring operations, camera traps, and mortalities show the population "is very demographically healthy and diverse with kittens, juveniles, young adults, prime adults, and older adults."

But a mix of lawsuits, private-property rights, lack of suitable habitat in the immediate area, and even genetics seem to be conspiring against the panthers.

"It's going to be difficult to recover the Florida panther. You can just do the mental math in your head," says Darrell Land, a wildlife biologist with the Florida Fish and Wildlife Conservation Commission. "If you presume that all other habitats are equivalent with the number of panthers they can support outside of south Florida, right now our population of 100-120 panthers exists on approximately 2 million acres. The recovery plan says to have a single self-sustaining population, you've got to have a population about double that. A population of 240 is probably going to take 4-5 million acres of land, and for three populations, you can do that math. We're talking 10 to 12 million acres someplace in the southeast United States.

"That's not chump change."

In recent weeks, biologists have found at least five panther dens with kittens in Picayune Strand State Forest and Big Cypress. Each of the dens had two-three kittens; there were at least six females and six males among the litters. Nine of the kittens were in dens within the national preserve. If all live to adulthood, something that's questionable, they could provide much-needed help to a hemmed-in species plagued by persecution, untimely

deaths, shredded habitat and, in some views, mismanagement by the very agency charged with protecting them.

Entering 2010 with a total population somewhere in the low 100s (a minimum population of 117 was reported by the Florida Fish and Wildlife Conservation Commission in September 2009), it's easy to grasp the precarious nature of this species' future, particularly when you consider their habitat: south Florida, a heavily urbanized region.

Already this year there already have been at least six panther deaths, two since April 15. Four were attributed to vehicle collisions, one to a fight with another panther, and the cause of the fourth fatality was undetermined. Last year at least two dozen panthers died, mostly the result of vehicle collisions. Can the birth rate off-set the mortality rate?

And yet, when you consider that, according to the National Park Service, there were only about 30 panthers left in the wilds as recently as the early 1980s, it would seem that the panthers are on a rebound.

But in a two-part series in mid-April the St. Petersburg Times crafted a damning portrait of U.S. Fish and Wildlife Service efforts on behalf of the panthers. The articles maintained that politics had prevented the agency from blocking development on habitat vital to panthers; that the agency was in fact losing panther habitat to development, and; that genetic flaws traced to inbreeding were reappearing.

In their defense, USFWS personnel say they have been working to both preserve and expand habitat for panthers, that politics never trumped science, and that though genetic problems never really did disappear from the population, their occurrence is much lower than seen before eight Texas cougars were transplanted into south Florida in 1995 to help deepen the gene pool.

"We have about 100 to 125 cats right now. And we believe that the population in south Florida has grown to the point where (the panther has) almost outgrown south Florida," said Ken Warren, a spokesman for the Fish and Wildlife Service's South Florida Ecological Services Office. "However, if you look at the Florida Panther Recovery Plan, it mentions that once we get the population stabilized to a certain point that we will look to expand it into other areas, south-central Florida, and potentially into other states. All of this is down the road. That's kind of the stepping stone."

But against that seemingly good news, there are substantial undercurrents that bring into question the viability of the panther program in its current form.

Earlier this year, the Center for Biological Diversity, the Conservancy of Southwest Florida, the Sierra Club, Public Employees for Environmental Responsibility, and the Council for Civic Associations notified the Fish and Wildlife Service that they would sue the agency for failing to designate critical habitat for the panthers.

From his desk, Dr. Stuart Pimm, an expert in biodiversity and conservation biology who has studied the panthers' genetics, sees the Fish and Wildlife Service as obstructionist to the species' long-term vitality.

"I have a lot of reservations about what the Fish and Wildlife Service is doing with panthers and I have to say a bunch of other species, too," said Dr. Pimm, reached at the Florida Keys where he is studying the endangered Cape Sable Sparrow. "This is a story that has been a success. So why isn't the Fish and Wildlife Service saying, 'Guys, you know, we did the right thing. This is an extraordinary conservation success, story.'

"They ought to be telling everybody about it," he continued, referring to the decision in 1995 to bring eight female Texas cougars to Florida to invigorate the gene pool. "And are they? The answer is no. They're not telling them about that because I believe they have found it to be politically uncomfortable to be, to acknowledge the fact that there is a lot more panthers than there were. When there were very few panthers, they could plausibly say, 'Well, you know the panther is this specialist animal and it can only live in certain places,' and therefore they could give up critical habitat.

"And now the fact that the numbers are increasing, it's clear that the panthers can live in a wide variety of places and I believe that the Fish and Wildlife Service is obligated to do the right science, not the politically convenient science, and come out and tell it like it is. What happens next is a policy decision," Dr. Pimm said. "I'm not trying to say that I'm naive and think that we scientists should rule the world. I don't think that for a minute. But nonetheless, I think when political expediency tries to tell scientists how to do their job, that's a terrible mistake."

Isolation in southern Florida and hunting nearly doomed the panthers in the 20th Century. By the 1980s, the population had dwindled to 20-30 animals and inbreeding was crippling those cats. Some offspring had holes in their hearts and testicles that didn't descend. Research showed that 90 percent of male panthers born after 1990 had testicular defects, something that hadn't been seen prior to 1975.

Hoping to remedy the genetic problems, the eight Texas panthers were imported and set loose in the Everglades in 1995. It didn't take long for the newcomers to add their genes to the Florida panther pool, as five of the eight bred and produced a total of 20 kittens. The new genes, along with reducing the defects, seemed to produce a somewhat hardier cat.

"We found that more than three times as many hybrid kittens appear to reach adulthood as do purebred ones," wrote Dr. Pimm, Everglades National Park supervisory wildlife biologist Sonny Bass, and Dr. Luke Dollar in The genetic rescue of the Florida panther, which appeared in the journal Animal Conservation, in 2006. "In sum, collectively, there is a strong

presumption that purebred cats suffer a variety of unfortunate demographic consequences that hybrid cats do not.

"This rescue has increased the known cat population from ~30 to the recent count of 87," they continued. "Cats now roam over a much larger area than in the past, including areas in the Everglades, Big Cypress and Fakahatchee once suggested to be unable to support them. ... This rescue does not guarantee the Florida panther's existence, but it has surely prolonged it."

While the Texas infusion did indeed bolster the Florida panthers' gene pool, it didn't completely solve the defect problem. Still, it greatly reduced it. Statistically, a sample of panthers from 1971 to 1995 showed that about 16 percent to 17 percent had heart defects, according to Mr. Warren of the UWFWS, while about 50 percent of the male cats had deformed testicles. A sampling from 1996 to 2008 showed that just 9 percent of the panthers had heart defects, while 20 percent of the males had testicular defects.

"Now, obviously it's still a problem. It has not been fully eradicated, but hopefully you can see from those numbers that we've made good progress," he said.

The defects, said Dr. Land of the state wildlife commission, "have been here for decades and decades and even though we embarked on genetic restoration back in the mid-1990s, we weren't out to totally replace the Florida panther population, and we knew that it wasn't going to be a one-time fix. That was clearly stated in all the project documents back then. But what we were trying to do was improve the overall genetic health of the population as a whole.

"So we're not surprised at all that those traits are still present in the population, and the expectation truly was that as time progressed, because the population has limits on how much it can grow, that those traits would start becoming again more and more common as more and more time passed," the biologist said. "It might eventually lead to a new genetic infusion somewhere down the road."

As Dr. Land noted, a key impediment to panther recovery is the lack of land for the cats. While they currently have about 2 million acres of habitat, the Center for Biological Diversity believes at least 3 million acres should be protected as critical habitat for the panthers. But the Fish and Wildlife Service doesn't seem interested in expanding the panthers' habitat, the group contends. Instead the federal agency is involved in "a shell game," the center believes.

"What they do is they take some areas, sometimes they have less potential for development, they preserve them and add to the so-called conservation bank, and other areas then get developed, so you have a net loss a continuous net loss of habitat," said Michael Robinson, one of the organization's "conservation advocates."

According to Mr. Robinson, while the Fish and Wildlife Service protects acreage for panther dispersal routes, it allows development on the cats' primary habitat.

"The primary zone is the area occupied by panthers currently, and of course, with 100 or so animals, every acre in that primary zone that is undeveloped is very important to stay undeveloped," he said. "But in fact, there's going to be a significant loss of habitat within that primary zone. So the source population that we hope will eventually disperse out and set up new breeding populations north of the Caloosahatchee River, that source population is being impacted through this trade-off."

At the Fish and Wildlife Service, Mr. Warren says the agency continuously works with landowners and developers to preserve panther habitat.

"One of the things that we're doing is we just recently broke ground on a 55,000-acre area called the Picayune Strand, which is near Collier County. It is an area where there were plans to have a subdivision, but for various reasons that subdivision fell through, it didn't come together," he said. "The federal government and the state government of Florida went in together and bought up that land, and we're in the process of restoring it to the point where Florida panthers and other species can benefit from it. So that's a big job."

When it comes to new development, the agency works with developers to mitigate their projects through alternatives such as land preservation rather than issuing "jeopardy opinions" that could block a project because it adversely impacts panther habitat.

"We work very closely with the developers in advance and before it gets to the point where we have to declare a jeopardy," said Mr. Warren. "So, to say we haven't issued any jeopardy opinions or haven't blocked a project since '93 is kind of misleading, or very misleading. The way we approach these things is the developers or the people who are trying to put these projects together meet with us, we tell them upfront what our requirements are, what mitigation steps are necessary, those kinds of things, if there are any necessary.

"We would prefer to say that we have been successful at preventing things from getting to that point, as opposed to saying we've blocked or stopped these projects, 'X' number of projects from happening. Another thing is, there's this big misconception that just because of the Endangered Species Act we can just raise our hands and stop construction projects. That's really not true. Even if we raise an objection, then the developer has the responsibility or the opportunity, let's put it like that, to come back with reasonable and prudent alternatives. To say we haven't blocked any or stopped any, is misleading. It's not the complete story."

But some would say the agency works too closely with developers. In a 2005 story the St. Petersburg Times told of the agency asking developers to help prepare some biological opinions on how projects might impact panther habitat.

Sometimes, though, protecting panther habitat is not as simple as saying a swath of acreage is vital for their future and making it off-limits to development, said Dr. Land.

"I know that habitat is being lost," he said. "We abide by the Constitution of the United States, and I don't think it allows government to come in and just take over people's property. So there's a whole suite of private property rights and issues out there that you have to deal with. It's a tough sea to navigate.

"We're not idiots that work with Florida panthers, and there are dedicated people in the U.S. Fish and Wildlife Service that fully understand the fact that if you develop more and more acres that leaves less and less room for wildlife," he added. "That's quite apparent. There's also tremendous cost to society to just think that you can go in and pop little signs in the ground that says bulldozers must stop here. There's financial and legal consequences for doing that."

That said, Dr. Land pointed out that a formula is used when it comes to determining how much land developers must set aside for panthers. That formula is not an acre-for-an-acre approach, he said, but one that takes into consideration the quality of the land.

"So when you do that math it takes into account how much of the quality habitat and poor habitat is being taken, and the currency they use is what they call 'panther habitat units.' So if you look at the PHU value of those acres, I would suspect very strongly, because that's the way the formula should work, is that you've actually saved a greater amount of those panther habitat units than you've lost," the state biologist said.

Among those not entirely convinced that a designation of critical habitat is necessary for the panthers are Audubon of Florida, the Collier County Audubon Society, Defenders of Wildlife, and the Florida Wildlife Federation. Back in November they wrote Interior Secretary Ken Salazar to voice their support for a "Habitat Conservation Plan" that involves private landowners, government entities and other stakeholders working in concert to protect panther habitat. Through this approach the groups believe it's feasible to protect "a significant, contiguous range of panther habitat - potentially as much as 2,500,000 acres in public and private lands."

"Of course, if the Habitat Conservation Plan fails, critical habitat designation may be necessary," the groups added in their letter to Secretary Salazar. "With support from the Department of the Interior, the Florida Panther Protection Plan can provide a model for expansion and restoration of the panther's habitat, including into central Florida and reintroduction of panthers elsewhere in the southeastern United States."

Before human settlement, Florida panthers roamed throughout the Southeast. Today they occupy less than 5 percent of their historic range. Under the Florida Panther Recovery Plan (attached), before the panthers can move away from their "endangered" status under the Endangered Species Act, there must be two independent populations of at least 240 panthers each and which are sustained for a dozen years, or two generations.

If that's ever to happen, more habitat must be set aside, a total of perhaps 12 million acres, as Dr. Land indicated.

"I think in the short-term we can maintain the population in the condition it's in, which is quite a bit further away from the brink of extinction than it was in the mid-1980s," he said. "And I think there's still some glimmers of hope. We've had male panthers get north of the Caloosahatchee River and Lake Okeechobee and get into even Georgia. "So they're finding some habitat. I think there's a moderate chance of somewhere down the road having some conditions where we might be able to help facilitate breeding north of the Caloosahatchee River."

Back at Key Largo, Dr. Pimm believes enough habitat can be preserved for the panthers to enable them to survive, albeit possibly with human intervention from time to time.

"I think it's clear that there's enough land to allow panthers to persist. Perhaps not forever, but perhaps with the occasional genetic rescue of the kind that was done a few years ago. I mean, is 100 animals enough, is 200 animals enough? It's on the cusp," he said. "Five-hundred animals, we'd probably say they're going to be OK. Fifty animals we know they're not going to be.

"And so the question is how much land do we protect? And we clearly got to protect essentially all the suitable habitat that is out there if the panthers are going to have a chance," Dr. Pimm added. "And even then, they're going to require constant monitoring, they're going to require probably the occasional genetic rescue. Whether that's a rescue every 25 years or every 100 years I don't know."

In the meantime, biologists are continuing to watch for additional dens with more kittens this spring, underpasses are being built, when money allows, so panthers can avoid traffic -- their most deadly foe -- when on the move, and efforts are being made to conserve optimum habitat. Only time will tell whether the species will survive, but it's sure come a long way from the 1980s.

"Where would you rather be, 20-30 animals or 100 or more?" Dr. Land replied when asked if things were as bad as some make it out to be. "I'll take the 100 or more."