

Partners for Fish and Wildlife Program proposal for managing native landscape on private lands in the Florida Panther Focus Area

A concept paper by the Florida Panther Recovery Implementation Team



Summary

The purpose of this report is to present the concept of a Payment for Ecosystem Services pilot program for landowners that provides quality habitat for the endangered Florida Panther and its prey. Cattle depredations by panthers have been documented on south Florida ranches, and if continued unmitigated, may inhibit the recovery of this species. Many landowners and ranchers in the Florida Panther Focus Area (figure 1) recognize that maintaining quality wildlife habitats on their lands that support panthers can be a liability if the panthers prey on their calves or cattle, while the US Fish and Wildlife (USFWS or Service) believes that the continued management of native habitats on private lands in this landscape is essential to the recovery of the Florida Panther. Therefore, incentivizing the quality management of native habitats is crucial and to be effective must offset the expense of lost cattle revenue as a result of Panther depredations.

The Problem

Over the past 20 years, the Florida Panther population has expanded significantly in Southwest Florida from an estimated 30 panthers in 1995 to approximately 100 - 160 today. This success is due to many factors, including habitat protection/ management, and genetic restoration. With this success, panthers have been expanding their range and densities on public and private lands. At the same time, conversion of agricultural lands to more intensive uses continues to contribute to the loss of viable Florida panther habitat that could inhibit recovery. Habitat acquisition, restoration, and management are the primary responses to accelerating habitat loss. Restoring suitable natural pineland flatwood forest, hardwood hammock forest, and freshwater wetland forest habitats and enhancing corridors within the Panther Focus Area contribute to the recovery of this species. Specifically, focusing on the Primary and Dispersal Zones within the Focus Area prioritizes lands essential to the long-term viability, survival and expansion of the Florida panther population.

South and Central Florida ranchlands are critical to successful panther survival, with over 50% of occupied panther range under private ownership within the Focus Area. Yet, the economic and environmental pressures facing ranchers is great. The unpredictable profitability of ranching operations from year to year in Florida is one of the factors that contributes to land conversion and represents a real threat to Florida's natural landscapes and the collective societal benefits these lands provide. Not only does development encroach on the natural landscape of ranches and farms, but it also drives up the property values, creating a greater incentive to sell the land to developers or convert native habitats and pasture into more intensive agriculture uses such as row crop. Though they may not want to sell the land or cancel lease agreements, many ranchers may be forced to if ranching becomes economically unviable.

As the Florida panther's range expands and population density grows on private lands, an increase in depredation events on commercial cattle operations has become a threat that could undermine previous collaborative efforts in the protection and recovery of the species.

Depredation of commercial cow/calves in the South Florida is a problem that the Service, the Florida Fish and Wildlife Conservation Commission (FWC), and the University of Florida Institute of Food and Agricultural Sciences (UF-IFAS) are trying to address and resolve with ranchers and landowners. Recently, the Conservancy of Southwest Florida developed a small pilot compensation program for ranchers with less than 100 head of cattle. However, the program is extremely limited and does not apply to most landowners and ranches in the primary and dispersal zones. The Farm Services Agency of the USDA has recently created a Livestock Indemnity Program in the 2014 Farm Bill. This program provides compensation to eligible livestock producers who have suffered livestock death losses in excess of normal mortality due to adverse weather and attacks by animals reintroduced into the wild by the federal government or protected by federal law. The FSA's LIP program is a direct compensation tool that will require verification of the death and cause of livestock death and therefore is problematic in the South Florida landscape.

History

The Florida panther is the last subspecies of *Puma* still surviving in the eastern United States. Historically occurring throughout the southeastern United States, today the panther is restricted to less than 5% of its historic range in one breeding population located in south Florida. The panther population has increased from an estimated 12-20 (excluding kittens) in the early 1970s to an estimated 100-160 in 2014. The panther is listed as endangered under both the Federal Endangered Species Act (ESA) (16USC1531-1544) and Florida Administrative Code (FAC) 68A-27.

In 2008, the Florida Panther Recovery Plan was revised with a goal "to achieve long-term viability of the Florida panther to a point where it can be reclassified from endangered to threatened, and then removed from the federal list of endangered and threatened species." It further explains that a viable population, for the purposes of recovery, is defined as one in which there is a 95% probability of the persistence for 100 years.

The 2008 Recovery Plan states: "Public support is critical to attainment of recovery goals and reintroduction efforts. Political and social issues will be the most difficult aspects of panther recovery and must be addressed before reintroduction efforts are initiated."

In 2013, the USFWS appointed a Florida Panther Recovery Implementation Team consisting of members representing the Service, National Park Service, FWC, private landowners and nongovernmental organizations, with a mandate to facilitate those recovery activities most needed to progress toward the recovery goals identified in the Plan. The Team identified Landowner Incentives as their highest priority action item.

Currently, landowners manage not only their lands for agricultural uses but also leave native habitats intact for the benefit of wildlife. Many ranches within the Panther Focus Area are a mixture of native habitats, improved pasture, and agricultural crop lands. This mixture of habitat types and working lands maximizes the edge effect that is beneficial for panthers and

their prey. Researchers at the University of Florida are currently studying calf survival on two ranches in southwest Florida. They are also looking at factors affecting calf depredations by panthers such as calf size and age, and associated habitat variables such as proximity to edge and amount of forested areas.

The combination of economic loss of cattle from panther depredation and the cost of habitat management act as a disincentive to landowners to manage for wildlife habitats on their ranch. The limited pilot program that the Conservancy of Southwest Florida implemented was not designed to address this larger issue. In 2011, the Service, FWC, private landowners and Defenders of Wildlife reviewed other programs around the United States that provide direct compensation for livestock loss. Based on this informal review of other state programs, it appears that direct compensation for livestock taken by panthers is not a preferred option for Florida. First, the amount of forested acres intermixed with pastures in Florida would make it difficult to account for all cattle losses. Secondly, South Florida's tropical climate breaks down the evidence of depredation quickly, making it difficult to identify the cause of death. Lastly, the resources needed to attempt to find and determine cause of death for all cattle could overburden the FWC.

When speaking with landowners about managing habitat for panthers, we have found there are three concerns: no trust in government (i.e. regulation), calf depredation, and financial burdens. Therefore, it is imperative to first build trust and garner a relationship with these landowners. We believe that this can be accomplished through listening to landowner concerns and developing a good landscape-level incentive program that combines our desire for healthy panther habitat with their management of working lands.

Although there are currently several cost share programs available to landowners for habitat management, such as NRCS Farm Bill Programs including the Environmental Quality Incentives Program (EQIP) and the Wildlife Habitat Incentives Program (WHIP); the FWC Landowner Assistance Program (LAP); and the USFWS Partners for Fish and Wildlife Program (PFW), these programs all present their own unique barriers to landowners within the Panther Focus Area, specifically low payment for practices, ineligibility for large landowners (NRCS), and a cap on the amount of money spent per project site. There also exist a few easement programs for landowners, including the Wetland Reserves Program (WRP), Grassland Reserve Program (GRP), and the Farm and Ranchlands Protection Program (FRPP), but these programs have limited funding (especially GRP and FRPP) and may not be applicable to the ranches within the Panther Focus Area due to habitat present (i.e. not applicable for WRP because little degraded wetlands on site).

Solution

Habitat acquisition, restoration, and management are the traditional primary responses to ameliorate accelerating habitat loss. An alternative approach to achieving our recovery goals is through a Payment for Ecosystem Services (PES) Program; which seems more enticing to landowners, especially the owners who have large acreages, diverse habitat types and varied

land uses. What is a PES, and how would it benefit panthers? The Katoomba Group (*Payments for Ecosystem Services Getting Started: A Primer*. 2008 Forest Trends) states that the key characteristic of a PES is to maintain a flow of a specified ecosystem “Service”- such as providing and maintaining habitat for endangered wildlife—in exchange for something of economic value.

Landowner interest in PES programs is growing, both around specific compensation for Florida panther-related livestock losses and more broadly for the benefits of wildlife habitat that private ranches provide. Therefore, it is possible to encourage ranchers to maintain this habitat, perhaps even create more, and not change the land use of this habitat for a specified period of time by strategically incentivizing habitat management practices that support the Florida panther.

The use of a PES program to benefit the Florida panther would be the first time such an innovative strategy has been used for endangered species conservation in the United States. Although other similar PES programs exist in Florida, such as the Natural Resource Conservation Service (NRCS) Conservation Stewardship Program (CSP), the SFWMD Florida Ranchlands Environmental Services Project (FRESP), and a pilot FWC Gopher Tortoise PES (GT-PES), these programs do not offer viable options for the landowners within the Panther Focus Area. A review of these programs can be viewed in Appendix A.

The most viable option for this unique set of challenges is to use the Partners for Fish and Wildlife program (PFW) to fund a PES pilot program. This pilot program would be based firmly on the Partners for Fish and Wildlife Act of 2006 (PL 109–294) and USFWS policy (640 FW 1). Partners biologists will provide technical and financial assistance to landowners to help meet the habitat needs of the Florida panther on private lands in the Florida Panther Focus Area. The primary objectives will include promotion and implementation of habitat improvement projects that benefit the Florida panther; and providing conservation leadership and promoting partnerships. The Pilot program would focus on private land projects that complement activities on the Florida Panther National Wildlife Refuge and improve habitat for this endangered species.

The PES program will allow for landowners to voluntarily enroll into the Partners for Fish and Wildlife Program and follow the management plan outlined in their Wildlife Cooperative Extension Agreement (WCEA) for a period of 10 years. The basic agreement will cover acres of desirable panther habitats and provide a 50:50 cost share funding for the management of those acres. The valuation of such services could be based on the average per acre cost of the management actions that will benefit habitat for the Florida panther and its prey, including the cost of conducting prescribed burns and per acre cost of treating invasive species over the course of the 10 years. Below is a chart of average cost/acre for specific practices on private lands. These costs are an average from NRCS Farm Bill Programs, FWC Landowner Assistance Program, and private consultants.

Practice	total/acre	50:50 share
Rx Burning	\$97.00	\$49.00
Invasive Species Management	\$250.00	\$125.00
Rx Grazing	\$8.00	\$4.00

Table 1. Cost of Land Management Practices

In order to determine which lands would be eligible for this program, we analyzed the land use classifications from Florida Natural Areas Inventory within the Primary and Dispersal Zones of the Panther Focus Areas located north of I-75 in Collier, Lee, Hendry and Glades Counties. We sorted the land use classifications into three categories; Tier 1 Eligible, Tier 2 Eligible and Not Eligible.

Tier 1 eligible lands are defined as desirable panther habitat with compatible land use classifications. Tier 2 eligible lands are defined as lands that meet some of the panther’s needs; their value is not as substantial as other native habitats which contribute to successful denning but otherwise offer some benefit to the panther’s ability to hunt. Not eligible lands are those land use classifications that don’t meet the habitat needs of the panther or where land management practices that would benefit the panther cannot be implemented, therefore these land use classifications are not eligible for this incentive program. We determined the eligibility of each land use classification by asking these questions.

1. Is the land parcel in private ownership, over 50 acres, located north of I-75 and within the Primary or Dispersal Panther Focus Area?
2. The lands are NOT part of a conservation easement or mitigation bank that was established for the purpose of restoring and/or managing those lands. (WRP, etc.)
3. Do panthers use the land classification as hunting, resting, and/or denning habitat?
4. Could the land be restored to desirable habitat by removing invasive plants?
5. Are there land management practices that can be implemented to improve habitat for Florida panthers and their prey in the land use classification?

Using these parameters, we determined that there are 393,395 acres of private non-conservation lands within the primary and dispersal zones north of I-75. Of those lands, 190,541 acres are identified to be Tier 1 eligible and considered desirable panther habitat with compatible land use classes that would be eligible for this pilot program. Improved pastures also meet most of the criteria, and although their value to panthers is not as substantial as other native habitats, they contribute greatly to the “edge effect” that makes them valuable areas for panthers to hunt, particularly at night. Landowners and biologists working together to develop prescribed grazing plans for improved pasture, has proven beneficial to wildlife and cattle ranching. Therefore, the 69,194 acres of improved pasture are considered Tier 2 eligible. The results are depicted in a map Figure 1. Appendix B provides a list of land use classifications from Florida Natural Areas Inventory showing how each are classified for the purposes of this program.

Next, we calculated the payments by using information in Table 1 under the 50:50 cost share for these land management practices over the life of a 10 year agreement. The cost of prescribed burning or mechanical vegetation treatments on tier 1 lands would be doubled because the habitat requires vegetation management at least twice over the course of 10 years. The program would also pay for the 50:50 cost share of one treatment of invasive plants on Tier 1 eligible lands. Lastly, landowners willing to enter their tier 2 lands into the program would work with the USFWS and FWC landowners assistance programs to develop prescribed grazing plans, and if the landowner implements the plan, they would be eligible for \$4.00 per acre per year on those Tier2 lands.

For example:

Burning/mechanical treatment = (\$49 per Tier 1 eligible acre x 2 burns over 10 years) = \$ 98 per acre and Invasive control = \$125 per Tier 1 eligible acre

$\$98 + 125 = \223 per acre over 10 years = $\$22.3$ per acre per year for Tier 1 eligible lands

Prescribed grazing plan on improved pasture (tier 2) = \$4 per acre per year

7,000 acre ranch has 5000 acres of Tier 1 and 1,000 acres of Tier 2 lands and 1,000 acres of lands not eligible (row crop).

$5,000 \times \$22.30 = \$111,500$

$1,000 \times \$4.00 = \$4,000$

$\$111,500 + \$4,000 = \$115,500$ per year

Using the above criteria for eligibility and the formula for valuation at \$22.30 per acre per year for Tier 1 lands and \$4.00 an acre per year for Tier 2 lands, the amount of acres that we can potentially enroll would directly be determined by the willingness of the landowners and amount of money allocated to the project. For example,

Tier 1.

Maximum 190,541 acres = \$4,249,064 per year

Tier 2 (improved pasture)

Maximum 69,194 acres x \$4. Per acre per year = \$276,776 per year

TOTAL Maximum if all 259,735 acres of Tier 1 and 2 lands were enrolled

$\$4,249,064 + 276,776 = \$4,525,840$ per year

The Pilot Program

In order to test this approach, a pilot program is proposed. While details would be further established, the concept is as follows:

The Panther Recovery Implementation Team would ask for volunteers that are interested in a 3 year pilot program. We would seek both landowners and lease holders for the implementation of this pilot to determine effectiveness with each. While the amount of acres and number of landowners/leaseholders would be limited by the amount of appropriated funds for this pilot program, our goal would be to enroll 10% of the total amount of acres identified as Tier 1 and 2 eligibility (Tier 1= 19,054 acres and Tier 2 = 6,920 acres which is a total of 25,974 acres), with 5 different participants. This would cost approximately \$452,584 per year to implement this pilot project. While seeking funding primarily from the Partners for Fish and Wildlife Program, the USFWS may also accept funding from other sources to help implement this pilot.

For Example:

Tier 1: 19,054 acres*\$22.3=\$424,904

Tier 2: 6,920 acres*\$4.00=\$27,680

Total = \$452,584 per year for three years among five landowners

During the first three years, we will implement the following monitoring strategy to validate the implementation and effectiveness of the planned treatments, i.e., to ensure that treatments have achieved the purpose of habitat restoration and protection of the Florida panther. One measure of successful “habitat improvement” (restoration, enhancement or establishment of habitat) for this project would be the maintenance or increase in the number of panthers using the habitat.

Monitoring technique/strategy: Work with landowners to establish photo points and remote camera sites at strategic locations within ranches to document pretreatment, annual treatment and post treatment conditions, cattle herd size, and average calf mortality rate (taken from information obtained by ranchers over the previous five years, if available).

Evaluation:

- 1) Determine baseline % cover of invasive species:
 - a. Review ranch aerial map to determine panther habitat locations.
 - b. Conduct site visit to determine invasive species present and estimate % cover at these locations.
- 2) Reduce invasive vegetation by 95% during the initial treatment.
- 3) Maintain invasive plants at $\leq 5\%$ baseline level.
- 4) Determine baseline number of panthers using the habitat:
 - a. Set remote cameras.
 - b. Conduct panther captures and collaring where appropriate (with landowner approval).
- 5) Determine baseline quality of fire dependent habitat:

- a. History of burning.
- b. Establish photo points.
- c. Conduct initial site evaluation.
 - i. For each habitat type, evaluate ground cover, midstory, and canopy diversity and density.
- 6) Return of historical habitat fire intervals, intensity and season (as appropriate,)
- 7) Determine baseline cattle numbers,
- 8) Establish the average calf mortality rate (over the last five years of ranching, if available from ranch records),
 - a. Establish the specific percentage attributed to depredation (when possible),
- 9) Determine initial landowner sentiment towards panthers and this project:
 - a. Survey landowner annually about progress and success of project,
 - b. Conduct final landowner survey:
 - i. Would they be interested in continuing with the project?
 - ii. What issues need to be addressed that would benefit landowners and/or keep them interested?
 - iii. Would they recommend this program to other ranchers in the Florida Panther Focus Area? Why or why not?

The Florida Panther Recovery Implementation Team could coordinate this pilot program with the Peninsular Florida Landscape Conservation Cooperative (PFLCC). The PFLCC is an applied conservation science partnerships among federal agencies, regional organizations, states, tribes, NGOs, private stakeholders, universities and other entities within Peninsula of Florida. It is designed to inform resource management decisions in an integrated fashion across landscapes at a broader scale than any individual partner's responsibility. The PFLCC has established a landowner incentive working group that could provide expertise and guidance for this pilot project.

Also, a project led by the University of Florida that includes a human dimensions study to determine attitudes towards panther presence in the area, the desire for new landowner incentive programs (such as a PES), and perceived level of need for a depredation reimbursement program, is currently ongoing. Results from this study could be integrated with the monitoring of this pilot program in order to develop a more permanent and sustainable PES system.

Benefits

This pilot program seeks to develop a system that values habitat management services which are also easy to implement and communicate to landowners. Landowner understanding is essential so that they are able to predict potential future compensation and adopt practices and actions that would maximize public benefits and net profit so that ranching and working lands remain financially viable.

Resolving the depredation issue, either through compensation or other means, would increase the possibility that a natural range expansion north of the Caloosahatchee River is successful and that proper corridors are maintained, providing for eventual Florida panther recovery. The development of PES programs or markets for ecosystem services has the potential to increase the sustainability of the ranching industry by providing financial incentives to landowners, which could stem the rate of land conversion in the Panther Focus Area and develop a sound model to achieve quantifiable conservation goals recognized in the Recovery Plan.

Providing financial incentives to landowners in recognition of the public benefits their ranches provide would counter the factors that force them to sell their land or convert it to other uses. It would help preserve the rural landscape and contribute to the recovery of the Florida panther while preserving working landscapes for future generations. In essence, landowners would provide measurable conservation benefits by restoring and maintaining suitable natural pineland flatwood forest, hardwood hammock forest, and freshwater wetland forest habitats, as well as enhancing corridors within the Panther Focus Area. Specifically, focusing this effort on the Primary and Dispersal Zones within the Focus Area prioritizes lands essential to the long-term viability, survival and expansion of the Florida panther population.

The cost of this program is significantly less than purchasing the fee title or a conservation easement and assuming direct management responsibility for these lands in perpetuity. It is estimated that a conservation easement would roughly cost \$2,500 per acre, whereas the full purchase price is estimated at \$5,000 per acre. At \$22.30 per acre per year, we believe similar results in habitat management can be achieved for the short term (10 years), which will give the species time to expand its range naturally in order to meet the interim goals of the recovery plan.

Why the Partners for Fish and Wildlife Program?

The Partners for Fish and Wildlife Act, Public Law 109-294, is: *“An Act to authorize the Secretary of the Interior to provide technical and financial assistance to private landowners to restore, enhance, and manage private land to improve fish and wildlife habitats through the Partners for Fish and Wildlife Program.”*

The Partners for Fish and Wildlife Program (PFW) is the Service’s primary mechanism for delivering voluntary on-the-ground habitat improvement projects on private lands for the benefit of Federal trust species. The PFW is the most versatile of existing landowner incentive programs. While most other incentive programs are only eligible for landowners, PFW agreements can be developed with a lease holder as long as the landowner is also agreeable. The value of this authority cannot be overstated, as many lease holders are the individuals most directly impacted by cattle depredations and are also conducting habitat management improvements for recreational hunting.

In addition, the Partners Program policy has established priority ranking factors to help guide project selection. These priorities are stepped down to the state and local levels as field staff

collaborate with our stakeholders to further refine habitat priorities and geographic focus areas. We believe this PES model achieves each of the 5 national priority ranking factors.

- Improve habitat for Federal Trust Species, including migratory birds; threatened and endangered species; inter-jurisdictional fish; marine mammals; and, other declining species.
- Complement activities on National Wildlife Refuge System lands, or contribute to the resolution of problems on refuges that are caused by off-refuge practices.
- Address species and habitat priorities that have been identified through Service planning teams (with our partners), or in collaboration with state fish and wildlife agencies.
- Reduce habitat fragmentation or serve as buffers for other important Federal or state conservation lands.
- Result in self-sustaining systems that are not dependent on artificial structures.

In South Florida, we focus on projects in those ecosystems or watersheds where efforts will achieve the greatest benefits for Federal trust species. Projects must be biologically sound and cost-effective, and must reflect the application of the most effective techniques based on scientifically valid methodologies and adaptive management. The Service measures program and project quality and success through the establishment of project selection protocols, monitoring success criteria, program reviews, and employee training.

Working with the landowner, PFW biologists plan habitat improvement practices that restore or artificially provide physiographic, hydrological, or disturbance conditions necessary to establish or maintain native plant and animal communities. The term “habitat improvement” includes habitat restoration, enhancement, and establishment (singularly or in any combination). Practices may also include periodic manipulations to maintain intended habitat conditions on completed program projects.

The PFW program can be used as the first step to strengthening partnerships and providing monetary support for panther habitat on working lands. PFW management practices available to maintain, enhance or restore panther habitat include prescribed burning, prescribed grazing, and invasive plant removal. Currently the project area contains FLEPPC (Florida Exotic Pest Plant Council) Category I Invasive species such as Brazilian pepper, Old World climbing fern, and cogon grass. These species have the potential to become monocultures in both uplands and wetlands on these ranches. Removal of these invasive plants, in conjunction with prescribed fire and prescribed grazing plans, helps to restore pine flatwoods and cypress strands used by this endangered cat. Prescribed fire and prescribed grazing can also be used to develop and maintain pasture edges that can be used by panthers for cover.

Through historical records, the PFW biologist and landowner will review current grazing, invasive species management and burning practices. Then use that information to adjust ranch management plans, as needed, for optimal panther habitat. The PFW biologist will work with landowners, ranch managers and hired consultants to develop the best prescribed fire and

invasive species management plans for both the Florida panther and cattle ranching. Many ranchers already implement these practices; this project allows us to provide both technical and financial assistance for them to continue these practices and curtail the rate of land conversion by making ranching in the primary panther habitat more economically feasible. This assistance will also strengthen our relationship with landowners, thereby helping us to get access to much needed monitoring information of Florida panthers on private lands.

Need to Act

We believe using the Partners for Fish and Wildlife Program is the platform most suitable for achieving many of the interim goals of the Florida Panther Recovery Plan and allow for a trial of how the PES system could work toward protecting habitat and gaining confidence and credibility with landowners.

The Partners for Fish and Wildlife Act of 2006 authorizes spending of up to \$75 million per year nationwide; however, only \$16 million was appropriated in 2013. Currently the funding for the PFW program in South Florida is \$150,000 to cover voluntary agreements from Orlando to the Florida Keys. Were this unique conservation approach to be approved using existing funding levels, we would only be able to conserve 6,726 acres and not be able to cover any other priorities in South Florida. Therefore, we should look to obtaining a larger appropriation to implement this pilot, if possible.

Also, PFW funding is generally limited to \$25,000 or less per project. However, the Director or his or her designee may approve Service funding of projects involving more than \$25,000. Such approval must be based on the predicted biological significance and cost effectiveness of the project. Given both the large home ranges for panthers and the large sizes of ranches, the \$25,000 maximum would need to be waived for this pilot program to be effective.



Lands Eligible For PES Within Primary and Dispersal Zones

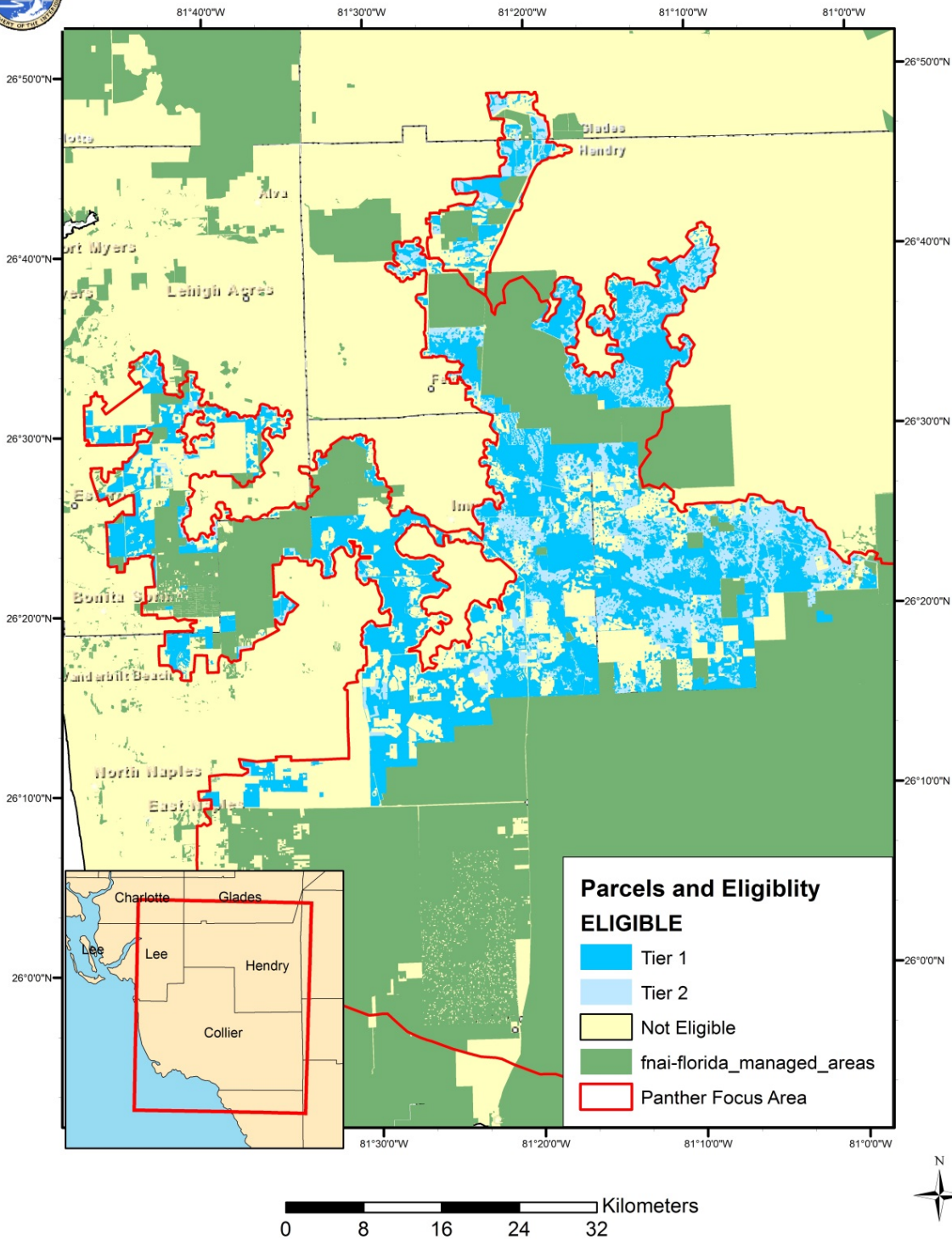


Figure 1. Land use eligibility for Panther Payment for Environmental Services

Appendix A.

A review of other PES Programs available in the state

A review of CSP: The Conservation Stewardship Program (CSP) pays for conservation performance — the higher the performance, the higher the payment. Interested landowners must read and complete a 19 page registration form, then undergo the ranking process to determine if they become a participant. Under CSP, participants receive annual land use payments for operational level environmental benefits they produce and a supplemental payment is available to participants earning an annual payment who also agree to adopt a resource-conserving crop rotation on cropland. The Annual Land Use Payment is computed by multiplying Land Use Acres X Performance Points (additional or existing) X Land Use Payment Rate. The performance points are determined from the Conservation Management Tool (CMT) which uses a point based system to measure a relative environmental benefit. The CMT evaluates both existing and proposed (i.e., additional) activities, and is designed for equity in order to score an applicant’s current and planned environmental performance and to generate conservation performance points to be used for ranking and payment purposes. Supplemental payment for Conservation Crop Rotation is a flat \$12.00/acre.

Table 1 shows the value per point per land use type that would be valued in the Panther Focus Area. Determining point values is an intense process that is outlined in the Conservation Measurement Tool Conservation Performance Scoring for 2013-1. But I have inserted Table 2 to show the final product of this measurement tool for specific land uses.

Table 1. 2013 CSP Payment Rates Annual Payments

	Additional Activity	Existing Activity
Land use	Payment Rate	Payment Rate
Pasture	\$0.2376/point	\$0.0324/point
Range	\$0.1588/point	\$0.0108/point
Forest	\$0.1858/point	\$0.0173/point

Information from NRCS 2012 Conservation Stewardship Program Information Sheet, the Conservation Measurement Tool Conservation Performance Scoring for 2013-1

Table 2. Average Yearly Obligation 2011 to 2013

Land use	CSP-1	CSP-2	CSP-3	CSP-4	Average
Rangeland	\$3.86/acre	\$4.20/ acre	\$4.69/ acre	\$4.13/ acre	\$4.19/ acre
Range and Pasture	\$6.15/ acre	\$7.05/ acre	\$8.15/ acre	\$5.90/ acre	\$6.87/ acre
Forestland	\$6.42/ acre	\$8.62/ acre	\$10.47/ acre	\$5.28/ acre	\$7.94/ acre

Information from pers comm. Odessa Armstrong, NRCS FL

The CSP program is not very successful in Florida primarily for two reasons, first is the low payments provided and second, is the lengthy application process. For more information on CSP visit <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/>.

A Review of FRESP: The Florida Ranchlands Environmental Services Project designed and field tested elements of a program that would pay ranchers to improve water quality, phase, and timing by using existing water management infrastructure on ranchlands. Now, this program is named the Northern Everglades Payment for Environmental Services (**NE-PES**) Program.

The NE-PES program commits to maintaining a working landscape; allowing landowners to actively manage water based on the level of the payment received and not be limited by programs (i.e. WRP program) that direct restoration to pre-disturbance conditions at the specific site. To apply for the NE-PES program, ranchers submit their proposed Water Management Alternatives (WMA) design and a payment request to the “buyer” or SFWMD in this case. The payment request has two parts: one is the estimated costs of design, permitting, and construction of the WMA, and two is for an annual service payment. When the request is accepted by the “buyer”, a contract is developed that outlines services that are above and beyond regulatory expectations described in traditional agriculture best management practices (BMPs) and the annual service payment amount to be paid after services are complete. This payment will be paid yearly over the life of a 10-year contract based on documentation that the contracted service was provided.

The program collaborators considered other payment options, including a per-unit price for each practice. However, within this particular program, the “buyer” (SFWMD) did not feel that the “commodity” (water and nutrient storage) was comparable to those that the WMD managed on public lands. So collaborators produced definitions of these commodities that were understood and accepted by both parties and were measurable on a working ranch. Given these definitions, the SFWMD and rancher could develop the contract delineating specific services, the payment earned and documentation required to earn payment. (Information from **Designing a Payment for Environmental Services Program for the Northern Everglades. Lynch and Shabman 2011; National Wetlands Newsletter**)

The NE-PES is considered a successful program in Florida, but it has a specific target of increasing water quality in Central Florida. I think it can provide a template for a future Panther PES, but we would need data to determine “commodity” (i.e. habitat) value.

A Summary of GT-PES: FWC’s Cooperative Conservation Blueprint has contracted with Wildlands Conservation to develop a gopher tortoise payment for ecosystem services (GT-PES) program with private landowners in southwest Florida. The goal is to proactively conserve habitat for this keystone species while also preserving priority regional connectivity at the landscape scale. Under the PES framework, landowners will be compensated for providing and/or restoring high quality gopher tortoise habitat on their property as identified by FWC. Eligible landowners enter into a contract that ensures habitat will remain suitable for gopher

tortoises for a period of 10 years, with an opportunity to renew subsequent to the first 10 years. Annual payments will be based on habitat metrics, currently for three tiers, and landowners will have the opportunity to increase payments by improving habitat quality or moving up habitat tiers. A management plan will be provided as a guide to assist landowners to achieve higher habitat tiers. This effort will help to preserve habitat for multiple species, including gopher tortoise associated commensals. Currently the rate for habitat value is \$10/acre, which seems close to the amount NRCS pays for CSP and is on the low side of payment.

DRAFT

Appendix B. FNAI Land Use Classification Eligibility

Landcover Description	Polygon Count	Eligibility
Aquacultural Ponds	2	No
Artificial Impoundment/Reservoir	253	No
Artificial Lakes & Ponds	1	No
Australian Pine	9	Tier 1
Basin Marsh	9	Tier 1
Bay Swamp	3	Tier 1
Brazilian Pepper	119	Tier 1
Cabbage Palm	57	Tier 1
Canal	70	No
Canal/Ditch	18	No
Citrus	80	No
Commercial & Services	23	No
Communication	5	No
Coniferous Plantations	1	No
Cypress	1011	Tier 1
Cypress/Pine/Cabbage Palm	151	Tier 1
Cypress/Tupelo(incl Cy/Tu mixed)	476	Tier 1
Depression Marsh	63	Tier 1
Dome Swamp	174	Tier 1
Exotic Plants	20	Tier 1
Exotic Wetland Hardwoods	81	Tier 1
Fallow Orchards	1	No
Feeding Operations	1	No
Field Crops	35	No
Flatwoods/Prairie/Marsh Lake	4	Tier 1
Floating/Emergent Aquatic Vegetation	81	No
Freshwater Forested Wetlands	52	Tier 1
Freshwater Marshes	3090	Tier 1
Fruit Orchards	13	No
Glades Marsh	64	Tier 1
Golf courses	13	No
Hardwood Plantations	1	Tier 1
High Intensity Urban	32	No
Hydric Hammock	73	Tier 1
Hydric Pine Flatwoods	644	Tier 1
Hydric Pine Savanna	1	Tier 1
Improved Pasture	342	Tier 2

Industrial	11	No
Industrial Cooling Pond	2	No
Institutional	21	No
Isolated Freshwater Marsh	149	Tier 1
Isolated Freshwater Swamp	1412	Tier 1
Live Oak	9	Tier 1
Low Intensity Urban	1	No
Low Structure Density	90	No
Mangrove Swamp	17	No
Marl Prairie	37	Tier 1
Melaleuca	14	Tier 1
Mesic Flatwoods	570	Tier 1
Mesic Hammock	34	Tier 1
Mixed Hardwood-Coniferous	84	Tier 1
Mixed Wetland Hardwoods	611	Tier 1
Natural Lakes & Ponds	25	No
Non-vegetated Wetland	16	No
Oak - Cabbage Palm Forests	26	Tier 1
Oil & Gas Fields	3	No
Orchards/Groves	2	No
Ornamentals	20	No
Other Hardwood Wetlands	5	Tier 1
Other Wetland Forested Mixed	132	Tier 1
Parks	1	No
Pine Rockland	1	Tier 1
Prairie Mesic Hammock	3	Tier 1
Quarry Pond	45	No
Residential, High Density > 5 Dwelling Units/AC	35	No
Residential, Med. Density - 2-5 Dwelling Units/AC	36	No
River Floodplain Lake/Swamp Lake	8	No
Roads	33	No
Rock Quarries	8	No
Rockland Hammock	13	Tier 1
Row Crops	177	No
Rural Open	394	No
Rural Open Forested	1	No
Rural Open Pine	2	No
Saltwater Marsh	5	No
Sand & Gravel Pits	5	No

Sawgrass	110	Tier 1
Scrubby Flatwoods	1	Tier 1
Sewage Treatment Pond	1	No
Shrub and Brushland	220	Tier 1
Shrub Bog	1674	Tier 1
Slough	3	Tier 1
Slough Marsh	9	Tier 1
Sod Farms	1	No
South Florida Bayhead	108	Tier 1
Specialty Farms	9	No
Spoil Area	13	No
Strand Swamp	58	Tier 1
Strip Mines	2	No
Sugarcane	5	No
Transportation	3	No
Tree Nurseries	34	No
Unimproved/Woodland Pasture	946	Tier 1
Upland Coniferous	3	Tier 1
Upland Hardwood Forest	118	Tier 1
Utilities	22	No
Vineyard & Nurseries	1	No
Wet Flatwoods	63	Tier 1
Wet Prairie	826	Tier 1