Taking stock of our protected area estate
Part II

2012 Biodiversity Planning Forum
22-25 May 2012
Skukuza, Kruger National Park
Background

- There are many inventories of protected and conservation areas in South Africa
  - Register of Protected Areas
  - SANBI
  - DEA
  - CSIR
  - Peace Park Foundation
  - World Database on Protected Areas, etc

- We do however not have an authoritative, effective national database on protected and conservation areas
  - Authoritative means a database that conforms to the quality criteria and standards determined by Statistics South Africa for official statistics.
Why do we need a national inventory?

- There is strong case to be made for maintaining a thorough national inventory:
  - **Measure** conservation accomplishment
  - **Improved** provincial **data** and **collaboration** with provinces lacking capacity to maintain own inventories
  - Improved global **reporting** on implementation of international treaties
  - Public **education**
  - Link to **Register of Protected Areas**
  - Develop expansion strategy for protected areas (**NPAES**)
  - **Report** on MDG goals and targets, JPOI etc.
  - **Monitor** delivery agreement on Outcome 10 - % land under conservation
Current situation

• DEA, as custodian of spatial datasets on protected areas (Spatial Data Infrastructure Act), DEA has the responsibility to ensure that the spatial data on protected areas is accurate and up to date.

• During 2008, DEA started to verify the quality of spatial boundary information on protected areas available at the time. This process concluded in September 2010.

• Verification process highlighted several issues:
  – Proclamations not done to same standard
  – For some reserves, the boundaries are not legally defined
  – For some reserves the boundaries are poorly defined
  – Some reserves have not been legally proclaimed

Management uncertainty
Example – problematic declaration

Official Gazette No. 37/1994

ESTABLISHMENT OF PROVINCIAL NATURE RESERVE

Under section 6(1) of the Nature and Environmental Conservation Ordinance, 1974 (Ordinance, 19 of 1974), I hereby establish the provincial nature reserve as mentioned in the Schedule, assign thereto the names mentioned in the Schedule and define the boundaries thereof as indicated on maps which are filed in the office of ...

SCHEDULE

1. …… Provincial Nature Reserve situated in the ……. Regional Services Council area.

2. …… Mountain Provincial Nature Reserve situated in the Klein Karoo Regional Services Council area.
Example – proper declaration

1. Administrator's Notice 912 5 August, 1981

2. In terms of section 3 of the Nature Conservation Ordinance, 1967 (Ordinance 17 of 1967), the Administrator hereby declares the area set out in the Schedule hereto with effect from 1 June, 1981 as a Nature Reserve, to be known as the 'Sterkspruit Nature Reserve'.

3. SCHEDULE
Sterkspruit Nature Reserve, district Lydenburg, comprising the following farms:
(a) Portions 2, 5, 6, 7, 8 and 10 of the farm de Kuilen, 205-J. T.,
(b) Smitskuilen 206-J.T.,
........
(g) Zomerplaats 207-J.T..
Nature reserves include:
Special Nature Reserves, Forest Nature Reserves, Forest Wilderness Areas, Protected Natural Environments, Development Area Reserves, Provincial Reserves
Development of a national spatial database

• By verifying the boundaries of protected areas, DEA built several separate spatial databases over a period of 4 years
  – National Parks
  – Provincial/Local Nature Reserves
  – World Heritage sites, Etc

• Some issues with these separate databases include:
  – Not linked to the Protected Areas Register
  – Each one structured differently
  – Spatial overlaps
  – No audit trail
  – Keeping history not fully catered for in the database
  – Only included protected areas defined in the Protected Areas Act
  – Conservation areas excluded – e.g. Stewardship Programme sites
  – Extracting time series data difficult
  – Extracting statistics problematic
  – Not aligned with international databases e.g. World Database on Protected Areas

• Decided to start the process to build a single comprehensive database that will cater for both protected areas and conservation areas.
Characteristics of the new database

An enterprise Geodatabase that allows the Department to accomplish the following tasks:

– **Linked to Register of Protected Areas**;
– Cater for the conservation estate **in total** (protected areas and conservation areas);
– **Editing** of the spatial boundaries by more than one user;
– **Versioning and archiving** of the spatial data residing in the Geodatabase;
– **Time series analysis**;
– Extracting various **statistics** and pre-defined **reports** from the database;
– Access to the database by different user groups and via different clients;
– Generate publishable maps on request.

Some predefined reports include:

1. Area in SA covered by “Designation Type and Sub-Type (ha, %, #).
2. The above broken down by geographic area & biogeographic area (e.g marine terrestrial).
3. Time series - growth over time expressed in various units.
4. Status – e.g. # proposed, # proclaimed, # deproclaimed within any time period.
Progress, time frames & challenges

Progress and time frames

- **ToR** developed 2011
- **Service provider** appointed December 2011
- **Scoping** exercise completed May 2012
- **Core attributes identified**
- **Database schema** development to start June 2012
- **Prototype** to be completed and tested by October 2012

Some challenges

- Developing a **uniform classification** system for the conservation estate – Designation Types and Sub-Types
- Choosing between **Oracle & SQL**
- Dealing with **spatial overlaps** between types of protected and conservation areas when generating statistics
- Should we use **topology rules** – e.g. “must not overlap”?
- Defining a **standard for Error**
Some related initiatives

Development of **dedicated electronic workflows**

Intent to declare
Consult with GIS
Declare
Gazette
Add final layer to GIS

Will make the data from the database accessible via the Internet

Development of **“Crowdsourcing” tool** in collaboration with MAPA

Providing authorities and citizens the opportunity to provide easy feedback directly to DEA regarding data quality issues.
Example of Atlas – 2010 baseline
## Progress (Atlas)

<table>
<thead>
<tr>
<th>Province</th>
<th>Total Parks</th>
<th>Total maps in Atlas</th>
<th>Topographical Maps completed</th>
<th>Satellite Image Maps Completed</th>
<th>Total Maps completed</th>
<th>Maps Outstanding -</th>
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<td>Western Cape</td>
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<td>Northern Cape</td>
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<td><strong>353</strong></td>
<td><strong>707</strong></td>
<td><strong>117</strong></td>
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</table>
• Just the past day:
  – Values portrayed into the % protected!
  – Where to mine or not mine!
  – Quality/Trust - Status of the measurements
(SASQAF)
“If you can’t locate it, you can’t measure it”

“If you can’t measure it, you can’t manage it”

Thank You!
## Protected and Conservation Areas

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DESIGNATION TYPE</th>
<th>DESIGNATION SUB-TYPE</th>
<th>RELEVANT LEGISLATION/CONVENTION</th>
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<tbody>
<tr>
<td>Protected Area</td>
<td>1 National Park</td>
<td>1.1 National Park</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<td>(Section 20)</td>
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<td>1.2 Wilderness Area</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<td>(Section 23)</td>
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<td>2.2 Private Nature Reserve</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<td>2.3 Contract Nature Reserve</td>
<td>Stewardship Programme e.g. under CAPE &amp; Protected Areas Act (section 23)</td>
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<td>2.4 Wilderness Area</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<td>(Section 25)</td>
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<td>3 Special Nature Reserve</td>
<td>3.1 Special Nature Reserve</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<td>4 Mountain Catchment Area</td>
<td>4.1 Mountain Catchment Area</td>
<td>Mountain Catchment Areas Act, 1970 (Act No. 63 of 1970)</td>
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<td>5 World Heritage Site</td>
<td>5.1 Core</td>
<td>World Heritage Convention Act, 1999 (Act No. 49 of 1999)</td>
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<td></td>
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<td>5.2 Buffer</td>
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<td>6 Protected Environment</td>
<td>6.1 Protected Environment</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<td></td>
<td></td>
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<td>(Section 28)</td>
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<tr>
<td>7 Wilderness Area</td>
<td>7.1 Wilderness Area</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<tr>
<td>10 Specially Protected Forest Area</td>
<td>10.1 Specially Protected Forest Area</td>
<td>National Forests Act, 1998 (Act No. 84 of 1998)</td>
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<tr>
<td>11 Marine Protected Area</td>
<td>11.1 Marine Protected Area</td>
<td>Marine Living Resources Act, (Act. 18 of 1998)( Section 43)</td>
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<td>National Environmental Management: Protected Areas Act 57 of 2003</td>
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<tr>
<td>CATEGORY</td>
<td>DESIGNATION TYPE</td>
<td>DESIGNATION SUB-TYPE</td>
<td>RELEVANT LEGISLATION/CONVENTION</td>
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<tr>
<td>Conservation area</td>
<td>Biosphere Reserve</td>
<td>Core area</td>
<td>UNESCO's Man and the Biosphere (MAB) Programme</td>
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<td>Buffer zone</td>
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<td>Transition area</td>
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<td>Ramsar Site</td>
<td>Marine/Coastal Wetlands</td>
<td>The Convention on Wetlands of International Importance</td>
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<td>Inland Wetlands</td>
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<td>Human-made Wetlands</td>
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<td></td>
<td>Stewardship programme</td>
<td>Contract Nature Reserve</td>
<td>CAFÉ programme</td>
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<td></td>
<td>The South African Natural Heritage Programme (SANHP)</td>
<td>National Environmental Management: Protected Areas Act 57 of 2003 (Section 23)</td>
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<td>Biodiversity agreements</td>
<td>CAFÉ programme</td>
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<td>Conservation areas</td>
<td>CAFÉ programme</td>
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<td>Transfrontier Conservation Park</td>
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<td>Transfrontier Park</td>
<td>Transfrontier Park</td>
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<td></td>
<td>Military Conservation Area (Multi-use conservation areas)</td>
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<tr>
<td>Other</td>
<td>Important Bird Area</td>
<td><strong>BirdLife South Africa initiative</strong></td>
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<td>Migratory Route/ Terminal</td>
<td>The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention)</td>
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<td>3</td>
<td>Species Breeding Facility</td>
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<tr>
<td>4</td>
<td>Game Farm/ Game Reserve/Game Park/Game Lodge</td>
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</tbody>
</table>
Q&A: Approach

The above classification scheme makes provision for 3 categories that covers the conservation estate namely Protected Areas, Conservation Areas and Other.

- Is this division into 3 categories sufficient?
- Is a distinction between Type and Sub-Type necessary?
- If you were looking for statistics for the conservation estate in South Africa, will you be looking for a breakdown by Type, Sub-Type, or both?
Q&A: Protected Areas

– Consider the **Type** for **Protected Areas**. There are eleven (11) Types which are defined as protected areas in the Protected Areas Act.

a) Are there any other Types of Protected Areas that should be considered to be included in this list?

b) Should any Types be removed?

c) Any other comment? For example, is Type 7 (Wilderness Areas) a valid Type, or should it only be a Sub-Type?
Q&A: Protected Areas

– Consider the Sub-Types identified for each Protected Areas Type.

a) Are there any Sub-Types that should be added?

b) Are there any Sub-Types that should be removed?

c) Any other comment?
Q&A: Conservation Areas

– Consider the Designation **Type** for **Conservation Areas**. There are seven (7) Types identified – these are a mixture of conservation areas associated with international conventions/protocols, agreements and programmes as well as SA legislation other than the Protected Areas Act.

  a) Are there any other Types of Conservation Areas that should be considered to be included in this list?

  b) Should any Types be removed?

  c) Any other comment?
Q&A: Conservation Areas

– Consider the **Sub-Types** identified for each **Conservation Areas Type**.

a) Are there any Sub-Types that should be added?

b) Are there any Sub-Types that should be removed?

c) Are the 3 Sub-Types identified for the Stewardship Programme (#3), consistently applied throughout the country?

d) Should the Sub-Type “Contract Nature Reserve” appear as Sub-Type in both Protected Areas and conservation Areas?

e) Any other comment?
Q&A: Other Areas

– Consider the Designation **Type** for **Other Areas**. There are four (4) Types identified. These are mainly areas where the conservation status is not assigned by any law or international protocol/convention

   a) Are there any other Types of Other Areas that should be considered to be included in this list?

   b) Should any Types be removed?

   c) Any other comment?
Q&A: Other Areas

– Consider the **Sub-Types** identified for each **Other Areas Type**.

a) Are there any Sub-Types that should be added?

b) Are there any Sub-Types that should be removed?

c) Any other comment?