

Payments for Ecosystem Services in Florida's Landscape: Concepts and Principles¹

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Introduction

Ecosystem services are the benefits that ecosystems provide humans (USDA 2025). Florida is known for its diverse landscape, which includes valuable ecosystem services such as water storage, soil conservation, and biodiversity (Wallace et al. 2023). A Payment for Ecosystem Services (PES) policy approach aligns economic incentives with environmental goals, encouraging landowners to participate in conservation while potentially reducing the cost of land use (Polasky et al. 2014; Shabman and Lynch 2013).

This publication is the first article of a series titled *Payments for Ecosystem Services in Florida's Landscape*. It introduces the concept of PES and is intended for Extension agents, government decision-makers, landowners, and researchers to help them understand the concepts and principles underlying PES programs and how they contribute to both previous and ongoing conservation efforts in Florida.

Definition and Critical Needs of PES Programs

When landowners maintain healthy ecosystems on their properties, they provide valuable services that benefit society, from clean water to wildlife habitat. However, these ecosystem services are not typically bought and sold in markets, and landowners usually face costs in maintaining them. Without compensation for these costs, landowners have little financial reason to protect and maintain the ecosystem services (Frey et al. 2021).

To address this challenge, Payment for Ecosystem Services (PES) programs enable those who benefit from ecosystem services (such as the general public) to compensate the landowners who provide them. Through PES, landowners can voluntarily enhance ecosystem services and receive compensation through various channels, such as tax benefits, legal agreements, grants, direct payments, or environmental market credits (Farley and Costanza 2010). Compared to a mandatory regulatory approach, PES programs have the potential to achieve the same policy

goal with lower costs if they are designed properly (Jack et al. 2007).

There are four key principles for PES programs (Wunder 2015):

Voluntary Participation: Participation in the PES program is voluntary, which distinguishes PES programs from programs mandated by government regulations.

Clearly Defined Provider: The person or group providing the service must be clearly identified, and the benefits they provide must be measurable or tied to specific land-management practices.

- **Buyer and Seller Agreement:** There must be at least one buyer and one seller, who agree on conditions for payments based on the services provided.
- **Low Transaction Costs:** Transaction costs refer to costs beyond the price of the goods or services themselves. Under a PES program, these costs can include 1) contract negotiation costs; 2) costs of measuring and validating ecosystem services; and 3) costs of monitoring and enforcement.

In Florida, multiple PES programs focus on promoting sustainable land-management practices that enhance ecosystem services like water conservation and wildlife habitat conservation (Wallace et al. 2023). Example programs include the Northern Everglades Payment for Environmental Services (NE-PES) program, Florida Ranchlands Environmental Services Projects (FRESP), and the Florida Panther Payment for Ecosystem Services Pilot Program (Bohlen et al. 2009).

Each of these programs is designed to enhance ecosystem services that are particularly relevant to their respective areas. Using the Northern Everglades Payment for Environmental Services (NE-PES) program as an example, we summarize its key components. Since 2011, the NE-PES program has facilitated collaboration between water managers and ranchers to enhance water storage, water quality, and habitat improvement in the Northern Everglades (Boughton et al. 2019). Ranchers receive

payments based on the water services they provide, as determined by the quantity measurements, water-flow monitoring, and verification reports from the management agency.

Components of the Northern Everglades Payment for Environmental Services (NE-PES) Program

Goals

- Enhance water quality and quantity management.
- Remove nutrients.
- Enhance habitats for various species, contributing to biodiversity.

Managing Agencies

- South Florida Water Management District (SFWMD)
- Florida Department of Environmental Protection (FDEP)
- Florida Department of Agriculture and Consumer Services (FDACS)

Buyer

South Florida Water Management District

Sellers

Ranchers who meet the following criteria:

- Own lands classified as ranchlands that are devoted to the production of beef cattle
- Are located within the northern Everglades
- Have enrolled the ranchlands containing the proposed water management alternatives (WMAs)—defined as combinations of construction and management practices selected by the landowner and implemented within a defined area of a working ranch—or have initiated the enrollment process for the ranchlands by the solicitation release date
- Are in compliance with SFWMD rules and regulations and federal wetlands regulations for all of the ranchlands they seek to certify

Defined Ecosystem Services Eligible for Payment

- Amount of retained water (per acre-ft) in northern Everglades
- Amount of nutrient (lbs. of phosphorus or nitrogen) removed from off-ranch water

Payment Rule

- Payment for the costs of design, permitting, and construction, reimbursed through the submission of receipts to support actual costs incurred
- A lump sum annual service payment covering project operation and maintenance

- Payments for water retention and nutrient reduction for verified amount

Conclusion

In this publication, we introduced the key concepts and principles of Payment for Ecosystem Services (PES), a policy approach that encourages landowners to maintain and restore ecosystem services. These programs provide mechanisms that use economic tools to increase the provision of ecosystem services. In Florida, initiatives like the Northern Everglades Payment for Environmental Services (NE-PES) program have enabled ranchers to manage their lands sustainably, showcasing the potential of PES to transform conservation efforts in the state.

For additional information, contact official state agencies: the Florida Department of Environmental Protection (FDEP), Florida Department of Agriculture and Consumer Services (FDACS), and Florida's Water Management Districts.

Data on components of the program were compiled from Shabman and Lynch 2013, Shabman et al. 2015, and Lomeu et al. 2022

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