CONSERVING CAMBODIA

STUDENT NUMBER: 3650408
BDC332 PRACTICAL
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LOCATION

Map of Cambodia and surrounds

Figure 1: Location of Cambodia with surrounding countries and their capital cities.
BIODIVERSITY DESCRIPTION AND THREATS

- Cambodia is one of the most biodiverse countries in south east Asia.
- This biodiversity sustains most of Cambodia’s population.
- Assets include forests which are home to endangered species such as the Siamese crocodile and the Asian Elephant.
- There are also 4 endangered wetlands.
- Major threats are: Deforestation, infrastructure and coastal development, dredging in waterways, overfishing and the illegal harvesting of trees and animals.
CURRENT PROTECTED AREAS

Figure 2: Protected Areas of Cambodia
Figure 3: Map showing presence/absence of *Megophys auralensis*

Conservation target: 50% Penalty Factor 10
Figure 4: Map showing presence/absence of *Hylerana faber*

Conservation Target: 50%
Penalty Factor: 10
Philantus cardimonus

Figure 5: Map showing presence/absence of *Philantus cardimonus*

Conservation Target: 90%
Penalty Factor: 10
Figure 6: Map showing presence/absence of *Chiromantis samkosensis*

Conservation Target: 60%
Penalty Factor: 10
Figure 7: Map showing presence/absence of *Ophyophyne synoria*

Conservation Target: 70%
Penalty Factor: 10
Figure 8: Map showing presence/absence of *Enhydris longicanda*.

Conservation target: 100%
Penalty factor: 10
Figure 9: Map showing presence/absence of *Garralax ferrarius*
Figure 10: Map showing presence/absence of *Leptolalax melicus*

Conservation Target: 100%
Penalty factor: 10
Figure 11: Map showing presence/absence of *Megophys damrei*

Conservation Target: 100%
Penalty Factor: 10
Orthotomus chaktmuk

Conservation Target: 40%
Penalty factor: 10

Figure 12: Map showing presence/absence of Orthotomus chaktmuk
CONSERVATION planning units (ecological)

Preparation:
• Imported cut terrestrial ecoregions using Idrisi and then exported as a shapefile
• Imported Msk_alt file and generated a watershed in Idrisi then exported as a shapefile
• Intersected the two layers in arcview using the geoprocessing wizard.
• Reimported and formatted in Idrisi

Figure 13: Ecological Planning Units
CONSERVATION planning units (Systematic)

Preparation
- ADM0 file was imported into ArcView
- Repeating shapes were generated (hexagons) with an area of 0.01 degrees
- Hexagons were imported into Idrisi and reformatted.

Figure 14: Systematic Planning Units
Figure 15: Current Tenure Map showing protected areas
Figure 16: Tenure map showing areas that could be included as a compliment to existing protected areas.
Marxan takes input files
As well as species information
And analyses your protected areas to determine efficacy
It can then advise you on protected area planning
By running multiple runs of analyses to find the best possible solution

SYSTEMATIC CONSERVATION PLANNING EXPLAINING MARXAN

Methods
Final Run of Marxan: Parameters

Repeat runs: 1

Species missing Proportion 95%

Run Mode: Heuristic Only

Penalty factor: 10
Figures 17 and 18 are examples of output files from Marxan, this is normally accompanied by a text table output with explanations of what species will be conserved and where conservation targets were missed.
SOURCES OF DATA, ATTRIBUTION AND ACKNOWLEDGEMENTS

• Programs used:
  • ARCview
  • IDRISI32 by Selva
  • DivaGIS