



















# **Environmental**, Social, Governance (ESG) – Mapping towards a Sustainable Future

Geo-enabling your business applications and processes to align with sustainability policies.

25 October 2023 – 14:00-15:30

Esri SA User Conference 24-27 October 2023

Deon Marais

GIS Professional

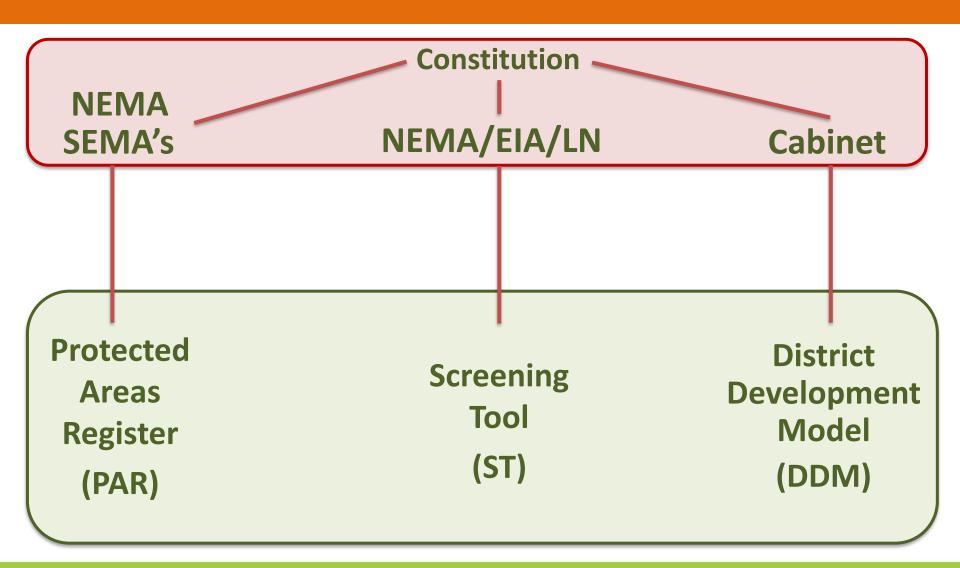
Environmental Spatial Information (ESI)

Department: Forestry, Fisheries and the Environment (DFFE)





#### **Structure of Presentation**







## **Legislative Background**

Section 24 of the Constitution states that: "Everyone has the right to: an environment which is not harmful to their health or well-being." (A Right according to the Bill of Rights)

The **National Environmental Management Act**, 1998 (Act No. 107 of 1998, abbreviated **NEMA**) is the *statutory framework to enforce Section* 24 of the Constitution of the Republic of South Africa.

**NEMA** supported by **5 SEMA's** –

**Specific Environmental Management Acts**:





#### **Constitution - NEMA & 5 SEMA Environmental Acts**

The Constitution of South Africa S24 (Environmental Rights)

The National Environmental Management Act
Act 107 of 1998 (NEMA)

National Environmental
Management: Protected
Areas Act
Act 57 of 2003 (NEMPAA)

National Environmental
Management: Biodiversity Act
Act 10 of 2004 (NEMBA)

National Environmental Management: Waste Act Act 59 of 2008 (NEMWA)

National Environmental Management: Air Quality Act Act 39 of 2004 (NEMAQA)

National Environmental
Management: Integrated Coastal
Management Act
Act 24 of 2008 (NEMICMA)





#### **NEMPAA:** Protected Areas Register (PAR)

According to the National Environmental Management: Protected Areas Act (Act 57 of 2003), <u>The Minister must maintain a register called the Register of Protected Areas (PAR).</u>

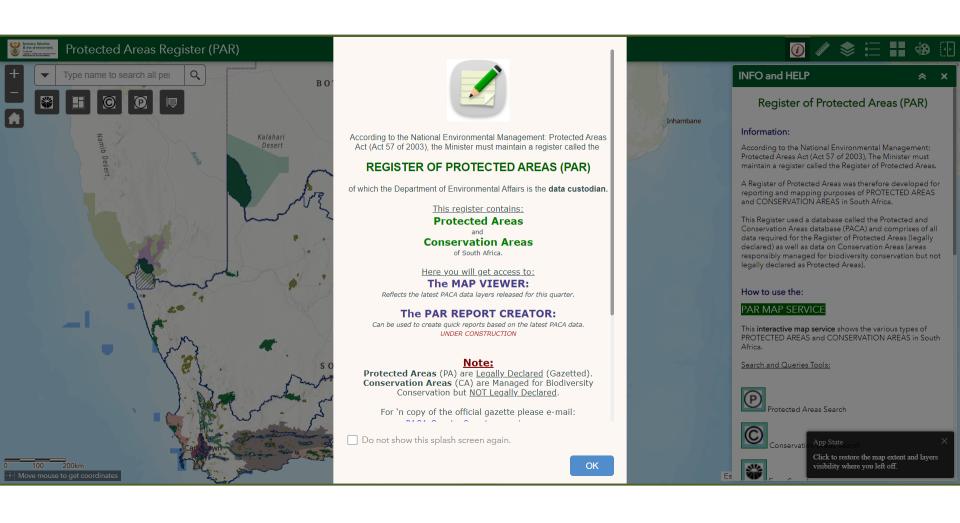
#### **The Register must:**

- contain a list of all protected areas;
- indicate the kind of protected area in each case; and
- contain any other information determined by the Minister.





#### **NEMPAA: PAR WebApp**

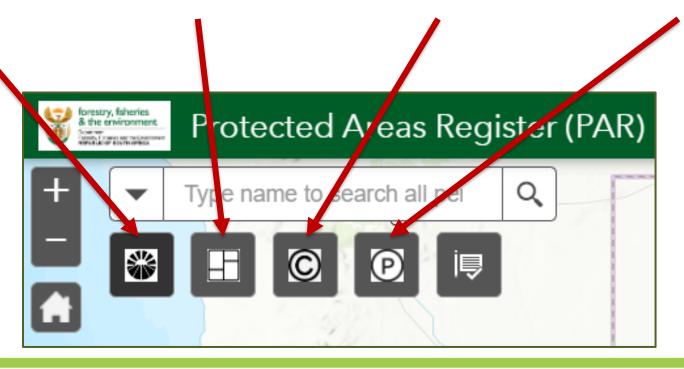






# **NEMPAA: PAR WebApp – Search options**

Farm Erf CA PA
Search Search Search







# **NEMPAA: PAR WebApp – Azure Reporting**

Swipe Queries Reports

Standard Reports Custom Reports My Reports

#### Standard Reports

Select from a list of Standard Reports below or configure your own report by clicking the configure button at the bottom

Conservation Areas Disolved To Total Area

List Of All Conservation Areas

List Of All Conservation Areas Per Province

List Of All OECM Areas

List Of All OECM Areas Per Province

List Of All Protected And OECM Areas

List Of All Protected Areas

List Of All Protected Areas Per Province

List Of Conservation Area Types With Area And Percentages

List Of OECM Types With Areas And Percentages

List Of Protected Area Types With Areas And Percentages

OECM Areas Dissolved Total Area

Proportion Total Percentage Of Conservation Areas In South Africa

Proportion, Total Percentage Of OECM Areas In South Africa

Proportion, Total Percentage Of Protected Areas In South Africa

Protected Areas Dissolve Total Area

Total Conservation Estate, PA And OECM Area After Full Dissolve Report Conservation Areas Disolved To Total Area

List Of All Conservation Areas

List Of All Conservation Areas Per Province

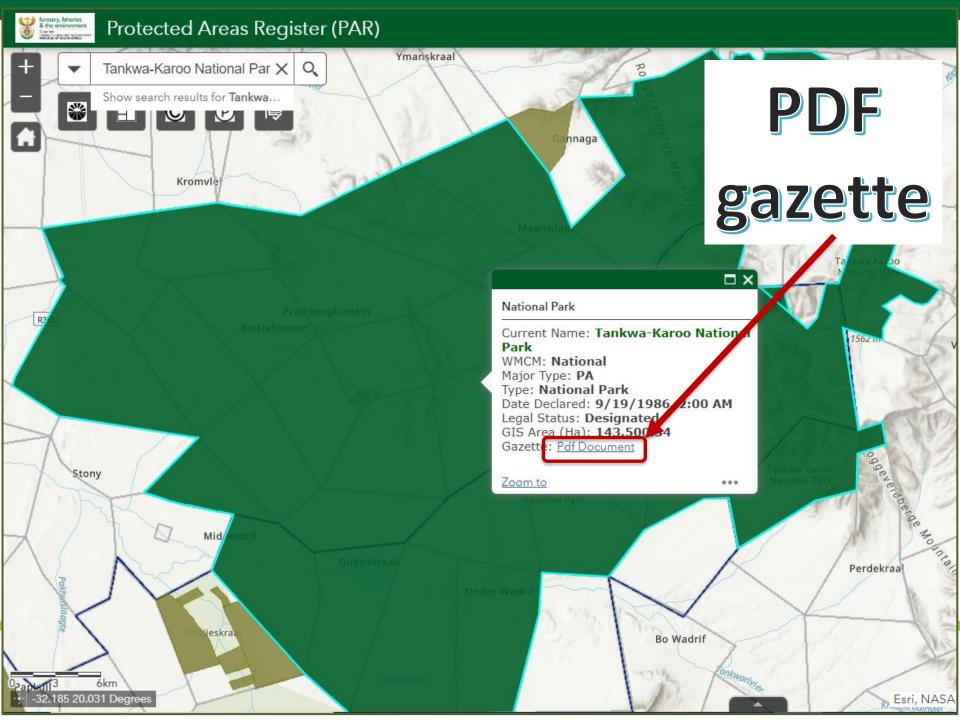


Proportion Total Percentage Of Conservation Areas In South Africa

Proportion, Total Percentage Of OECM Areas In South Africa

Proportion, Total Percentage Of Protected Areas In South Africa





#### **NEMPAA: PAR WebApp – Azure Reporting**

GOVERNMENT GAZETTE, 19 SEPTEMBER 1986

No. 10442 33

#### No. 1934

#### 19 September 1986

#### TANKWA-KAROO NASIONALE PARK.— INSTELLING

Ek, John Walter Edington Wiley, Minister van Omgewingsake en Toerisme, kragtens die bevoegdheid my verleen by artikel 2 (2) (a) van die Wet op Nasionale Parke, 1976 (Wet 57 van 1976)—

- (a) verklaar hierby dat die eiendomme in die Bylae hiervan vermeld, 'n nasionale park is wat as die Tankwa-Karoo Nasionale Park bekend staan; en
- (b) wysig hierby Bylae 1 van genoemde Wet deur die byvoeging van die beskrywing van Tankwa-Karoo Nasionale Park.

Geteken te Kaapstad op hede die 5de dag van September 1986.

#### J. W. E. WILEY,

Minister van Omgewingsake, en Toerisme.

#### BYLAE

#### TANKWA-KAROO NASIONALE PARK

Beskrywing	Grootte (ha)
Grasberg North 1084 Varsch Fontein 1085	3 806,3269
Varsch Fontein 1085	3 226,6345 4 126,7712
Potklys Berg South 1095 Springbokfontein 1096	3 078,5887
Enlmoesfontein 1097	3 333,8800
Springbok Vlakte 1098 Luipers Kop 1099 Luipers Kop South 1100	3 453,8368
Luipers Kop 1099	3 998,8696 2 038,7503
Luipeis Kop South 1100	2 000,7000

#### No. 1934

#### 19 September 1986

#### TANKWA-KAROO NATIONAL PARK.--ESTABLISHMENT

- I, John Walter Edington Wiley, Minister of Environment Affairs and Tourism, by virtue of the powers vested in me by section 2 (2) (a) of the National Parks Act, 1976 (Act 57 of 1976)—
  - (a) hereby declare that the properties referred to in the Schedule hereto shall be a national park known as the Tankwa-Karoo National Park; and
  - (b) hereby amend Schedule I to the said Act by the addition of the description of the Tankwa-Karoo National Park.

Signed at Cape Town, this 5th day of September 1986.

#### J. W. E. WILEY,

Minister of Environment Affairs and Tourism.

#### SCHEDULE

#### TANKWA-KAROO NATIONAL PARK

Description	Extent (ha)
Grasberg North 1084	3 806,3269
Varsch Fontein 1085 Potklys Berg South 1095	3 226,6345 4 126,7712
Springbokfontein 1096	3 078,5887
Folmoesfontein 1097	3 333,8866 3 453,8368
Springbok Vlakte 1098 Luipers Kop 1099	3 998,8696
Luipers Kop South 1100	2 038,7503





# National Web Based Environmental Screening Tool (ST): Environmental Impact Assessment (EIA) in NEMA

NEMA requires that an environmental authorisation (EA) (sections 24(5) and 44) be issued by a competent authority (CA) before the commencement of a <u>listed activity</u> (sections 24(2) and 24D) in terms of the <u>Environmental Impact Assessment Regulations Listing Notices</u> for Basic Assessment Report (BAR) or scoping & Environmental Impact Assessment.





# Why the National Web based Environmental Screening Tool?

- In 2014 EIA regulations 16(1)(b)(v) the requirement to submit "the report generated by the National Web based Environmental Screening Tool, ..."
- Screening Tool (ST) specifically designed to provide data for the EIA process
- The ST produces the report required in terms of the EIA requirements
- The ST is based on national wall-to-wall datasets
- The ST is Web based
- The ST house data based on national environmental datasets
- The ST does a sensitivity "screening" but does not replace a site assessment
- Standardization, up-to-date data, save money & time
- The ST provides a proactive identification of environmental sensitivities











#### Welcome to the National Screening Tool

The National Web based Environmental Screening Tool is a geographically based web-enabled application which allows a proponent intending to submit an application for environmental authorisation in terms of the Environmental Impact Assessment (EIA) Regulations 2014, as amended to screen their proposed site for any environmental sensitivity.

The Screening Tool also provides site specific EIA process and review information, for example, the Screening Tool may identify if an industrial development zone, minimum information requirement, Environmental Management Framework or bio-regional plan applies to a specific area.

Some of these documents can then be accessed through the Screening Tool via links, for consideration during screening.

Further to this, the Screening Tool identifies related exclusions and/ or specific requirements including specialist studies applicable to the proposed site and/or development, based on the national sector classification and the environmental sensitivity of the site.

Finally, the Screening Tool allows for the generating of a Screening Report referred to in Regulation 16(1)(v) of the Environmental Impact Assessment Regulations 2014, as amended whereby a Screening Report is required to accompany any application for Environmental Authorisation and as such the tool has been developed in a manner that is user friendly and no specific software or specialised GIS skills are required to operate this system.

All users are required to agree to the Terms and Conditions before proceeding from the Home Page. The terms and conditions are downloadable by clicking on this Terms and Conditions link.

\*\*\*\*

Tip: Bookmark the Screening Tool webpage on your preferred Browser: https://screening.environment.gov.za/screeningtool

Tip: Sourcing Sensitivity/Original data from the relevant custodian: https://egis.environment.gov.za/links

Note: We monitor & respond to all Screening Tool related emails (screening@environment.gov.za) on a daily basis as a matter of priority & we value your inputs.

I agree to the Terms and Conditions

Next

CA Login

Contact Us

Screening Web Master: 012 399 9295

Screening Tool Assistance: 012 399 9301

EIA Process Queries: 012 399 8883 Web Assistance

#### FAQ - Frequently Asked Questions

For a list of frequently asked questions Click here!



#### Latest News!

#### Notifications

\*\*Kindly CLEAR CACHE to effect changes\*\* Screening Report Gazetted Notice Amended EIA Regulations

Get Help Copyright © 2021Terms and Conditions

## **ST: Landing Page**

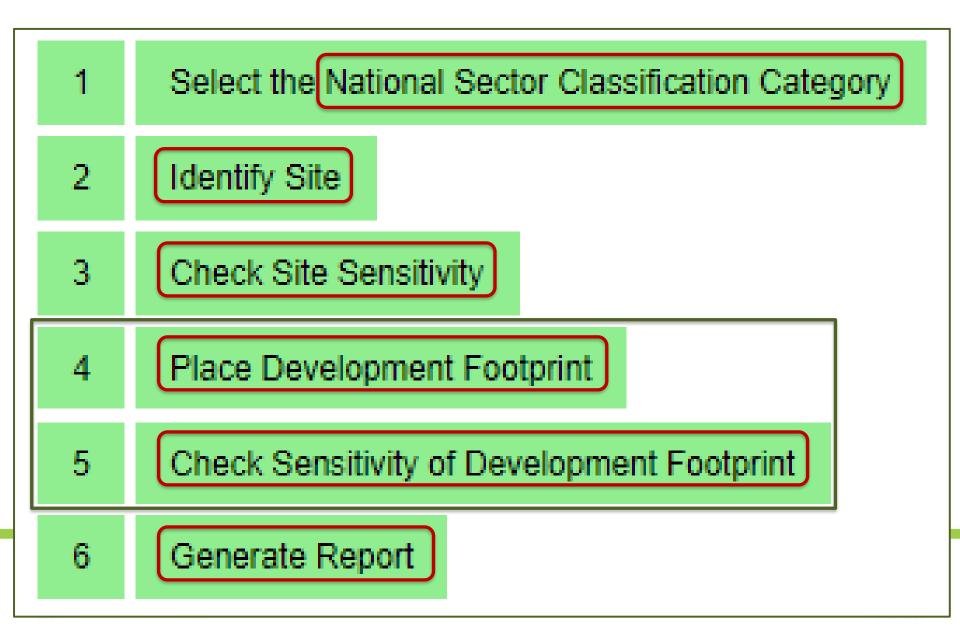
# Background

# Tips

# **Notifications Contacts**



#### **ST: Process Steps**



#### **ST: National Sector Classification**

#### Select the National Sector Classification Category

You can choose your National Sector Classification Category by selecting an option from the dropdown list below. When you have selected the first option, if there is a sub category for your selection, another selection box will appear for you to select. When the last level category has been selected, details of that classification will be shown in box below. At this stage you may click NEXT

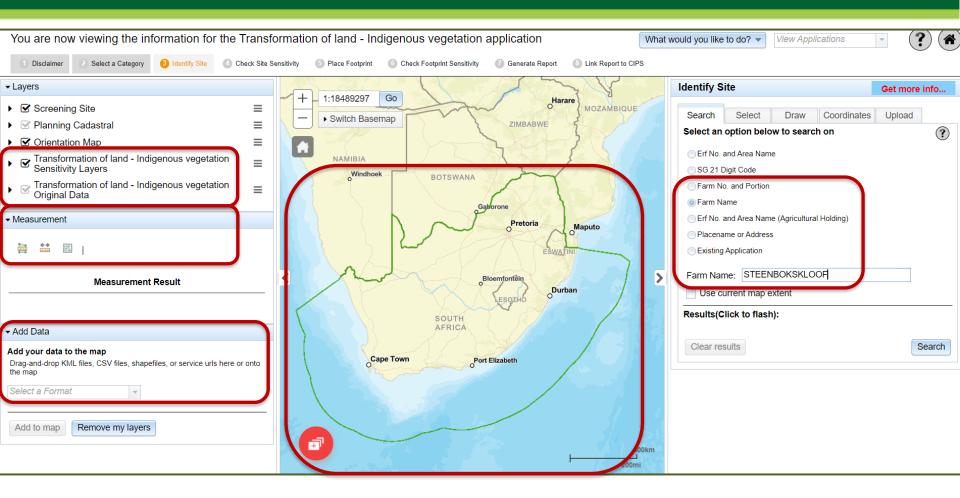






#### ST:

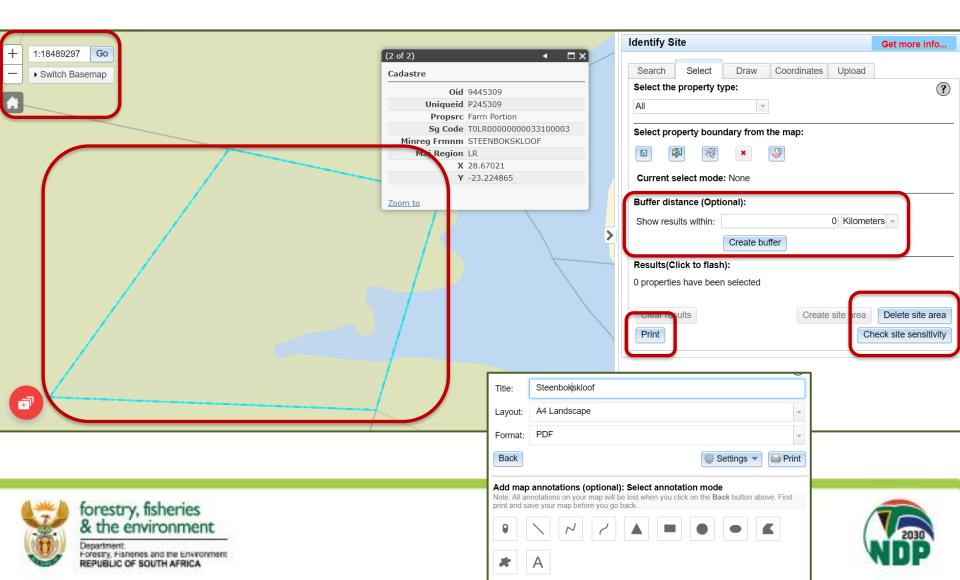
# **Layer Pane / Map Pane / Sensitivity Pane**



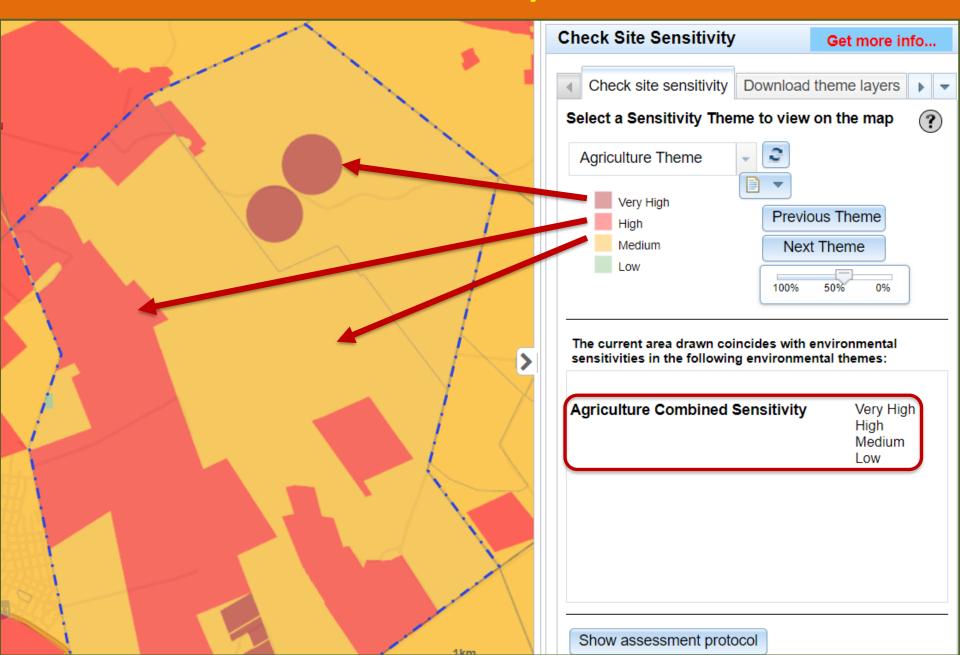




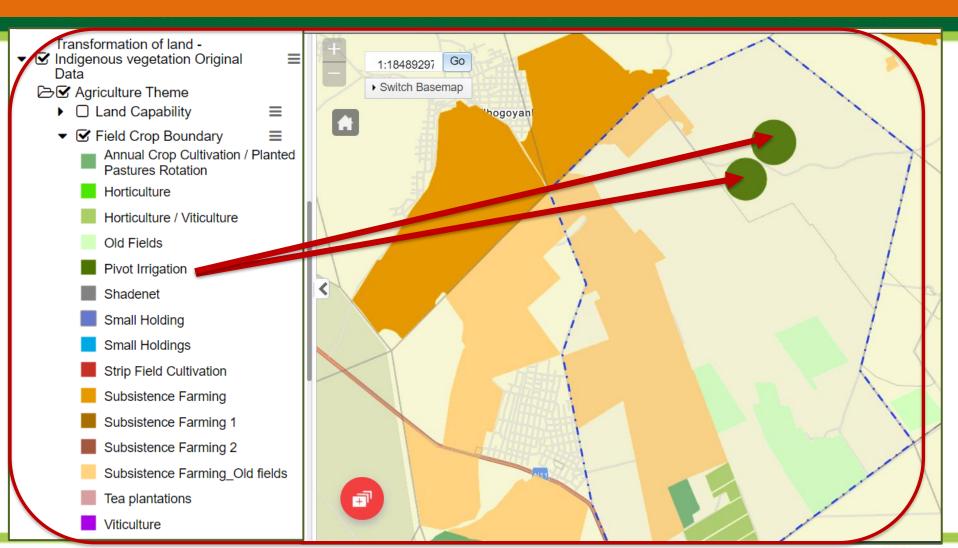
#### **ST: Site Functionalities**



# **ST: Sensitivity Pane**



# **ST: Original Data**







# Propose Orient Map of Cadas Wind under

Enviro

Environ

Relev

Propo

Specia

Results

MAP

MAP

MAP

MAP

MAP

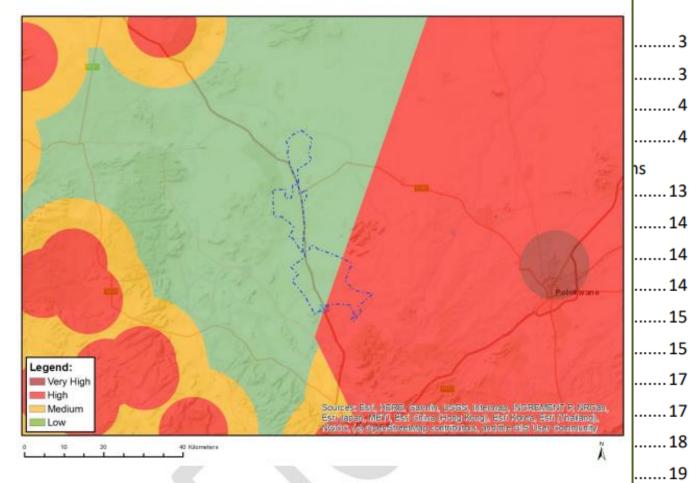
MAP

MAP

MAP

MAP





Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		(

#### **Sensitivity Features:**

Sensitivity Feature(s)		
High	Dangerous and restricted airspace as demarcated	
Low	Low sensitivity	
Medium	Between 15 and 35 km from a civil aviation radar	





.....20

.....21

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.....25





















# District Development Model (DDM) EPIP/NRM/Environmental Sector Projects (ESP) ...





## **DDM: District Development Model**

- District Development Model (DDM) <u>initiated by President Cyril Ramaphosa</u> in his <u>Budget Speech</u> in <u>2019</u>.
- **DDM** was discussed and **adopted by Cabinet**, the 2019 Presidential Coordinating Council (PCC), the March 2020 extended PCC and various MINMECs."
- Amongst other key words/phrases are:
- ... "pattern of <u>operating in silos</u>" ...
- ... <u>called for</u> the rolling out of "a <u>new integrated district-based approach</u> to addressing our service delivery challenges ..."
- The Model consists of a <u>process</u> by which <u>joint and collaborative planning</u> is undertaken at local, district and metropolitan by all three spheres of governance resulting in a <u>single strategically focused</u> One Plan for each of the 44 districts and 8 metropolitan geographic spaces in the country, wherein the district is seen as the 'landing strip'. (DDM)





#### **DDM: Objectives**

- The OBJECTIVES of the District Development Model are to:
  - Coordinate a government response to address challenges of poverty, unemployment and inequality particularly amongst women, youth and people living with disabilities.
  - Ensure inclusivity by gender budgeting based on the needs and aspirations of our people and communities at a local level.
    Narrow the distance between people and government by strengthening the coordination role and capacities at the District and City levels.
  - Foster a practical intergovernmental relations mechanism to plan, budget and implement jointly in order to provide a coherent government for the people in the Republic; (solve silo's, duplication and fragmentation) maximise impact and align plans and resources at our disposal through the development of "One District, One Plan and One Budget".
  - Build government capacity to support municipalities.
     Strengthen monitoring and evaluation at district and local levels.
     Implement a balanced approach towards development between urban and rural areas.
  - Exercise oversight over budgets and projects in an accountable and transparent manner.

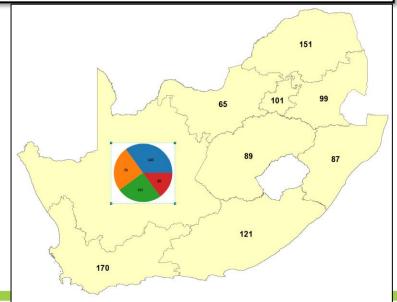




# **DDM: Spreadsheet to Survey123**

	Α	В	С	
1	Uniquel -	BRANCH/PROVINCE/ENTIT	PROJECT NAME	PROJECT DESCRIPTION
2	792	Fisheries	Hamburg cluster (Marine Finfish)	Government project supported by the Department of Environment, Forestry and Fisher
3	793	Fisheries	Hamburg cluster (Oysters and sea urchins)	Government initiative supported by DEFF, ECDRDAR and ECDC. Sea based oyser farm
	794	Fisheries	Wild Coast Abalone	Private Abalone hatchery and growout farm situated in Haga Haga, Eastern Cape. The
1				
5	795	Fisheries	Wild Coast Abalone Ranching Cluster	Ulwandle Fishing / Wild Coast Abalone undertakes ranching in species: abalone, in the
6	796	Fisheries	East London Aquaculture Development Zone	Aquaculture development Zone, situated in East London Industrial development Zone,
7	797	Fisheries	Disaneng Fishery and Aquaculture	Government project supported by DEFF and the North West Department of Rural, Envi
8	798	Fisheries	Diamond Coast Aquaculture	Private abalone farm situated in Hondeklipbaai, Northern Cape. Operational and produ
9	799	Fisheries	Hondeklip Bay- Abalone (DST Abalone Hatch	Government project supported by DEFF and the Department of Science and Innovation
10	800	Fisheries	Diamond Coast Abalone	Private abalone farm situated in Hondeklipbaai, Northern Cape. This farm has been su
	801	Fisheries	Diamond Coast Abalone Ranching	Private abalone ranching farm situated along the coastline of Hondeklipbaai, Northern

- ✓ Different levels of readiness
- ✓ Initial exercise resulted in many <u>errors</u>, wrong <u>formats (dates, coordinates)</u> ... "Garbage In Garbage Out" principle
- ✓ Move to automated Survey123 platform using the DFFE <u>ELA</u> in order to consolidate the Environmental Sector Projects

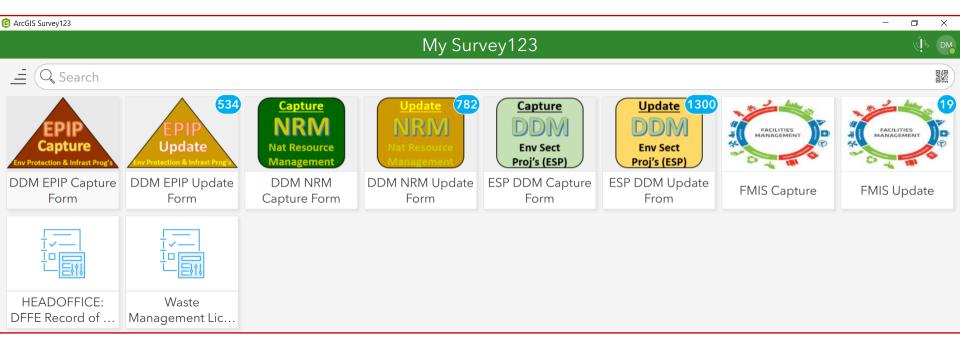






# DDM: Products <u>EPIP/NRM/ESP</u> (Environmental Sector Projects)

# **Capture & Update Forms sharing Feature Service**







# **DDM: Page 1 - Landing Page / Background**



#### Environmental Sector Projetcs DDM Capture Form



#### **District Development Model (DDM)**



WELCOME to the District Development Model (DDM) Capture Form for Environmental Sector Projects (ESP)!

#### WHY The "DISTRICT DEVELOPMENT MODEL"?

https://www.cogta.gov.za/ddm/index.php/about-us/

The District Development Model was initiated by President CYRIL RAMAPHOSA in his BUDGET SPEECH in 2019. Subsequently, the District Development Model was discussed and ADOPTED BY CABINET, the 2019 Presidential Coordinating Council (PCC), the March 2020 extended PCC and various MINMECs.

The President in the 2019 Presidency Budget Speech (2019) identified the "PATTERN OF OPERATING IN SILOS" as a challenge which led to "to lack of coherence in planning and implementation and has made monitoring and oversight of government's programme difficult". The consequence has been NON OPTIMAL DELIVERY of services and diminished impact on the triple challenges of POVERTY, INEQUALITY and EMPLOYMENT.

The President further called for the rolling out of "a new integrated"

#### The OBJECTIVES of the DISTRICT DEVELOPMENT MODEL are to:

- \* Coordinate a government response to challenges of poverty, unemployment and inequality particularly amongst women, youth and people living with disabilities.
- \* Ensure inclusivity by gender budgeting based on the needs and aspirations of our people and communities at a local level.
- \* Narrow the distance between people and government by strengthening the coordination role and capacities at the District and City levels.
- \* Foster a practical intergovernmental relations mechanism to plan, budget and implement jointly in order to provide a coherent

#### Why is the District Development Model needed?:

In order for the State to function and perform optimally and effectively, every organ of State has to perform its core functions well and work harmoniously with other organs of State and with civil society.

The President has given emphasis to the District Development Model as a unique form of social compacting that involves all key players in every district and metro space to unlock development and economic opportunities, highlighting that "It builds the capacity of the state where it has been most broken." The DDM calls for collaborative planning at district and metropolitan level together by all of government, on the basis of a detailed,

1 of 10





## **DDM: Page 3 – Project Information**

#### **Project Information IMPORTANT!** This section covers the capturing of information (data) regarding the descriptive nature of the Environmental Project. Compulsory fields are indicated with a red asterisk "\*" and must be completed. Do not skip or ignore compulsory fields since the form will warn you only at completion & updating of data will be impossible. Note: Text in Maroon contains a "hint" and if a "hand" appears when moving the mouse-cursor over the "hint" (or lookout for the lightbulb) a hyperlink to more descriptive text is available! Simply click next to the hyperlink window to discard the "hint" window. UniqueID EPWP/Project/File Reference Number\* **Automatically Generated ₹** Type the Filing Reference Number as a Unique id da65d186 Branch/Province/Entity\* **Project Name\*** Select using the Dropdown Arrow Type Project Name Project Description\* Type brief description - max 255 characters Project Programme / Focus Area\* Select using the Dropdown Arrow Intervention\* Select using the Dropdown Arrow 3 of 10





# DDM: Page 4 (a) – Project Location – filtered DM & LM

	Project Location	
Province*  Select Province - Select "radio button"  Eastern Cape Province  Free State Province  Gauteng Province  Kwazulu Natal Province  Limpopo Province  Mpumalanga Province  Northern Cape Province  North West Province  Western Cape Province	District Municipality*  Select "filtered" District Municipality - Select "radio button"  City of Johannesburg DM  City of Tshwane DM  Ekurhuleni DM  Sedibeng DM  West Rand DM	Local Municipality*  Select "filtered" Local Municipality - Select "radio button"  Emfuleni (GT421)  Lesedi (GT423)  Midvaal (GT422)
Indicate if the Project covers  Multiple Province	more than one District Municipality & select these DM's usin	ng the relevant Province (filter)
Does the Project fall in more than one Province? Select Provinces.		
Eastern Cape Province Free State Province Province	Kwazulu Natal Limpopo Province Province Province	Northern Cape Province  North West Province  Province  Western Cape Province
Multiple District Municipalities  Does the Project fall in more than one District Municipality? Select District Municipality?	alities.	
<	4 of 14	>





# DDM: Page 4 (b) – Project Location (Images/Photos)

Provide related photographs to show progress			
Project Photo* Please provide Photo(s) providing insight into the nature of the Project	ect - PHOTOS LIMITED TO 2 not exceeding 2MB per photo!		
Before Intervention Photo  Please provide Photo(s) indicating the problem to be addressed - PHOTOS LIMITED TO 2 not exceeding 2MB per photo!	During Intervention Photo  Please provide Photo(s) showing project activities - PHOTOS  LIMITED TO 2 not exceeding 2MB per photo!	After Intervention Photo  Please provide After Intervention photo(s) - PHOTOS LIMITED TO 2 not exceeding 2MB per photo!	
Comments  Type a brief comment regarding a project that spans more than one Prov, District or characters	Local Municipality & add related Budget/Job breakdown comment(s) - max 255		
<	4 of 10	>	





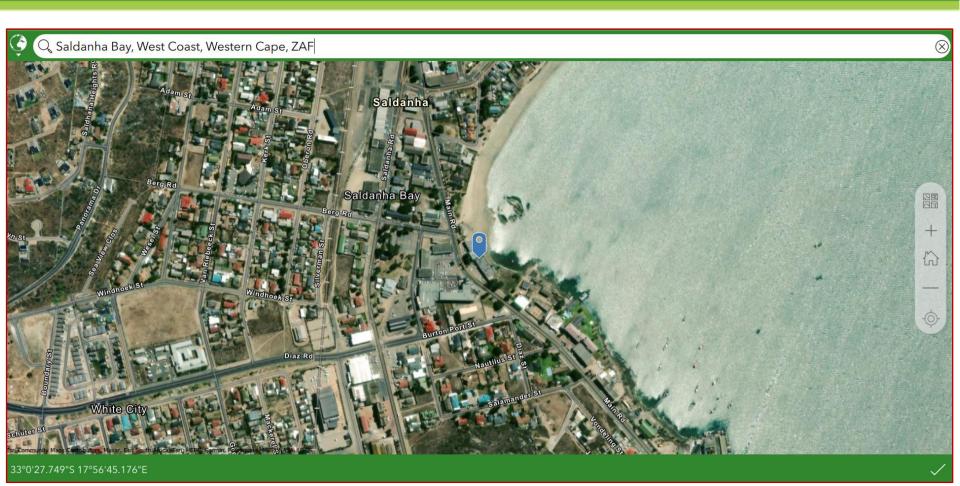
# **DDM: Page 6 – Project Location**

	Project Location (Ma	p)	
General Project Location using Map  Open the map; Search area of interest; Place a marker as accurately as possible			
Latitude Degrees  Automatically Calculated	Latitude Minutes  Automatically Calculated	Latitude Seconds  Automatically Calculated	
0	0		
Longitude Degrees Automatically Calculated	Longitude Minutes  Automatically Calculated	Longitude Seconds  Automatically Calculated	
0	0		
Map Latitude  Automatically Extracted from the map	Map Longitude  Automatically Extracted from the map	Project Map Coordinates  Automatically generated	
Address Automatically Extracted from the map	Province Name Automatically Extracted from the map	District Municipality Name  Automatically Extracted from the map	
Local Municipality Name  Automatically Extracted from the map	Ward ID Automatically Extracted from the map	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	6 of 11	>	





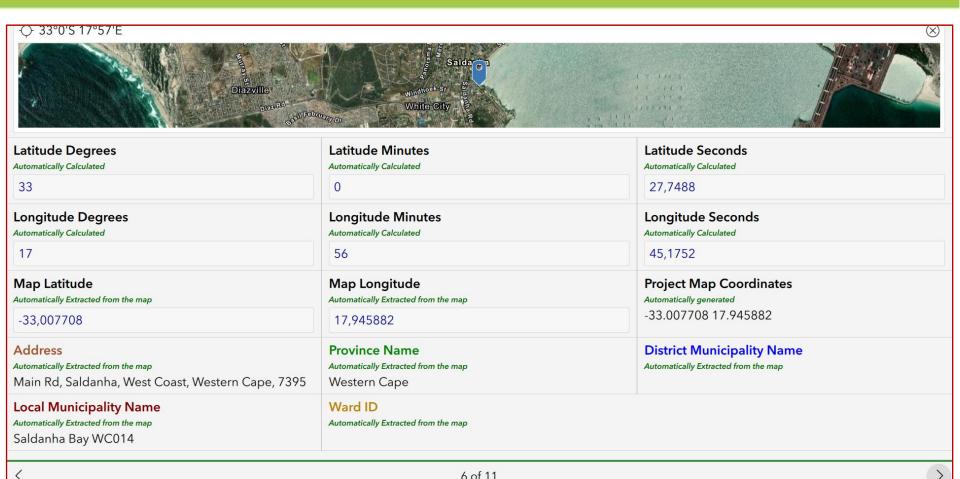
# DDM: Page 6 - Project Location "Pindrop" -- Saldanha Bay Zoom







# DDM: Page 6 – Project Location Populated attribute fields (Saldanha Bay)







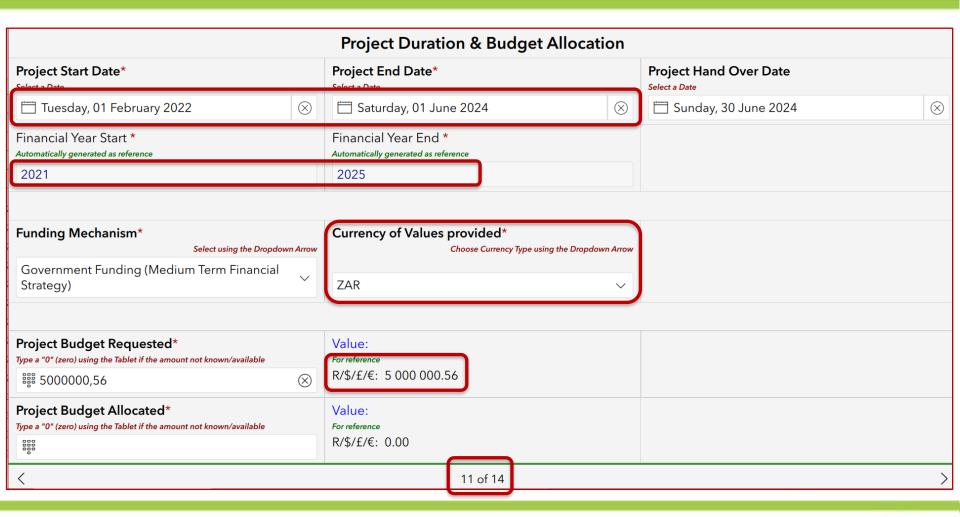
# DDM: Page 10 – Project Location Additional Point/Line/Poly(s) - ("Repeat")







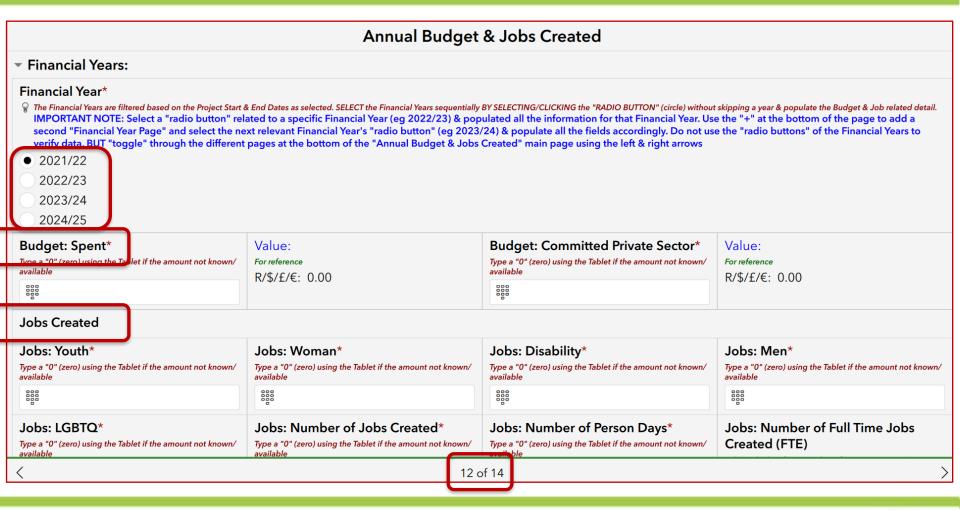
# **DDM: Page 11 – Project Start-End Date Filtering**







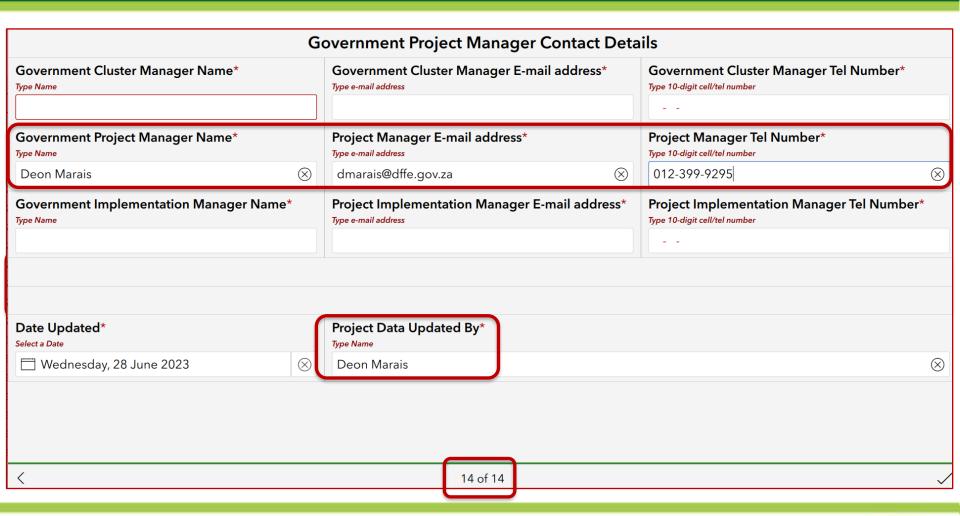
## DDM: Page 12 – Budget & Jobs (Attribute Data)







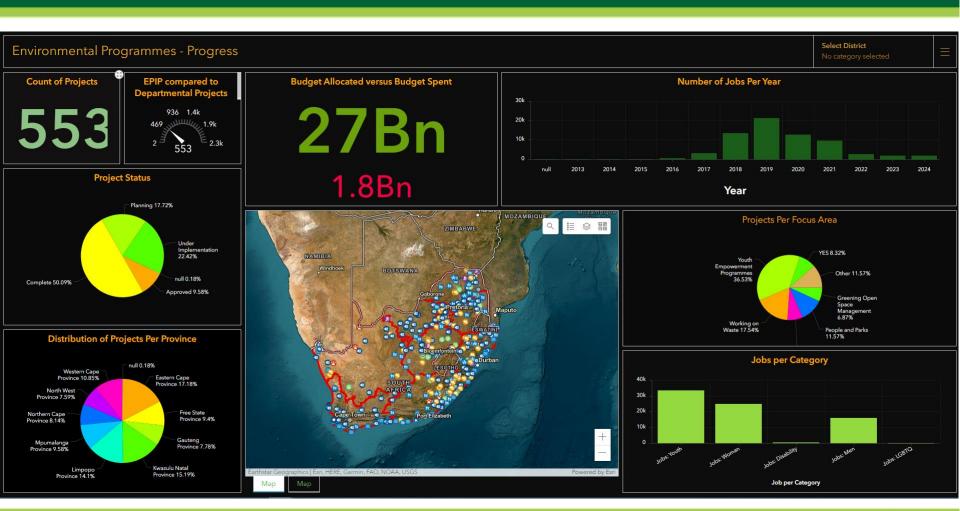
#### **DDM: Page 14 – Contact Details**







# **DDM: Using the Data to inform DECISIONS**







#### **Other Environmental Tools**

- National Climate Change Information System (NCCIS)
- South African Waste Information Centre (SAWIC)
- Spatial representation of the DFFE Annual Performance Plans (APP's)
- Work of Forestry, Oceans & Coasts AND the 4 entities:
   SANBI / SAWS /SANParks & iSimangaliso Wetland
   Authority (part of ELA)





# THANK YOU!

Relevant URL's: (Uniform Resource Locator)

**Protected Areas Register (PAR):** 

https://egis.environment.gov.za/

**Screening Tool:** 

https://screening.environment.gov.za/screeningtool/

District Development Model (DDM):

https://www.cogta.gov.za/ddm/

#### **Deon Marais**

dmarais@dffe.gov.za

**Environmental Spatial Information (ESI)** 

Department of Forestry, Fisheries and the Environment

Website: http://www.environment.gov.za

Address: The Environment House, 473 Steve Biko Road, Arcadia, Pretoria, 0083





#### **NEMPAA: Protected Areas Register (PAR)**

- The spatial feature layers called **PACA** (**Protected** and **Conservation Areas**),
- comprises of all **legally declared Protected Areas** as well as **Conservation Areas** (areas responsibly managed for biodiversity conservation but not legally declared as protected areas)
- and can be searched and viewed through the use of the **Protected Areas Register (PAR) Interactive Map** and can be easily access from the **DFFE webpage** under the **E-Tools/EGIS tab**.





# National Web Based Environmental Screening Tool (ST): Environmental Impact Assessment (EIA) in NEMA

**Environmental Impact Assessment (EIA)** is a critical examination of the effects of a project on the environment.

The Act (NEMA) ... makes the <u>regulations</u> pertaining to <u>environmental</u> impact assessments (EIAs), under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), ...

**NEMA** --- **EIA Regulations** --- **Listing Notices 1 / 2 & 3** (to identify activities and competent authorities in terms of sections 24(2) and 24D of NEMA)



