



Collier Soil and Water Conservation District

Gazetteer

August 2013

Ecosystem Services

Ecosystem Services are the processes by which the environment produces resources that we often take for granted such as clean water, timber, habitat for fisheries, pollination of native and agricultural plants.

Whether we find ourselves in the city or a rural area, the ecosystems in which humans live provide goods and services that are very familiar to us.

Ecosystems provide services that:

- moderate weather extremes and their impacts
- disperse seeds
- mitigate drought and floods
- protect people from the sun's harmful ultraviolet rays
- cycle and move nutrients
- protect stream and river channels and coastal shores from erosion
- detoxify and decompose wastes
- control agricultural pests
- maintain biodiversity
- generate and preserve soils and renew their fertility
- contribute to climate stability
- purify the air and water
- regulate disease carrying organisms
- pollinate crops and natural vegetation

Preserves Need Audits & Action

Expenditures related to land may fall in two broad categories. One category includes expenditures related to land upon its acquisition. For county owned properties, these are expenditures to acquire, evaluate or pay for someone to conduct a property evaluation, evaluate the results, and get approval to purchase and then deed the property. The other category includes management, contract or employee evaluations or control, inspection, reporting and plan creation or updating.

As a result of the Conservation Collier program, citizens of Collier County now own 4,060 acres of property in 19 different locations. Here are several preserves and their area: Alligator Flag Preserve, 18.46 acres; Cocohatchee Creek Preserve, 3.64 acres; Caracara Prairie Preserve, 367.7 acres; Freedom Park, 50 acres; Logan Woods Preserve, 2 parcels; McIlvane Marsh Preserve, 389 acres; Wet Woods Preserve, 26.77 acres; Nancy Payton Preserve, 71 acres; Otter Mound Preserve, 2.45 acres; Panther Walk Preserve, 4.54 acres; Pepper Ranch Preserve, 2,512 acres; Railhead Scrub Preserve, 132 acres; Red Maple Swamp Preserve, 199.07 acres, and Redroot Preserve, 9.26 acres. Preserves in some form or stage of planning: Camp Keais Strand; Hussey; Barefoot Beach Preserve; Cocohatchee Creek Preserve; Milano Property; Redroot Preserve (Formerly named the Limpkin Marsh Preserve); Rivers Road Preserve; Shell Island Preserve; Wet Woods Preserve, and Winchester Head Preserve.

These preserves put us squarely in a property management phase or what should be christened the "forever" phase of the Conservation Collier program and it's time for change. The Board of Supervisors believes that an ecosystem approach would help achieve comprehensively and systematically the goal of ecosystem integrity.



Collier Soil and Water Conservation District (CSWCD) views an ecosystem approach as the most recent in a succession of approaches to managing human uses and abuses of natural resources. The traditional approach to environmental and resource management has been media-specific and conducted in a piecemeal fashion.

The institutional responsibilities for management have been fragmented so that federal and state/county resource management agencies and other organizations are often at odds and sometimes in direct conflict in their attempts to optimize that portion of resource management assigned to them.

Ecology and ecosystem services

Many questions remain unanswered about the workings of ecosystem services.

Ecologists work to help us understand the interconnection and interdependence of the many plant and animal communities within ecosystems.

Although substantial understanding of many ecosystem services and the scientific principles underlying them already exists, there is still much to learn.

The tradeoffs among different services within an ecosystem, the role of biodiversity in maintaining services and the effects of long and short-term perturbations are just some of the questions that need to be further explored.

The answers to such questions will provide information critical to the development of management strategies that will protect ecosystems and help maintain the provisions of the services upon which we depend. At the moment that's a missing part.

The choices we make today in how we use land and water resources will have enormous consequences on the future sustainability of earth's ecosystems and the services they provide.

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Use of an ecosystem approach through enlightened self-interest in environmental and resource management will help account for interrelationships among system compartments within ecosystem boundaries.

The Board of Supervisors has the distinct impression that ecological services are being overlooked and that it was a mistake to approve a separate Conservation Collier ordinance that is at odds with the Land Development Code and devoid of property ownership responsibilities.

In the eyes of many, the Board of County Commissioners created the perfect storm: County owned properties generate no income from property taxes and there is a need to manage these properties which requires a substantial investment every year.

CSWCD manages 24 parcels of owned property and 212 acres in the Picayune Strand State Forest within the functional watershed. We practice conservative management of our own properties that have been selected to support wetlands or native habitat. We have done this without tax dollars and the results are impressive, especially when you consider that all of the property is being returned to its natural function. The average annual cost for reports and management run in the vicinity of \$800/acre after the initial treatment and plan development.

What we realize is that there is a puzzle to property acquisition. Most residents react positively to the idea of conservation and preservation. But they are oblivious to the costs and necessary management that never ends. The puzzle gets difficult to complete when transfer fees; mapping; initial and follow-up treatment; monitoring; fire and fire management; fencing; title searches; boundary surveys; closing costs; and, in some cases, in-arrears taxes must be paid. Finally, management plans and updates to meet state and federal guidelines are the last pieces of the puzzle.

We feel quite confident in stating that a large percentage of the conservation properties that received public funding satisfy open space desires; however, their benefit as mitigation for public works projects has not been demonstrated. They are a tax burden being placed on current and future residents in perpetuity! We acknowledge that rare habitat, aquifer recharge, flood control, water quality and listed species habitat are commendable goals but they require lots of employees and planners to achieve, which is costly. Simply stated, ecological quality and estimated feasibility and cost of management were words used to justify purchases but these concepts were foreign and not something the staff could actually accomplish.

To determine where we are will require an independent audit to verify that conservation properties are not easement-encumbered properties and that they may be used with public works permits as mitigation. Then we need to fund and execute all of the preserve management documents consistent with the Land Development Code.

Not too long ago, we were asked how we thought an optimal land management program should be structured. The question itself suggests a misunderstanding of how programs should be structured. There is no one best way to structure a program. Every program is different and the structure is dependent on all the many variables that contribute to program success or failure. What's vital now is that we have a management program based on the Land Development Code!