Supporting red list threat assessments with GeoCAT

Geospatial Conservation Assessment Tool

Javier de la Torre
Vizzuality

@jatorre
### Oryx leucoryx

**Scientific Name:** Oryx leucoryx  
**Species Authority:** (Pallas, 1777)

**Common Name/s:**  
- English – Arabian Oryx, White Oryx  
- French – Oryx Blanc, Oryx d'Arabie  
- Spanish – Oríx de Arabia

**Assessment Information**

**Red List Category & Criteria:**  
Vulnerable D1 **ver 3.1**

**Year Assessed:** 2011

**Assessor/s:** IUCN SSC Antelope Specialist Group

**Reviewer/s:** Mallon, D. & Hoffmann, M.

**Justification:**

The 2008 assessment noted that Arabian Oryx no longer qualified for the Endangered category under criterion D on the basis of increasing numbers, and that Vulnerable D1 was appropriate and would have applied from 2006. Under IUCN Red List Guidelines, a species only moves to a lower category of threat if none of the criteria for the higher category (here Endangered) have been met for a period of five years or more. As this remains the case with Arabian Oryx, the transfer to Vulnerable should take effect from 2011.

Although numbers in the largest population (Mahazat as Sayd in Saudi Arabia) fell between 1998 and 2008 due to drought-related mortality, they have since stabilized. The total reintroduced population is now ca.1,000, so
Oryx leucoryx

range type

- native (resident)
- native (breeding)
- native (non breeding)
- reintroduced
- introduced
- origin uncertain
- possibly extinct
- extinct

national boundaries
subnational boundaries
lakes, rivers, canals
salt pans, intermittent rivers

data source:
IUCN (International Union for Conservation of Nature)
Around 60K assessments, 28K spatial

Mammals
Amphibians
Corals
Birds

....

Very little plants
The IUCN Process

IUCN Red List process species should be assessed against 5 criteria relating to different aspects of extinction risk.

- declining population,
- small population size,
- restricted geographic range...
The IUCN Process

IUCN Red List process species should be assessed against 5 criteria relating to different aspects of extinction risk:

- Declining population
- Small population size
- Restricted geographic range

...
Geospatial analysis

EOO and AOO. Quite controversial, but that's what we have.
**EOO** is a measure of the geographic range size of a species.

**AOO** is a measure of the area in which a species occurs.
geospatial analysis before

Proprietary ESRI software
Transformation of data before analysis
No way to reconstruct the analysis that was done
we want

Free Open Source software
Customized for Biodiversity Informatics
Make the analysis on the web and make them sharable

Be able to see and recreate the analysis
Oryx leucoryx

Summary | Classification Schemes | Images & External Links | Bibliography | Full Account

Taxonomy [top]

- **Kingdom**: ANIMALIA
- **Phylum**: CHORDATA
- **Class**: MAMMALIA
- **Order**: CETARTIODACTYLA
- **Family**: BOVIDAE

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Introducing GeoCAT
Geospatial Conservation Analysis Tool

video
Red list assessment tool — Read more

Merge branch 'master' of github.com:Vizzuality/GeoCAT

xavijam authored 5 days ago

commit db459c6d7b

**GeoCAT/**

<table>
<thead>
<tr>
<th>name</th>
<th>age</th>
<th>message</th>
</tr>
</thead>
<tbody>
<tr>
<td>app/</td>
<td>5 days ago</td>
<td>Merge branch 'master' of github.com:Vizzuality/GeoCAT</td>
</tr>
<tr>
<td>config/</td>
<td>5 days ago</td>
<td>Sets the proper charset encoding when importing cs...</td>
</tr>
<tr>
<td>db/</td>
<td>April 28, 2011</td>
<td>Changes some migration names</td>
</tr>
<tr>
<td>lib/</td>
<td>June 15, 2010</td>
<td>first commit</td>
</tr>
<tr>
<td>public/</td>
<td>5 days ago</td>
<td>new buttons</td>
</tr>
<tr>
<td>script/</td>
<td>June 15, 2010</td>
<td>first commit</td>
</tr>
<tr>
<td>spec/</td>
<td>5 days ago</td>
<td>Adds analysis data into AOO section when importing...</td>
</tr>
<tr>
<td>test/</td>
<td>April 21, 2011</td>
<td>massive refactoring to change name from RLAT to Ge...</td>
</tr>
<tr>
<td>vendor/</td>
<td>June 15, 2010</td>
<td>first commit</td>
</tr>
</tbody>
</table>
_.geocat format

Serialization of the whole app
Standarization?
What is coming?

Cloud service through CartoDB
Integration on Scratchpads (ViBRANT) via DWC-A
Integration on the Red List Website

Real time collaboration
Handling millions of records
_CartoDB demo

“Extra” session tomorrow Tuesday 18th
Who is using it?

More popular than Facebook

We know people are using it in Malaysia, Madagascar, China, USA. Many Kew staff are using it e.g. Aaron Davis – assessing species of Coffea in Madagascar and for assessments of snowdrops (Galanthus) in Europe.
1 Sep 2011 - 30 Sep 2011
Comparing to: Site

366 visits came from 47 countries/territories

<table>
<thead>
<tr>
<th>Country/Territory</th>
<th>Visits</th>
<th>Pages/Visit</th>
<th>Avg. Time on Site</th>
<th>% New Visits</th>
<th>Bounce Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>98</td>
<td>2.01</td>
<td>00:02:17</td>
<td>86.73%</td>
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Who is behind it?

Join effort of ViBRANT, Kew Gardens and IUCN
Thank you!

Javier de la Torre
@jatorre

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