



Collier Soil and Water Conservation District



Crucial Habitat Assessment Tool

Wildlife Crucial Habitat Assessment Tool White Paper

Big Cypress Basin

Big Cypress Basin residents benefit from a multitude of resources and processes that are supplied by our ecosystem. Collectively, these benefits are known as ecosystem services and include products like clean drinking water and processes such as the decomposition of wastes. We group ecosystem services into four broad categories: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and crop pollination, and cultural, such as spiritual and recreational benefits.

As our county population grows, so do the resource demands imposed on the Big Cypress Basin ecosystem. Natural resources are not invulnerable and infinitely available! The environmental impacts of anthropogenic actions, which are processes or materials derived from human activities, are becoming more apparent--air and water quality are increasingly compromised, algal blooms occur with greater frequency in Naples Bay and the Gulf of Mexico, pests and diseases are extending beyond their historical boundaries and feeding connections (what-eats-what) finds wildlife looking in our homes for food.

Collier County is an independent functioning hydrologic and ecologic unit where:

- a. Planning and management should be based on landscape function,
- b. The Big Cypress Basin hydrologic unit is not a part of the Everglades unit and does not function with it, and
- c. Management of Big Cypress Basin should be based on land function, not arbitrary sending; receiving, or neutral land designations.

County residents are becoming increasingly aware that ecosystem services are not only limited, but also that they are threatened by human activities. The need to better understand long-term ecosystem health and its role in enabling human habitation and economic activity is urgent. To help inform decision-makers, many ecosystem services should be assigned economic values that are based on the cost of replacement with anthropogenic alternatives.

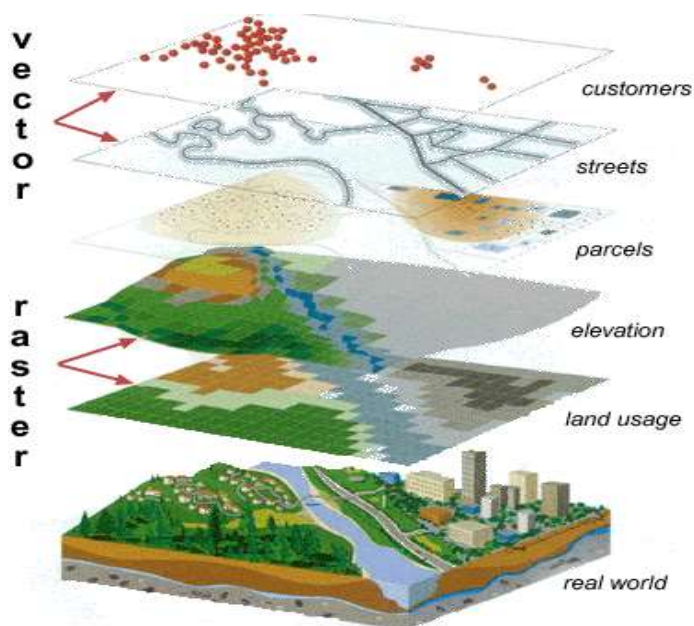
The ongoing challenge for Collier County is assigning economic value to nature, for example, through use of Conservation Collier lands for mitigation that would prompt trans-disciplinary shifts in how we recognize and manage the environment, social responsibility, economic development and commercial, public works and residential construction. Wildlife and their habitat have always been essential to life in many different ways. Hunters, fishermen, backpackers, birders and other enthusiasts spend their leisure time and resources viewing and engaging wildlife. At the same time, economic progress across Collier County depends on the successful completion of energy, transportation, land use and other large-scale development projects that must incorporate potential wildlife impacts into their planning.

The county needs to create a county Wildlife Crucial Habitat Assessment Tool (CHAT) that would bring greater certainty and predictability to planning efforts by establishing a common starting point for discussing the intersection of development and wildlife. In its simplest form, CHAT can be an easily accessible online system of maps displaying crucial wildlife habitat and corridors in Big Cypress Basin. While not intended for project-level approval, CHAT should have been an outcome of the Atkins Report that, at this late date, still remains incomplete. Had the report Statement of Work been followed, the deliverable would have reduced conflicts and surprises while ensuring wildlife values are better incorporated into land use decision-making, as well as large-scale conservation projects.

A bird's eye view

As of this moment, there is no agreement on common definitions of crucial wildlife habitat and corridors within Big Cypress Basin. There are no guidelines to help prioritize habitat within our watershed boundaries to meet our isolated basin-specific conservation objectives. Were definitions available, they would help achieve compatibility and consistency within the watershed and address certain discrepancies that may exist in identifying habitat and natural features along watershed boundaries.

Developing a Big Cypress Basin CHAT will give project planners and the general public access to credible scientific data at the broad scale for use in project assessment, siting and planning. This could include large-scale development projects spanning multiple jurisdictions.



Begin with an inventory of functions using Geographic Information System (GIS) tools.

GIS uses spatio-temporal (space-time) location as the key index variable for all other information.

Related by accurate spatial information, an incredible variety of real-world and projected past or future data can be analyzed, interpreted and represented to facilitate education and decision making.

This key characteristic of GIS has begun to open new avenues of scientific inquiry into behaviors and patterns of previously considered unrelated real-world information.