

Biodiversity and Environmental Resource Data System of Belize (BERDS)

Site Monitoring System

For sponsoring 'members', BERDS makes available a host of useful features and functionality including a comprehensive Site Monitoring System. This database system can be used for ongoing group-based management of environmental monitoring programmes. Through this feature, members can create and manage monitoring sites (localities) and site visit reports, catalog specimens and sightings and store related imagery.

BERDS members can leverage the ever-increasing amount of information available within the system to their own advantage. BERDS Site Monitoring System allows better use of organisational resources, ensures data accuracy, facilitates adherence to standards, allows seamless sharing of information and therefore encourages transparency. Plus this system maximises the use of BERDS spatial capabilities, enriching data collection and management while reducing effort. Since all members are using a 'standard' monitoring database system, direct data comparisons can be made, enabling better resource management and research locally at the individual project level as well as nationally at the scale of protected areas and biological corridors.

The BERDS Site Monitoring System involves two integral functions. First, a comprehensive online database system for entering detailed descriptions of Monitoring Sites or physical locations where environmental monitoring is undertaken.

Recordable parameters within the database include:

- Description of Location
 - General details of site/locality
 - Land administration
 - Coordinates
 - Elevation
 - Dimensions of plot or transect
 - Slope, aspect and radius
 - etc...
- Biophysical Characteristics
 - Terrain
 - Underlying geology & soils
 - Ecosystem type, land use and dynamics
 - Aquatic characteristics
 - Moisture regime
 - Flooding regime
 - Logging/Timber regime
 - etc...
- Site Visit Reports (below)

- Images for Site/Locality
- Map Image

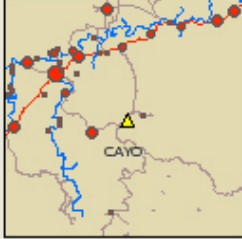
ID No.: 3965 Site Code: Mayamon CD2 Name of Area: Green Hills Land Administration: Private Land Protected Area: None Modify Site: <input checked="" type="checkbox"/> Edit							
Plot Location & Description		Biophysical Characteristics		Site Visit Reports		Images	
Land Form: Valley Soil Geology: Undifferentiated Cretaceous [Limestone] UNESCO Code: SPA(1) Ecosystem Description: Agriculture: non-mechanised agricultural land uses incl. unimproved pasture Dynamics: Recent Secondary Growth Moisture Regime: Wet Season: Wet Dry Season: Dry Flooding Regime: Flood Season: June to December Duration: 7 months High Water Mark: 200 m Low Water Mark: 0 m		Soil Type: Constantly Lime Enriched [Chacalte] Water Characteristics: <i>Not available</i> Ecotype: Agricultural Uses		Aquatic Formation: Reservoir Bottom Composition: Soft Sediments			
Description: Green Hills Outhouse							

Fig. 1. Tabbed browser for Monitoring Site (Locality).

For each Monitoring Site, members can enter a multitude of parameters unique to a Site Visit, a single visit to the Monitoring Site on a given day. These parameters include:

- General details of site visit
- Weather
- Human influence and perturbation
- Characteristics of all strata
- Canopy stratum characteristics
- Shrub stratum characteristics
- Ground stratum characteristics
- Aquatic characteristics
- Specimens found
- Images taken during Site Visit
- Map Image

Site Visit ID No.: 3969

Site Code: Mayamon CD1

Observer: Meerman, Jan

Organisation: Belize Tropical Forest Studies

Survey Date (Time): 2004-05-02 (21.5 hrs)

Modify Site Visit:  [Edit](#)



Weather	Human Influence	All Strata	Canopy Stratum	Shrub Stratum	Ground Stratum	Aquatic	Specimens	Images
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Green Hills

Description: [Small Pond at Green Hills, Cayo](#)

Fig. 2. Tabbed Browser for a Site Visit Report

Detailed specimen information for each Site Visit Report can be included and this data is available within the larger BERDS system as well¹.

Monitoring Sites and Site Visit Reports are downloadable as Adobe Acrobat Reader files.

Secondly, the BERDS Site Monitoring system allows members to analyse existing specimen data from the BERDS database to answer specific questions related to species occurrence by location, by time interval and by life stage, [depending on data entered]. Output is available in text format as well as in bar and line graph format. The Site Monitoring System allows members to query their data to investigate the following types of questions:

- Geographic Distribution:
 - What species occur in area X?
 - What orders, families or genera have been found at Location X?
 - How many specimens of Species Y have been found at Location X?
- Temporal Distribution & Migration:
 - What species occur in area X at time Y?
 - What time of year does species X occur in area Y?
 - What are the seasonal movements of Species X?
 - Is Species X increasing or decreasing over time at Location Y?
 - What is the relative level of annual change in species occurrence at Locality X?
- Population Dynamics & Breeding :
 - What species and at what life stages occur in area X at time Y?
 - Is this a location where this population still breeds?

¹ Specimen records from site visit reports are optionally available to the general public on the BERDS site, but are available to all BERDS members.

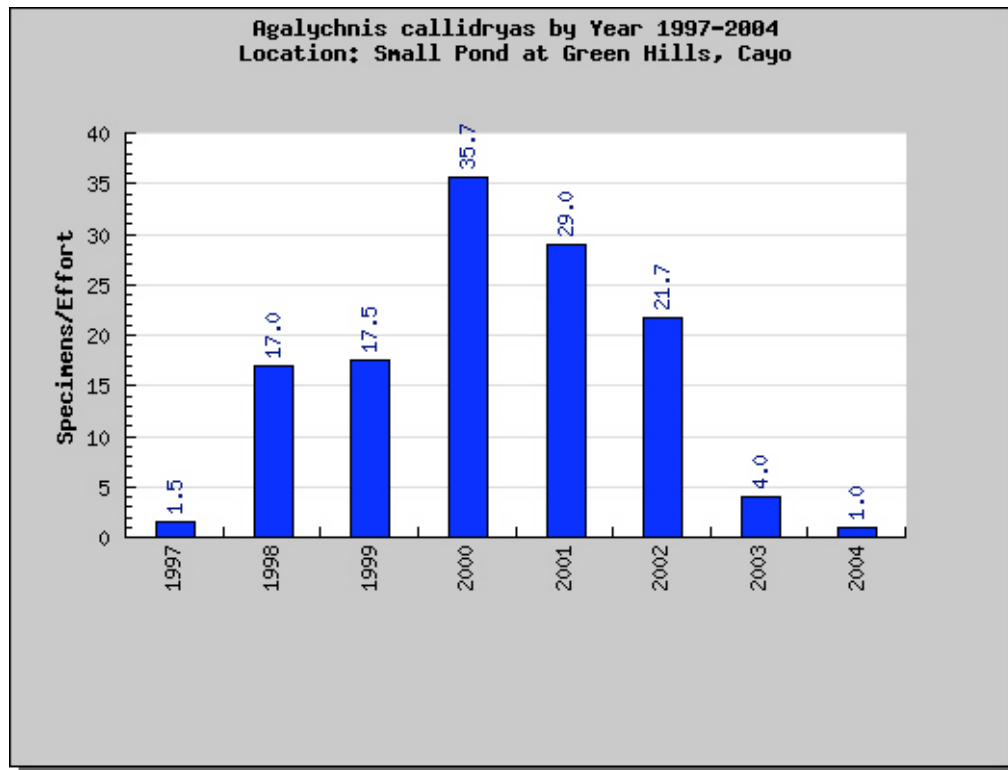


Fig. 4. Red-eyed Tree Frog (*Agalychnis callidryas*) annual change in species occurrence for Yrs 1997-2004 for UTM location.

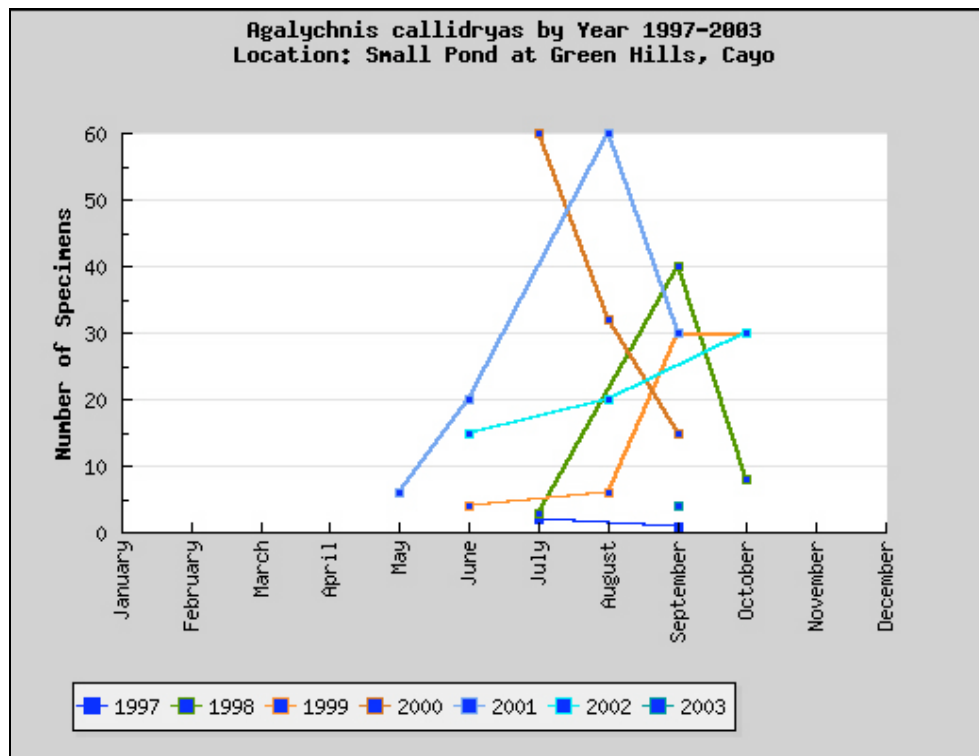


Fig. 5. Red-eyed Tree Frog (*Agalychnis callidryas*) for years 1997-2003 at Monitoring Site CD1