

**Belize Protected Areas Policy and System Plan:  
Appendix 2.4.**

**Protected Area System Assessment & Analysis**

**National List of Critical  
Species**



**1<sup>st</sup> Draft**

**J. C. Meerman – Lead Consultant**

June 30, 2005

Report to the Protected Areas Systems Plan Office (PASPO)

# National Protected Area Systems Analysis

## National List of Critical Species

### Introduction

The [IUCN Red List of Threatened Animals](http://www.redlist.org) is internationally recognized as the list that categorises the status of globally threatened animal species. It provides taxonomic, conservation status and distribution information on species that have been evaluated using the [IUCN Red List categories](http://www.redlist.org). This system is designed to determine relative risk of extinction, and the main purpose of the Red List is to catalogue the species that are regarded as threatened at global level, i.e. at risk of overall extinction. See: <http://www.redlist.org>. While this list is a global assessment, several national or regional red lists exist and the IUCN has prepared guidelines to prepare such lists. See: <http://www.iucn.org/themes/ssc/redlists/regionalguidelines.htm>

Assessment of extinction risk and setting conservation priorities are two related but different processes. Assessment of extinction risk, such as the assignment of IUCN Red List Categories, generally precedes the setting of priorities. The purpose of the Red List categorization is to produce a relative estimate of the likelihood of extinction of the taxon. Setting conservation priorities, on the other hand, which normally includes the assessment of extinction risk, also takes into account other factors such as ecological, phylogenetic, historical, or cultural preferences for some taxa over others, as well as the probability of success of conservation actions, availability of funds or personnel to carry out such actions, and legal frameworks for conservation of threatened taxa. In the context of regional risk assessments, a number of additional pieces of information are valuable for setting conservation priorities. For example, it is important to consider not only conditions within the region but also the status of the taxon from a global perspective and the proportion of the global population that occurs within the region. Consequently, it is recommended that any publication that results from a regional assessment process should include at least three measures: (1) the regional Red List Category, (2) the global Red List Category, and (3) an estimate of the proportion (%) of the global population occurring within the region. Decisions on how these three variables, as well as other factors, are used for establishing conservation priorities is a matter for the regional authorities to determine. The authorities may also wish to consider other variables in setting priorities, which are to a large degree region-specific and therefore not covered by the Guidelines. However, one particular situation merits special attention.

The application of the Red List Criteria, may under some circumstances result in a taxon qualifying for listing in a higher category at the global level than the regional level. This may be the case when the regional population is more or less stable but constitutes only a small percentage of the global population, which is experiencing a net decline. Such species should be given particular attention at the regional level because of their significance for global status.

Categories applied in the IUCN Red Data list are as follows:

**EXTINCT (EX)**

A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), and throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

**EXTINCT IN THE WILD (EW)**

A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

**CRITICALLY ENDANGERED (CR)**

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.

**ENDANGERED (EN)**

A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.

**VULNERABLE (VU)**

A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.

**NEAR THREATENED (NT)**

A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

**LEAST CONCERN (LC)**

A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.

**CONSERVATION DEPENDENT (CD).** Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years.

**DATA DEFICIENT (DD)**

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on

abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

**NOT EVALUATED (NE)**

A taxon is Not Evaluated when it has not yet been evaluated against the criteria.



**Figure 1. *Smilisca cyanosticta*. A data deficient species in Belize.**

**Picture: J. C. Meerman: Doyles Delight**

## Results

Under the NPAPSP project, the consortium made an attempt to create a first national list of critical terrestrial and marine species (including plants and fishes). This list as produced here could be seen as the first step to prepare a Belize Red Data List. While this list does use IUCN terminology it does not claim to have followed the IUCN Red Data methodology to the full extend. It is also felt that an official Red Data List should have a broader backing than just the consortium involved in the NPAPSP analysis.

Order	Species	English Name	IUCN class	Status in Belize	Justification
Amphibians	<i>Agalychnis moreletii</i>		CR	DD	3
Amphibians	<i>Bolitoglossa dofleini</i>		NT	DD	3
Amphibians	<i>Bufo campbelli</i>		NT	LC	3
Amphibians	<i>Smilisca cyanosticta</i>		NT	DD	3
Amphibians	<i>Eleutherodactylus chac</i>		NT	DD	3
Amphibians	<i>Eleutherodactylus laticeps</i>		NT	DD	3
Amphibians	<i>Eleutherodactylus leprus</i>		VU	DD	3
Amphibians	<i>Eleutherodactylus psephosypharus</i>		VU	DD	3
Amphibians	<i>Eleutherodactylus sabrinus</i>		EN	DD	3
Amphibians	<i>Eleutherodactylus sandersoni</i>		EN	DD	3
Amphibians	<i>Hyla bromeliacia</i>		EN	DD	3
Amphibians	<i>Rana juliani</i>		NT	NT	2
Birds	<i>Agamia agami</i>	Agami Heron		VU	6,8
Birds	<i>Ajaia ajaja</i>	Roseate Spoonbill		VU	6
Birds	<i>Amazona oratrix</i>	Yellow-Headed Amazon		EN	4,8,9,10
Birds	<i>Amazona xantholora</i>	Yellow-Lored Parrot		VU	10
Birds	<i>Anous stolidus</i>	Brown Noddy		VU	6
Birds	<i>Ara macao cyanoptera</i>	Scarlet Macaw		EN	4,8,9,11
Birds	<i>Ardea herodias</i>	Great Blue Heron		VU	4,10
Birds	<i>Asio stygius</i>	Stygian Owl		VU	10
Birds	<i>Bubo virginianus</i>	Great Horned Owl		VU	10
Birds	<i>Cairina moschata</i>	Muscovy Duck		VU	4
Birds	<i>Columba leucocephala</i>	White-Crowned Pigeon	NT	VU	4,7
Birds	<i>Contopus cooperi</i>	Olive-Sided Flycatcher	NT	DD	
Birds	<i>Crax rubra</i>	Great Curassow	NT	VU	4,9
Birds	<i>Dendrocygna autumnalis</i>	Black-Bellied Whistling Duck		VU	4,10
Birds	<i>Dendrocygna bicolor</i>	Fulvous Whistling Duck		VU	4,10
Birds	<i>Dendroica cerulea</i>	Cerulean Warbler	VU	VU	
Birds	<i>Egretta rufescens</i>	Reddish Egret		VU	6,10
Birds	<i>Egretta thula</i>	Snowy Egret		VU	6,10
Birds	<i>Egretta tricolor</i>	Tricolored Heron		Vu	6,10
Birds	<i>Electron carinatum</i>	Keel-Billed Motmot		VU	3,8,9
Birds	<i>Eudocimus albus</i>	White Ibis		VU	6
Birds	<i>Falco deiroleucus</i>	Orange-Breasted Falcon		VU	8,9
Birds	<i>Fregata magnificens</i>	Magnificent Frigatebird		VU	6
Birds	<i>Harpia harpyja</i>	Harpy Eagle	NT	CR	4,7,9,10

Order	Species	English Name	IUCN class	Status in Belize	Justification
Birds	<i>Harpyhaliaetus solitarius</i>	Solitary Eagle	NT	CR	4,7,10
Birds	<i>Jabiru mycteria</i>	Jabiru		VU	4,7,9,10,11
Birds	<i>Laterallus jamaicensis</i>	Black Rail	NT	DD	
Birds	<i>Melanoptila glabrirostris</i>	Black Catbird	NT	NT	8,9
Birds	<i>Meleagris ocellata</i>	Ocellated Turkey	NT	VU	3,4,9
Birds	<i>Morphnus guianensis</i>	Crested Eagle	NT	CR	4,7,10
Birds	<i>Mycteria americana</i>	Wood Stork		VU	4,6,10
Birds	<i>Nyctanassa violacea</i>	Yellow-Crowned Night-Heron		VU	6
Birds	<i>Nycticorax nycticorax</i>	Black-Crowned Night-Heron		VU	6
Birds	<i>Pelecanus occidentalis</i>	Brown Pelican		VU	6,10
Birds	<i>Penelope purpurascens</i>	Crested Guan		VU	4
Birds	<i>Phalacrocorax auritus</i>	Double-Crested Cormorant		VU	4,6,10
Birds	<i>Phalacrocorax brasilianus</i>	Neotropic Cormorant		VU	4,6,10
Birds	<i>Pionopsitta haematotis</i>	Brown-Hooded Parrot		DD	
Birds	<i>Sarcoramphus papa</i>	King Vulture		VU	7,8,9
Birds	<i>Sterna anaethetus</i>	Bridled Tern		VU	6
Birds	<i>Sterna antillarum</i>	Least Tern		VU	6
Birds	<i>Sterna dougallii</i>	Roseate Tern		VU	6
Birds	<i>Sterna fuscata</i>	Sooty Tern		VU	6
Birds	<i>Sterna sandvicensis</i>	Sandwich Tern		VU	6
Birds	<i>Sula leucogaster</i>	Brown Booby		VU	6
Birds	<i>Sula sula</i>	Red-Footed Booby		VU	6
Corals	<i>Anthozoa – all species</i>	Gorgonians, Telestaceans, Soft Corals, Black Corals, Stony Corals	VU	VU	9
Corals	<i>Hydrozoa – all species</i>	Fire Corals, Lace Corals	VU	VU	9
Fishes	<i>Balistes vetula</i>	Queen Triggerfish	VU	VU	4,5
Fishes	<i>Dermatolepis inermis</i>	Marbled Grouper	VU	MD	1,4,5,6
Fishes	<i>Epinephelus itajara</i>	Goliath Grouper	CR	MD	1,4,5,6,9
Fishes	<i>Epinephelus morio</i>	Red Grouper	NT	MD	1,4,5,6
Fishes	<i>Epinephelus nigritus</i>	Warsaw Grouper	CR	MD	1,4,5,6
Fishes	<i>Epinephelus niveatus</i>	Snowy Grouper	VU	MD	1,4,5,6
Fishes	<i>Epinephelus striatus</i>	Nassau Grouper	EN	MD	1,4,5,6,9
Fishes	<i>Hippocampus erectus</i>	Lined Seahorse	VU	DD	
Fishes	<i>Hippocampus reidi</i>	Longsnout Seahorse	DD	DD	
Fishes	<i>Lachnolaimus maximus</i>	Hogfish	VU	VU	4,5
Fishes	<i>Lutjanus analis</i>	Mutton Snapper	VU	VU	4,5,6
Fishes	<i>Lutjanus cyanopterus</i>	Cubera Snapper	VU	VU	4,5,6
Fishes	<i>Mycteroperca venenosa</i>	Yellowfin Grouper	NT	MD	1,4,5,6
Fishes	<i>Pagrus pagrus</i>	Red Porgy	EN	DD	4,5
Fishes	<i>Sanopus astrifer</i>	Whitespotted Toadfish	VU	DD	
Fishes	<i>Sanopus greenfieldorum</i>	Whiteline Toadfish	VU	DD	
Fishes	<i>Sanopus reticulatus</i>	Reticulated Toadfish	VU	DD	
Fishes	<i>Sanopus splendidus</i>	Splendid Toadfish	VU	DD	
Fishes	<i>Scarus guacamaia</i>	Rainbow Parrotfish	VU	VU	4,5
Fishes-Sharks	<i>Carcharhinus leucas</i>	Bull Shark	NT	NT	4,5,9,10
Fishes-Sharks	<i>Carcharhinus limbatus</i>	Blacktip Shark	NT	NT	4,5,9,10

Order	Species	English Name	IUCN class	Status in Belize	Justification
Fishes-Sharks	<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark	NT	NT	4,5,9,10
Fishes-Sharks	<i>Carcharhinus plumbeus</i>	Sandbar Shark	NT	NT	4,5,9,10
Fishes-Sharks	<i>Galeocerdo cuvier</i>	Tiger Shark	NT	NT	4,5,9,10
Fishes-Sharks	<i>Isurus oxyrinchus</i>	Shortfin Mako	NT	NT	4,5,9,10
Fishes-Sharks	<i>Mustelus canis</i>	Dusky Smoothhound	NT	DD	
Fishes-Sharks	<i>Negaprion brevirostris</i>	Lemon Shark	NT	NT	4,5,9,10
Fishes-Sharks	<i>Prionace glauca</i>	Blue Shark	NT	NT	4,5,9,10
Fishes-Sharks	<i>Pristis pectinata</i>	Smalltooth Sawfish	NT	CR	4,5
Fishes-Sharks	<i>Pristis perotteti</i>	Largetooth Sawfish	CR	CR	4,5
Fishes-Sharks	<i>Rhincodon typus</i>	Whale Shark	VU	VU	7,8,9
Fishes-Sharks	<i>Sphyrna lewini</i>	Scalloped Hammerhead	NT	NT	4,5,9,10
Fishes-Sharks	<i>Sphyrna mokarran</i>	Great Hammerhead	DD	DD	4,5,9,10
Fishes-Sharks	<i>Sphyrna zygaena</i>	Smooth Hammerhead	NT	NT	4,5,9,10
Mammals	<i>Alouatta pigra</i>	Mexican Black Howler Monkey	EN	VU	3,9
Mammals	<i>Ateles geoffroyi</i>	Central American Spider Monkey	VU	VU	9
Mammals	<i>Balaenoptera physalus</i>	Fin Whale	EN	DD	9
Mammals	<i>Balantiopteryx io</i>	Thomas's Sac-winged Bat,	EN	VU	8
Mammals	<i>Bauerus dubiaquercus</i>	Van Gelder's Bat,	VU	VU	8
Mammals	<i>Cabassous centralis</i>	Northern Naked-Tailed Armadillo	DD	DD	8
Mammals	<i>Centronycteris centralis</i>	Shaggy Bat	VU	VU	8
Mammals	<i>Dicotyles pecari</i>	White-Lipped Peccary	VU	VU	4,7,10
Mammals	<i>Globicephala macrorhynchus</i>	Short-finned Pilot Whale	VU	DD	9
Mammals	<i>Herpailurus yaguarondi</i>	Yaguarundi	VU	LC	10
Mammals	<i>Leopardus pardalis</i>	Ocelot	VU	VU	4,9,10
Mammals	<i>Leopardus wiedii</i>	Margay	VU	VU	9,10
Mammals	<i>Lontra longicaudis</i>	Neotropical River Otter	DD	VU	10
Mammals	<i>Mazama pandora</i>	Yucatan Brown Brocket Deer	DD	DD	3,4
Mammals	<i>Molossops greenhalli</i>	Greenhall's mastiff Bat	VU	VU	8
Mammals	<i>Mormoops megalphylla</i>	Ghost-faced Bat	NT	NT	8
Mammals	<i>Myotis elegans</i>	Elegant Myotis	VU	VU	8
Mammals	<i>Panthera onca</i>	Jaguar	NT	NT	4,7,9,10
Mammals	<i>Physeter macrocephalus</i>	Sperm Whale	VU	DD	9
Mammals	<i>Pteronotus gymnotus</i>	Greater Naked-back Bat	NT	NT	8
Mammals	<i>Puma concolor</i>	Puma	NT	NT	4,7,9,10
Mammals	<i>Stenella frontalis</i>	Atlantic Spotted Dolphin	VU	VU	9
Mammals	<i>Stenella longirostris</i>	Spinner Dolphin	VU	DD	9
Mammals	<i>Steno bredanensis</i>	Rough-Toothed Dolphin	VU	DD	9
Mammals	<i>Tapirus bairdii</i>	Central American Tapir	EN	VU	4,9,10
Mammals	<i>Thyroptera tricolor</i>	Spix's Disk-winged Bat,	VU	VU	8
Mammals	<i>Trichechus manatus</i>	West Indian Manatee	VU	VU	4,9
Mammals	<i>Turiopsis truncatus</i>	Bottlenose Dolphin	VU	VU	9
Plants	<i>Ceratozamia robusta</i>		VU	VU	3
Plants	<i>Pithecellobium johansenii</i>		EN	DD	
Plants	<i>Quiina schippii</i>		EN	DD	
Plants	<i>Schippia concolor</i>	Mountain Pimento	VU	LC	2

Order	Species	English Name	IUCN class	Status in Belize	Justification
Plants	<i>Swietenia macrophylla</i>	Large-Leaved Mahogany	VU	VU	5,9
Plants	<i>Zamia prasina</i>		CR	DD	2,8
Plants	<i>Zamia</i> sp. Nov.	Un-described Zamia		VU	2,8
Plants	<i>Zamia variegata</i>	Variegated Zamia	EN	VU	3,9
Reptiles	<i>Caretta caretta</i>	Loggerhead	EN	EN	4,5,6,9
Reptiles	<i>Chelonia mydas</i>	Green Turtle	EN	EN	4,5,6,9
Reptiles	<i>Crocodylus acutus</i>	American Crocodile		NT	4,9,10
Reptiles	<i>Crocodylus moreletii</i>	Morelet's Crocodile		CD	3,4,5,9,10
Reptiles	<i>Dermatemys mawii</i>	Central American River Turtle	EN	EN	3,4,5,9
Reptiles	<i>Dermochelys coriacea</i>	Leatherback	CR	CR	4,9
Reptiles	<i>Eretmochelys imbricata</i>	Hawksbill Turtle	CR	CR	4,5,6,9
Reptiles	<i>Phyllodactylus insularis</i>	Island Gecko		NT	2
Reptiles	<i>Staurotypus triporcatus</i>	Mexican Musk Turtle	NT	NT	4
Reptiles	<i>Trachemys scripta</i>	Common Slider	NT	LC	4

Justification:

1. The Fisheries Department expressed that it is aware of present trends in the global populations of all Groupers. Measures have been taken to protect spawning sites of these fish in Belize and the Department is attempting to introduce measures that will allow it to sustainably manage this resource. For this reason the grouper all have been placed in the CD = Conservation Dependant category.
2. Endemic species
3. Small Range – Regional Endemic
4. Hunted – Fished
5. Economic importance
6. Colony breeder (restricted number of breeding colonies/locations)
7. Needs large range
8. Specialized ecological requirements
9. Charismatic species drawing national and international attention
10. Prosecuted as perceived pest
11. Genetically different from South American counterpart