

---

# INANDA DAM RESOURCE MANAGEMENT PLAN

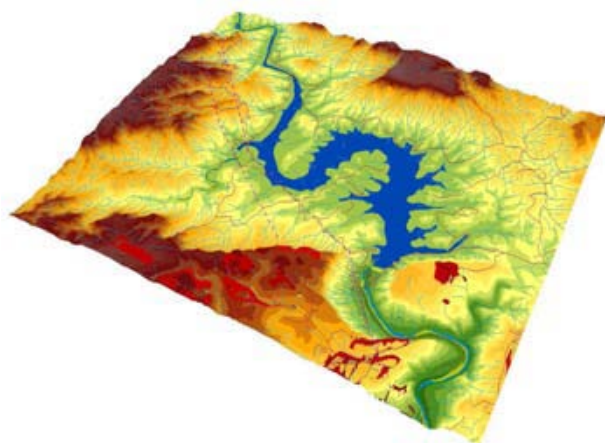
---

## BACKGROUND INFORMATION DOCUMENT

---

JUNE 2007

---



Department of  
Water Affairs and Forestry

# TABLE OF CONTENTS

|      |                                      |    |
|------|--------------------------------------|----|
| 1.   | INTRODUCTION AND BACKGROUND .....    | 3  |
| 1.1. | Background to the Study.....         | 3  |
| 1.2. | Purpose of this document.....        | 3  |
| 1.3. | Locality of the Dam .....            | 4  |
| 2.   | PLANNING CONTEXT .....               | 5  |
| 2.1. | ETHEKWINI IDP (2003-2007).....       | 5  |
| 2.2. | RURAL DEVELOPMENT FRAMEWORK .....    | 6  |
| 2.3. | TOURISM & ECONOMIC INITIATIVES ..... | 6  |
| 3.   | SOCIO-ECONOMIC OVERVIEW .....        | 8  |
| 3.1. | Average Household Size .....         | 8  |
| 3.2. | Age & Gender Breakdown.....          | 8  |
| 3.3. | Educational Levels.....              | 9  |
| 3.4. | Employment Status .....              | 9  |
| 3.5. | Monthly Household Income .....       | 10 |
| 3.6. | Occupation Types .....               | 10 |
| 3.7. | Type of Housing.....                 | 11 |
| 3.8. | SOCIAL FACILITIES .....              | 11 |
| 4.   | PHYSICAL ENVIRONMENT .....           | 12 |
| 5.   | THE WAY FORWARD .....                | 12 |

## Contact Details

For any further information and/or comments on this project, please contact:

**The Project Manager: Peter Gilmore**

### eThekwini Municipality

Development Planning, Spatial & Land Use Manager  
Rural Area Based Management & Development  
EThekweni Municipality

Telephone: +2731 261 6640

Fax: +2731 261 6671

Email: [gilmorep@durban.gov.za](mailto:gilmorep@durban.gov.za)

# 1. INTRODUCTION AND BACKGROUND

## 1.1. BACKGROUND TO THE STUDY

EThekweni Municipality, together with Department of Water Affairs and Forestry and Umgeni Water have indicated a need to promote development initiatives, and promote the responsible future management of the water resource and its surrounding natural environment. EThekweni Municipality has identified traditional areas that were incorporated into eThekweni Municipality but have not yet been spatially planned as yet. The area around the Inanda Dam falls within these areas and it is because of this area's great potential for economic (esp. tourism) development in this area that eThekweni Municipality has decided to prioritise spatial planning of the Inanda Dam area. This is meant to ensure equitable access, compatible use, public safety, resource protection and to unlock the potential of Inanda Dam and effect the sustainable management thereof. To this end the formulation of the **Inanda Dam Precinct and Resource Management Plan** was commissioned. This study is meant to ensure equitable access, compatible use, public safety, resource protection and to unlock the potential of Inanda Dam and effect the sustainable management thereof. It is anticipated that the Precinct and Resource Management Plan for the dam should provide detail on the following areas:

- Establishing and understanding of the study area, including its **opportunities and constraints** taking into account the current Tourism Feasibility Study.
- Establishing **a vision** and **conceptual framework** for the area;
- Establishing **synergies** with proposed developments in the immediate vicinity;
- Establishing detail **implementation plan** for the area
- Ensuring the **sustainable and equitable development**, utilization and management of the Inanda Dam by compiling a **RMP**, based on the Departmental of Water Affairs and Forestry Guidelines on Integrated Resource Planning for the Use of Water for Recreational purposes through a **facilitated and consultative** planning process;
- Efficient allocation of land uses within the study area as per existing and projected demands, and
- Undertaking the above exercises through a **managed participation** exercise.

## 1.2. PURPOSE OF THIS DOCUMENT

The process of formulating these future orientated development and management plans for the dam area requires substantive participation with the affected communities and parties residing, investing in and/or using the dam and its surrounding resources. To this end a number of community and roleplayer interactions has been scheduled as part of the process for constructive engagement. The purpose of this document is to serve as a background information document to summarise available information around the dam and assist roleplayers in preparation for engagements. This will ensure that all participants have the opportunity to peruse and comment on current findings and parttake in discussions with similar contextual information to their disposal.

### 1.3. LOCALITY OF THE DAM

Inanda Dam is located in the valley of a thousand hills only 42km north of Durban, was completed in 1989 and took two years to fill the water. The dam is 23km long from the bridge to the dam wall and is 1.5km at the widest point and 50 meters deep at its deepest point. The water surface of the dam covers 1440 hectares and has a peripheral distance of approximately 100km around the dam, when full.

Figure 1: Inanda Dam at a District level



Source: SDB ABM, SDF: 2004



# 1. PLANNING CONTEXT

## 2.1. ETHEKWINI IDP (2003-2007)

The eThekweni Municipality's key challenge is to ensure that all its actions contribute to sustainable development. Responsibility for the citizens and businesses does not only lie with a single cluster/ department within the Council but everybody's responsibility. Integrating sustainable development into Integrated Development Plans (IDPs) of all South African cities has been a key national imperative which has brought new challenges and approaches to the fore in municipal operations. Planning and developing the City in a sustainable way will create sustainable responses to the municipality's key development challenges. At the same time, the IDP workshop participants from across sectors throughout the City, senior management, politicians and other key stakeholders put in place short-term plans of action that ensure the co-ordinated delivery of the many municipal functions.

The eThekweni IDP focuses on a strategic direction that the municipality intends to follow and its responsibilities to reinforce sustainable economic growth and job creation within its boundaries. Relating to the SDB there are three desired outcomes/goals that are outlined in the document which are relevant to the area:

- Focusing and integrating city delivery to maximize the impact on poverty reduction and job creation within a sustainable framework;
- Regenerating existing residential and business areas;
- Maximising the usage of existing facilities and infrastructure;
- Developing a financial strategy which balances developmental expenditure with a strategy to grow income;
- Ensuring local government is more accessible and accountable , assists citizen action and alings all spheres of government to ensure co-ordinated and integrated delivery.

With specific relevance to the Inanda Dam Project, the Sustainable Development Plan also aims to:

- Provide a rural and peri-urban development focus. This includes the provision of infrastructure and investment and management frameworks appropriate to the needs and opportunities within and sustainability constraints of peri-urban areas.
- Use of ABM learning areas to demonstrate implementation of the IDP's strategic focus.

## **1.2. RURAL DEVELOPMENT FRAMEWORK**

In terms of the eThekweni Rural Framework, the study area has been identified as a local service centre. It is suggested local level service centre. It has been suggested that the rural areas of eThekweni provide a range of tourism opportunities relating to nature areas, the dam, culture and recreation. A key objective in the development of the tourism industry in the rural areas will be to encourage local entrepreneurs to become involved in the tourism industry as opposed to local communities only benefiting from job opportunities created in the sector. Some key actions include identification and agreement on rural tourism lead projects "must see attractions such as dams." (section 4.5, RDF Strategies and Frameworks). The local level service centre KwaNgcolosi (Ward 2) to be one of the several rural investment and service nodes that have been identified within the rural sub-region area in order to create linkages between areas and to facilitate co-ordinated delivery in each area. The Rural Development Framework (RDF, 2003) states clearly the importance of appropriate protection, management and utilisation of environmental resources of the rural periphery. Integration into the development of the rural areas forms one of the structuring elements of the SDF.

## **2.3. TOURISM & ECONOMIC INITIATIVES**

The Rural Development Framework (RDF) indicates that the study area accommodates a great variety of tourism and recreation opportunities, which are severely underutilised. It is stated that Inanda Dam including both sides of the dam and its spectacular hinterland has opportunities within the rural periphery to be integrated into a wider metropolitan tourism system adding a new component to the attraction of the Metro and providing income to the rural areas.

## **ETHEKWINI RURAL ROAD LINKS**

The study area that this project dealt with encompasses all rural areas of the Ethekewini Municipality between the old Durban "urban edge" and the Municipal boundary. The total population of the study area is 660 000, accommodated in an area roughly 1 500km<sup>2</sup> in extent. Planned developments have been identified for the rural periphery of the Municipality and they are, the Mixed Investment Nodes, Rural Investment Nodes and the Local Service Nodes. Tourism development is proposed within the rural peripheral areas, as the tourism/recreation potential is largely under-exploited. Inanda Dam, including both sides of the dam and its spectacular hinterland has been included with these areas. With regards to roads the KwaSondela and KwaNgcolosi nodes have been identified for northwards upgrading. This will be done by upgrading the MR528 to its intersection with the MR718. The MR528 in this area is said to traverse some steep terrain.

## **PROPOSED SHEMBE VILLAGE**

The proposed project lies within ward 3, which falls, under the Qadi Traditional Authority area north of the Inanda Dam. The Nazareth Baptist Church approached the Dept. of Traditional and Local Government Affairs and eThekweni Municipality to prepare a planned and co-ordinated environment for accommodating church members and development of the Shembe Village area. This will be the expansion of religious and tourism activities. The project intends to guide for the development of tourism potential and to establish an institutional framework within which development can be implemented. This framework will give a clear understanding and unique identity of the area and will lead to the improvement of environmental management and the protection of the natural resource base.

## **INTATHAKUSA**

This is an initiative by eThekweni Municipality to integrate communities living within eThekweni's urban edge establish a rural community tourism facility, which would create small business opportunities in the area. This will comprise a retreat facility, conference centre, business functions, social events, tourist destination and leisure activities. The objectives for Intathakusa are as follows:

- To disperse eThekweni visitors to new and unexplored places of interest;
- To create linkages between the natural resources area, the emerging organic farming scheme within Intathakusa and the Inanda Tourism Trail;
- To establish a rural community tourist facility which would create small business opportunities in the area.

## **Rural ABM Tourism Strategy (2006)**

The purpose of the Rural ABM Tourism Strategy is to develop tourism strategies for the rural areas of the eThekweni Municipality. These interventions suggested in this report aim to facilitate and enhance economic livelihoods and improve systems of governance in the rural areas. The Rural ABM covers a variety of areas outside the eThekweni's urban edge, which includes the Inanda Dam and is therefore an important study for our current purposes.

The Rural ABM identified that there is a wide variety of tourism and recreation opportunities, which are severely underutilized. It suggested that many of these opportunities identified have limited success and remain as isolated events. It is important to recognise that the opportunities in the rural periphery be integrated into a wider metropolitan tourism system adding on a new component to the attraction of the Metro, whilst also providing expertise and income to the rural areas. This report also recognised and highlighted the significance of local tourism and recreational development because of the economic upliftment it will bring. The report furthermore identifies that in order for any local tourism development to be successful it will require local public partnerships with the relevant rural communities.

## 2. SOCIO-ECONOMIC OVERVIEW

### 3.1. AVERAGE HOUSEHOLD SIZE

Census 2001 information, indicates that the total population of the four areas surrounding the Inanda Dam was people 144 608. The study area is made up of five smaller pockets namely, Ward 2, 3, 8 & 9 with a population of 37 325,42 148,32 943 & 32 192 respectively. The number of households was 29 398 making the average household size 4.9 persons per household.

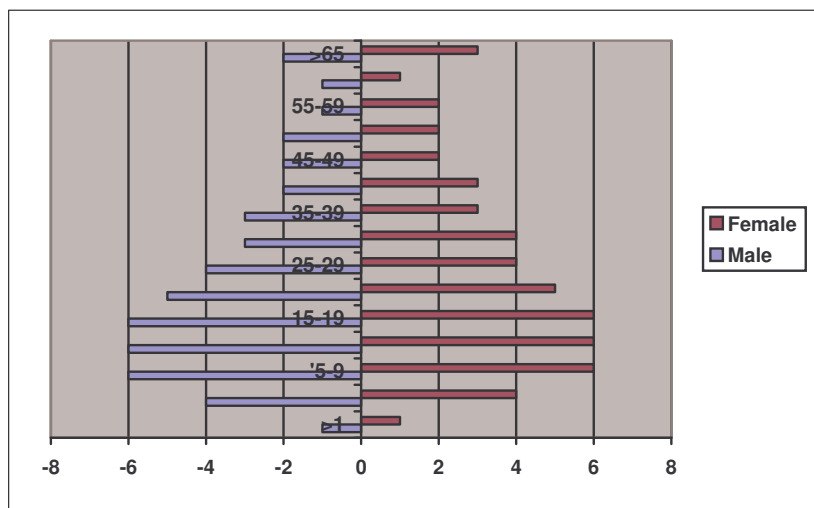
| No. of people | No. of Households | Average Household Size |
|---------------|-------------------|------------------------|
| 144 608       | 29 398            | 4.9                    |

Source: Stats SA, 2001

### 3.2. AGE & GENDER BREAKDOWN

The below above shows that the study area is made up of 47% males and 53% females. Children make up 34%, which highlights people who are still dependant on their parents. This is almost a third of the whole population. These children are people that still need to taken care of. There is a high percentage of people that fall within the labour force which at the same time identifies the youth (16 – 35 years) of the area. They make up 43% of Umzinto community. These are people who seek employment opportunities and can create an economically stable environment within the area. The elderly (>65 years and above) only make 5% of the population; these are people who qualify for old age grants.

**Graph 1: Age and Gender Breakdown**



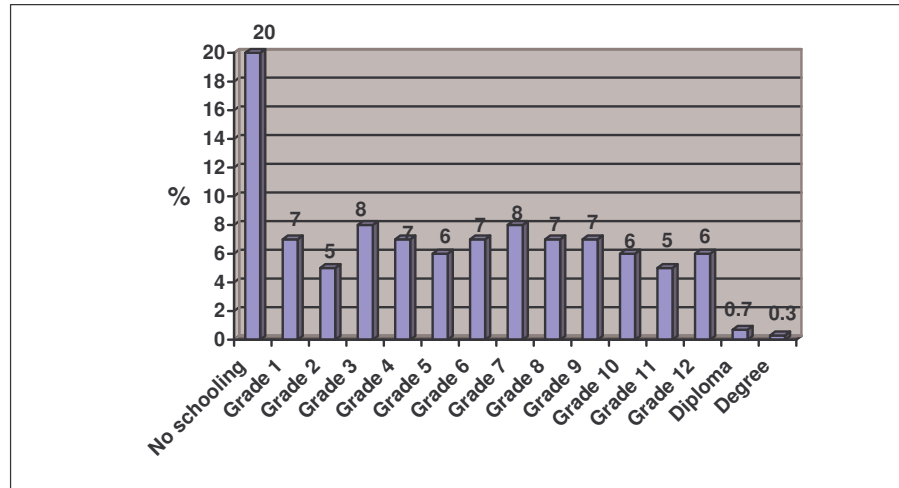
Source: StatsSA, 2001



### 3.3. EDUCATIONAL LEVELS

According to census 2001 information, 20% of the population have no form of schooling. People with high school qualifications, this being grade 8 to grade 12 make up 31% of the population. Tertiary education level was only reached by 1% of the population. There is a need for people to be encouraged to acquire some form of skill in order to sustain their livelihoods.

Graph 3: Educational Levels

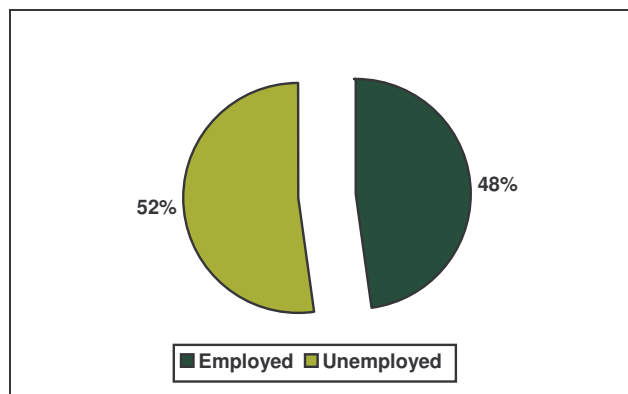


Source: Stats SA, 2001

### 3.4. EMPLOYMENT STATUS

The graph below highlights the employment status of the population surrounding Inanda Dam. There is not a vast difference between the employment ratios. 53% of the population is unemployed whilst 47% is employed. There are still a number of job opportunities that need to be created in the area and people need to be given skills to find themselves opportunities within the job market.

Graph 4: Employment Status

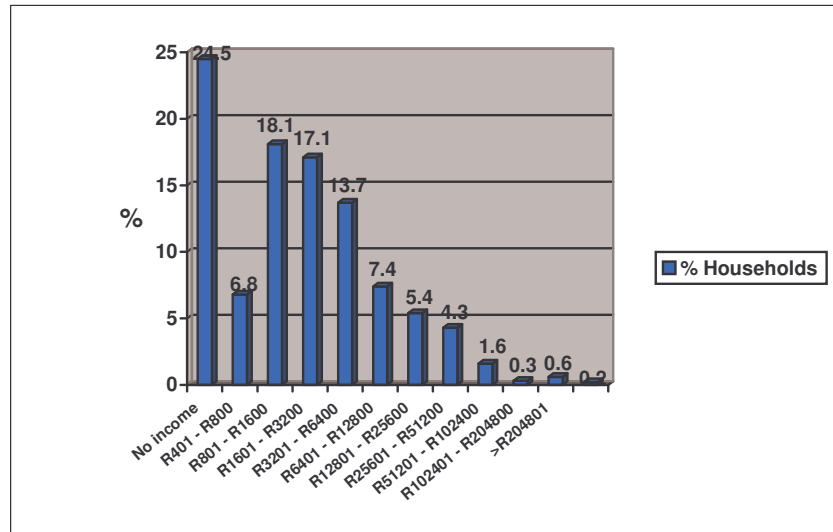


Source: Stats SA, 2001

### 3.5. MONTHLY HOUSEHOLD INCOME

Households with no income make up 24.5% of the community of the study area. Most people fall within low to high-income range. A very few people have access to high salaries.

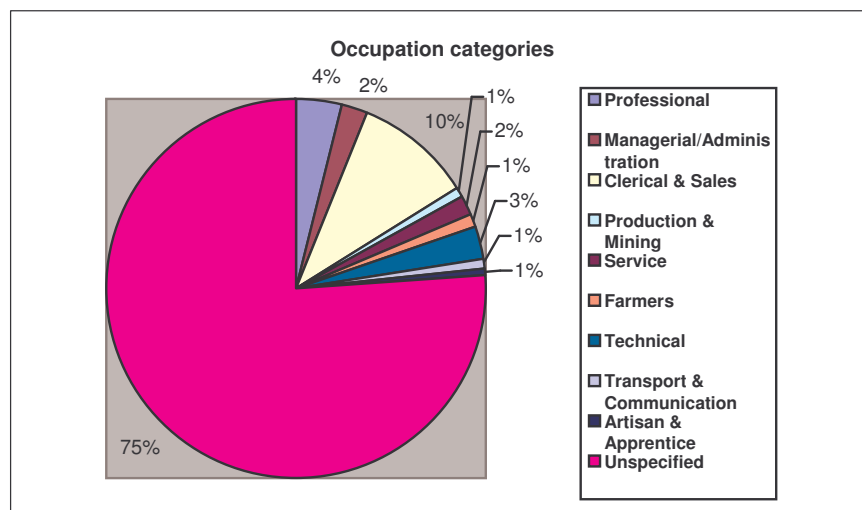
Graph 5: Monthly Household Income



Source: Stats SA, 2001

### 3.6. OCCUPATION TYPES

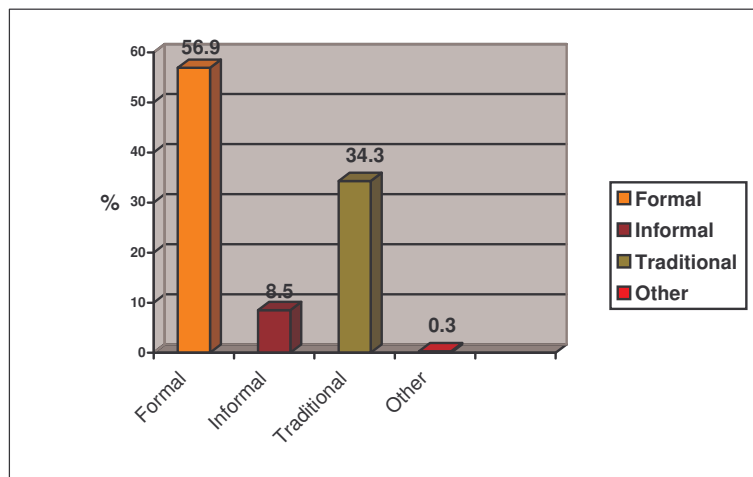
The graph above shows that most people fall within the unspecified group category for occupation type. They make up 75% of the population. Clerical & Sales make up 10%, which is the second highest occupation practised by the community. The category, which has the least number of people, is the category for artisan & apprentice. It only has 0.6% or 656 people that practice the skill within and around the Inanda Dam area.



### 3.7. TYPE OF HOUSING

Graph 2 identifies 56.9% of the population to be living in formal housing and 8.5% living in informal structures. Traditional houses make up 34.3% of the households. Very few houses are not any of the three previously mentioned structures.

Graph 7: Housing Typology



Source: StatsSA, 2001

### 3.8. SOCIAL FACILITIES

Wards 2,3,8 and 9 fall under semi-rural areas of the ethekwin Municipality. The study area has limited access to services and has unplanned arrangements. Facilities do exist around the dam but a few others are located at a distance from the dam.

- The **educational facilities** within the study area comprise of 13 primary schools and 7 high schools scattered evenly around the four wards.
- Inanda Dam surrounding areas have three **health facilities** for its residents. Ward 9 has one clinic (KwaNgcolosi Clinic) whilst ward 3 has two clinics namely, Hlengimpilo and Qadi clinics. There is no hospital servicing the community people have to attend Gandhi, which is the nearest hospital.
- There are two **pension pay points** located within ward 3 and one within ward 2.

### **3. PHYSICAL ENVIRONMENT**

The physical and spatial analysis of the Inanda dam area as it exist toady is best illustrated by the set of maps attached overleaf. These maps were extracted from available Geographic Information System data and is presented here as base information. A more detailed narrative will follow towards the end to the project after interragation and interactions of this information.

The current map set includes information regarding:

- Elevation
- Geology
- Clay Content
- Soil Depth
- Precipitation
- Vegetation
- Land Cover
- Land Use
- Vegetation Transformed
- Conservation Status
- DMOSS Areas

Apart from existing GIS data, physical observations of activities and facilities around the dam area also assist in identifying the key development issues related to the dam. A summary of some of these observations is presented by photos as attached.

### **4. THE WAY FORWARD**

This brief background information document serves a as starting point for engagements with various public and private roleplayers and aims to stimulate discussion around issues affecting sustainable utilisation and development around the Inanda dam area. This information does not represent the full volume of information available for this study area and will be constantly updated and expanded during the process to be published within the resulting development strategy.

All interested and affected parties are invited to peruse this information and assist in “ground truthing” it as well as participating in scheduled and advertised interaction sessions toward the joint formulation of a Precinct and Resource Management Plan for the Inanda dam.

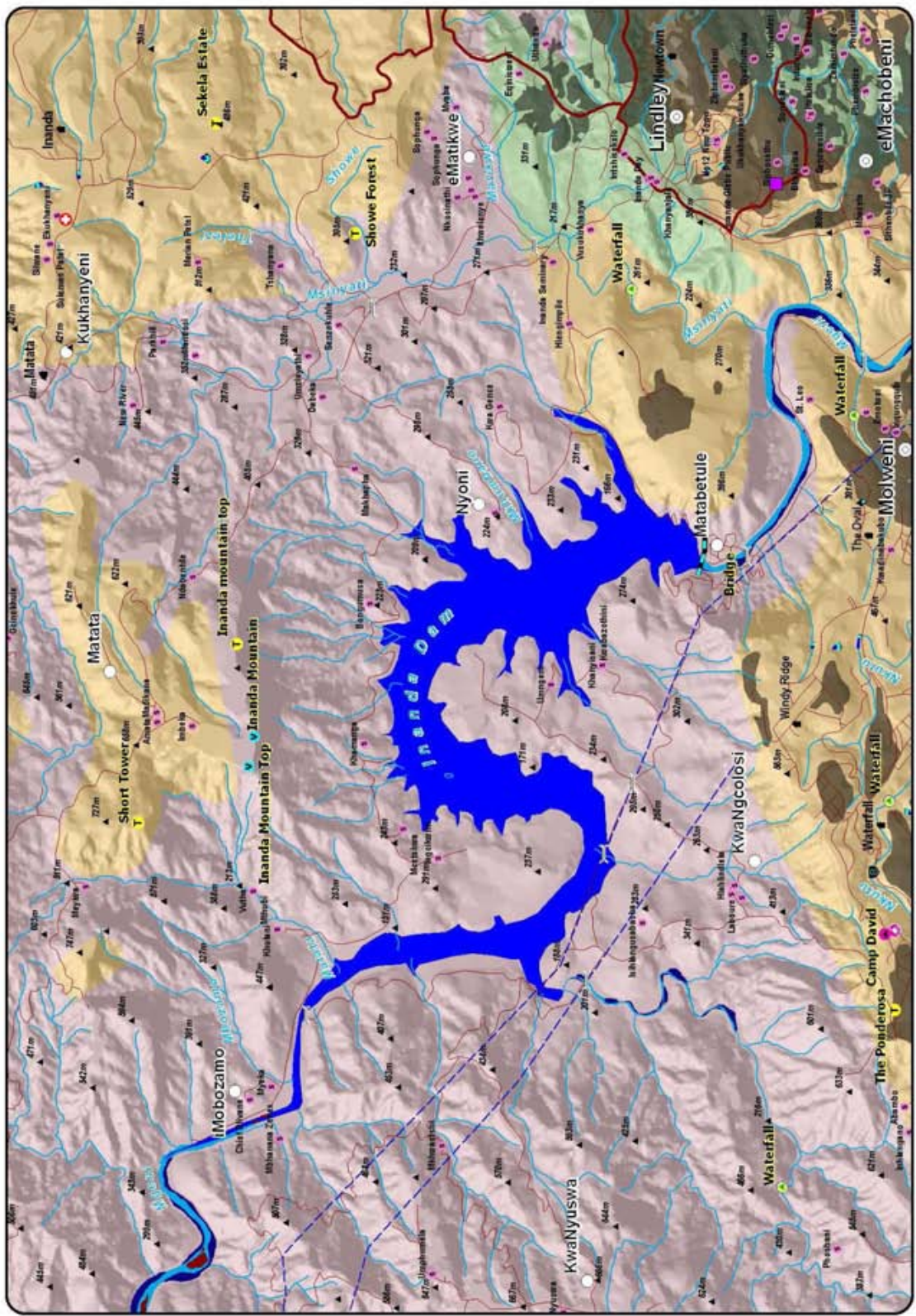






# Geology

|   |      |   |            |   |        |   |           |   |                 |   |                   |   |              |   |           |   |     |   |       |   |              |   |                    |   |        |   |                |   |              |   |           |   |        |   |           |   |       |   |        |   |          |   |       |   |          |   |                 |   |     |   |            |   |           |   |                 |   |                     |   |                  |   |           |
|---|------|---|------------|---|--------|---|-----------|---|-----------------|---|-------------------|---|--------------|---|-----------|---|-----|---|-------|---|--------------|---|--------------------|---|--------|---|----------------|---|--------------|---|-----------|---|--------|---|-----------|---|-------|---|--------|---|----------|---|-------|---|----------|---|-----------------|---|-----|---|------------|---|-----------|---|-----------------|---|---------------------|---|------------------|---|-----------|
| ○ | Town | ○ | Settlement | ○ | Clinic | ○ | Homestead | ○ | Natural feature | ○ | Place of interest | ○ | Sewage works | ○ | Viewpoint | ○ | Bar | ○ | Lodge | ○ | Shop/service | ○ | Specialist service | ○ | Bridge | ○ | River crossing | ○ | Spot heights | ○ | Homestead | ○ | School | ○ | Secondary | ○ | Other | ○ | Street | ○ | Dam wall | ○ | Canal | ○ | Pipeline | ○ | Perennial river | ○ | Dam | ○ | Flood bank | ○ | Perennial | ○ | Island in water | ○ | Urban: high density | ○ | Urban: open land | ○ | Cadastral |
|---|------|---|------------|---|--------|---|-----------|---|-----------------|---|-------------------|---|--------------|---|-----------|---|-----|---|-------|---|--------------|---|--------------------|---|--------|---|----------------|---|--------------|---|-----------|---|--------|---|-----------|---|-------|---|--------|---|----------|---|-------|---|----------|---|-----------------|---|-----|---|------------|---|-----------|---|-----------------|---|---------------------|---|------------------|---|-----------|



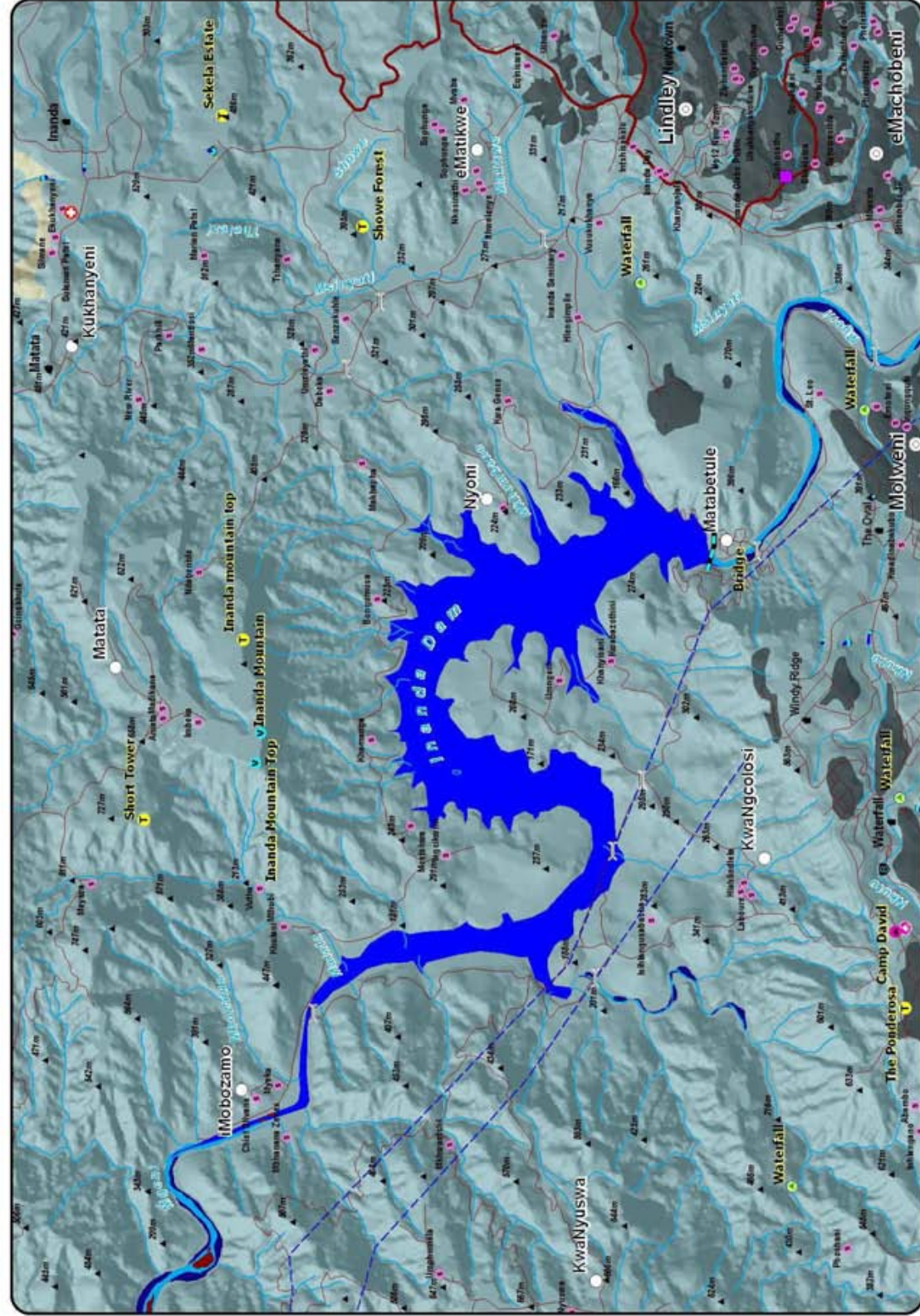
# Inanda Dam



water & forestry  
 KwaZulu Natal  
 REPUBLIC OF SOUTH AFRICA







# Soil

## Clay content

- Town
- Settlement
- Clinic
- Homestead
- Natural feature
- Place of interest
- Sewage works
- Viewpoint
- Bar
- Lodge
- Shop/service
- Specialist service
- Bridge
- River crossing
- Spot heights
- Homestead
- School
- Secondary
- Other
- Street
- Dam wall
- Canal
- Pipeline
- Perennial river
- Dam
- Flood bank
- Perennial
- Island in water
- Urban: high density
- Urban: open land
- Cadastral

Soil: Clay content

- 15% - 35%
- < 15%



water & forestry  
Water Affairs and Forestry  
REPUBLIC OF SOUTH AFRICA

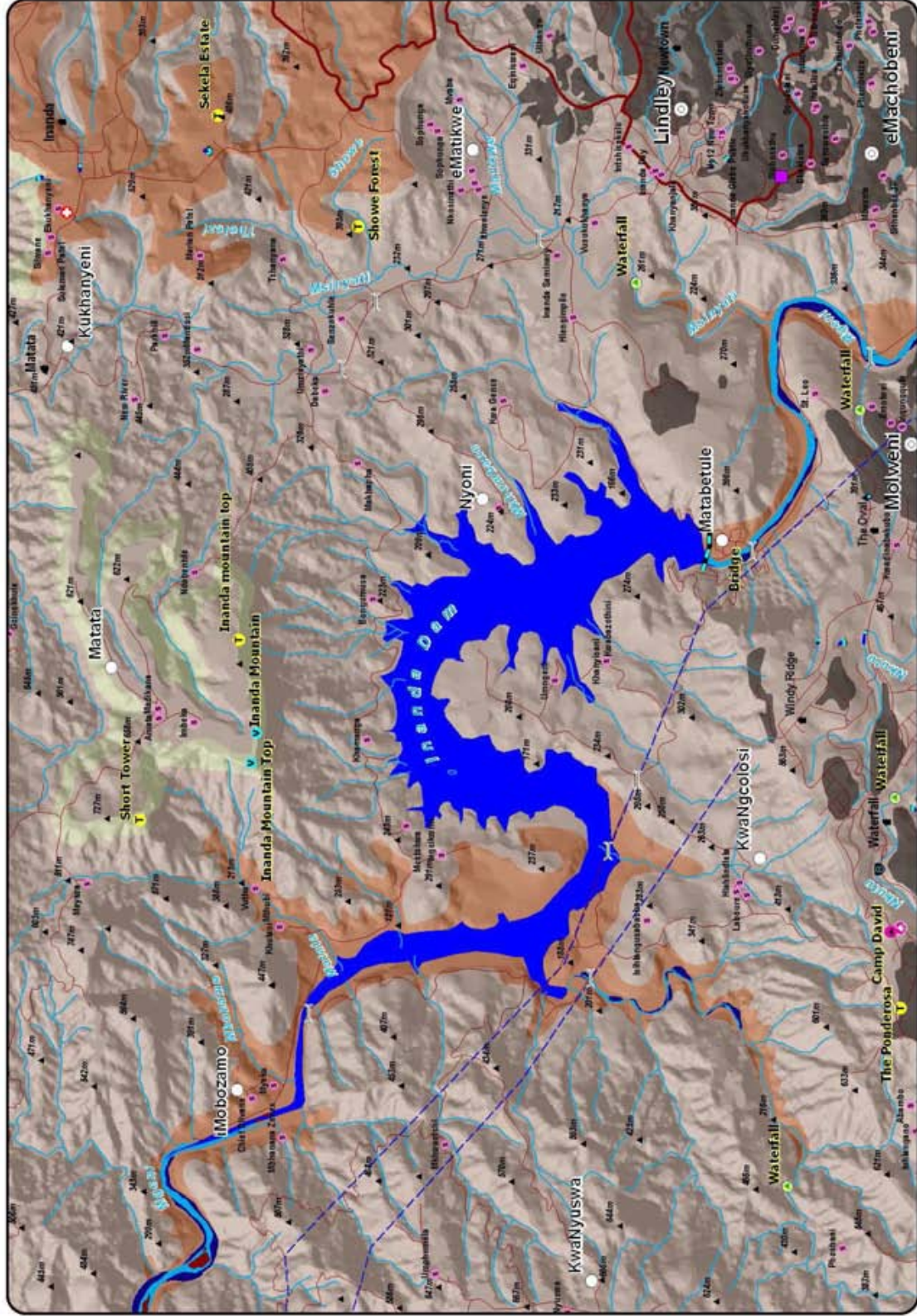


KwaZulu Natal  
Provincial Government

# Inanda Dam







# Soil Depth

|  |      |  |            |  |        |  |           |  |                 |  |                   |  |              |  |           |  |     |  |       |  |              |  |                    |  |        |  |                |  |              |  |           |  |        |  |           |  |       |  |        |  |          |  |       |  |          |  |                 |  |     |  |            |  |           |  |                 |  |                     |  |                  |  |           |
|--|------|--|------------|--|--------|--|-----------|--|-----------------|--|-------------------|--|--------------|--|-----------|--|-----|--|-------|--|--------------|--|--------------------|--|--------|--|----------------|--|--------------|--|-----------|--|--------|--|-----------|--|-------|--|--------|--|----------|--|-------|--|----------|--|-----------------|--|-----|--|------------|--|-----------|--|-----------------|--|---------------------|--|------------------|--|-----------|
|  | Town |  | Settlement |  | Clinic |  | Homestead |  | Natural feature |  | Place of interest |  | Sewage works |  | Viewpoint |  | Bar |  | Lodge |  | Shop/service |  | Specialist service |  | Bridge |  | River crossing |  | Spot heights |  | Homestead |  | School |  | Secondary |  | Other |  | Street |  | Dam wall |  | Canal |  | Pipeline |  | Perennial river |  | Dam |  | Flood bank |  | Perennial |  | Island in water |  | Urban: high density |  | Urban: open land |  | Cadastral |
|--|------|--|------------|--|--------|--|-----------|--|-----------------|--|-------------------|--|--------------|--|-----------|--|-----|--|-------|--|--------------|--|--------------------|--|--------|--|----------------|--|--------------|--|-----------|--|--------|--|-----------|--|-------|--|--------|--|----------|--|-------|--|----------|--|-----------------|--|-----|--|------------|--|-----------|--|-----------------|--|---------------------|--|------------------|--|-----------|

|  |             |  |               |
|--|-------------|--|---------------|
|  | Soil: Depth |  | >750mm        |
|  |             |  | 450mm - 750mm |
|  |             |  | < 450mm       |



# Inanda Dam



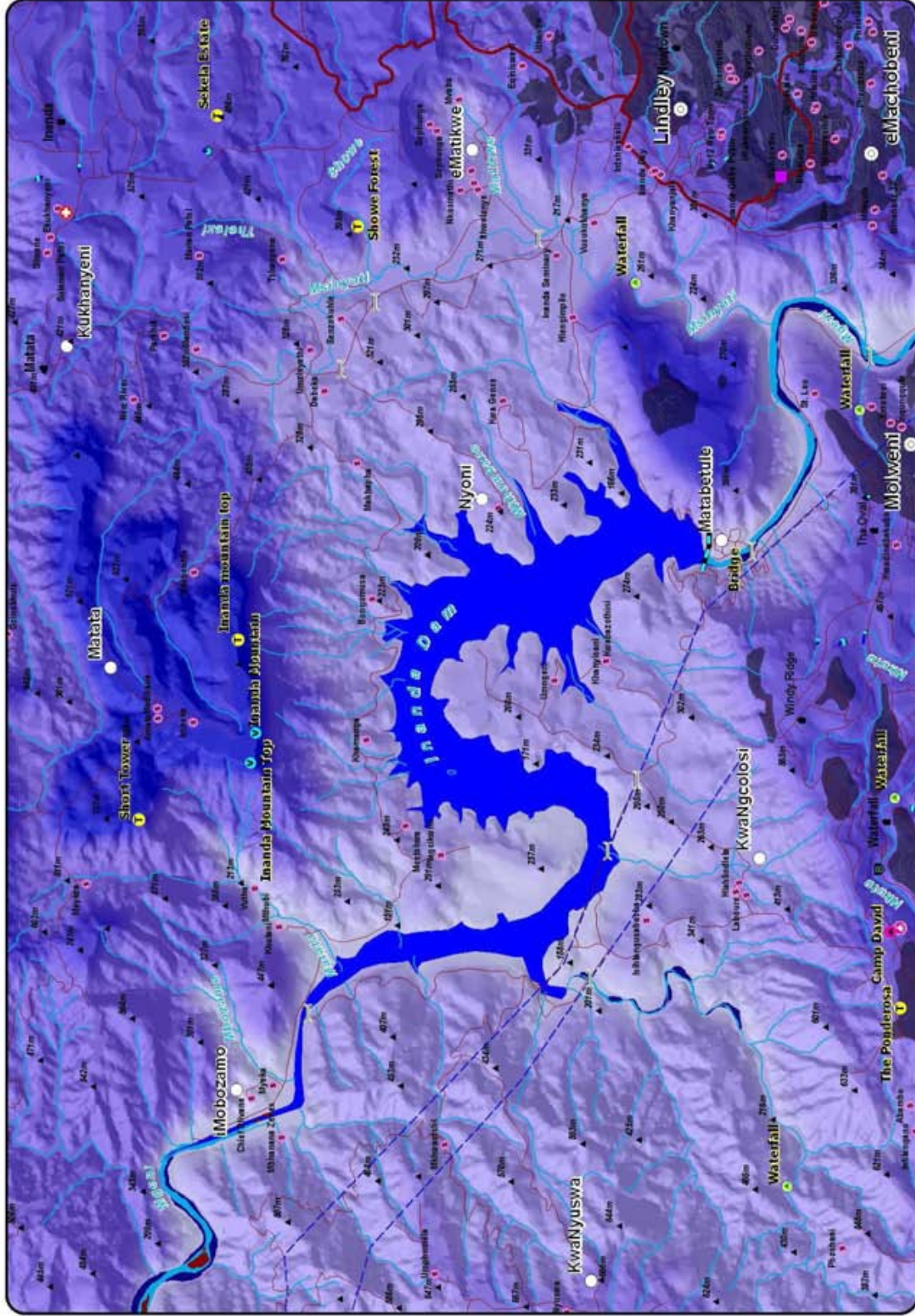
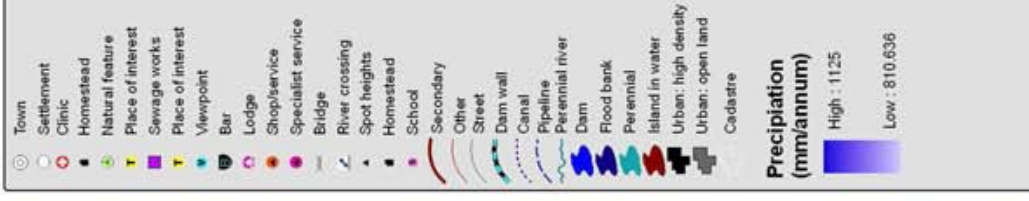
water & forestry  
Department of Water Affairs and Forestry  
REPUBLIC OF SOUTH AFRICA







# Precipitation (mm/annum)



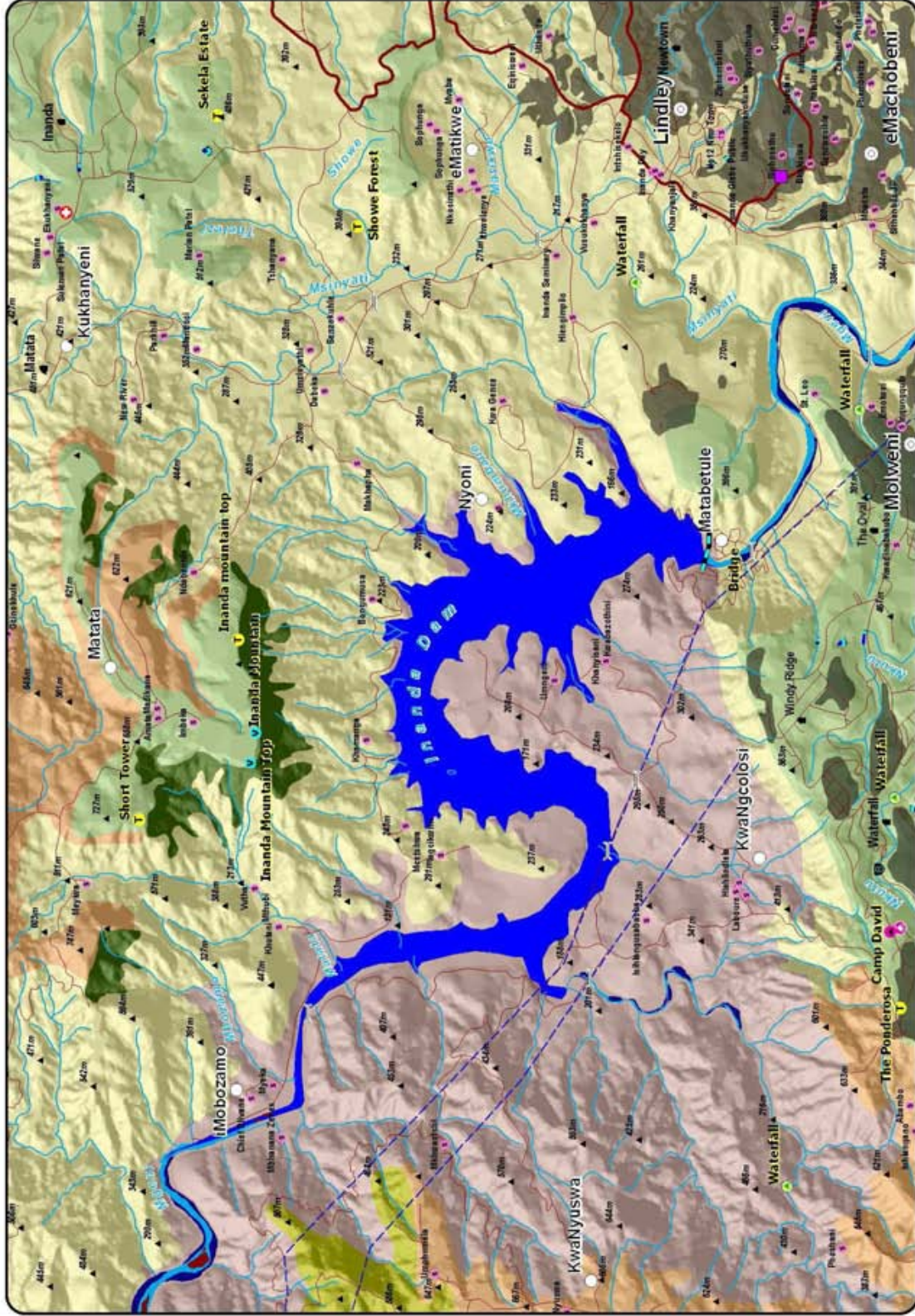
# Inanda Dam





# Vegetation

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>○ Town</li> <li>○ Settlement</li> <li>○ Clinic</li> <li>○ Homestead</li> <li>○ Natural feature</li> <li>○ Place of interest</li> <li>○ Sewage works</li> <li>○ Viewpoint</li> <li>○ Bar</li> <li>○ Lodge</li> <li>○ Shop/service</li> <li>○ Specialist service</li> <li>○ Bridge</li> <li>○ River crossing</li> <li>○ Spot heights</li> <li>○ Homestead</li> <li>○ School</li> <li>○ Secondary</li> <li>○ Other</li> <li>○ Street</li> <li>○ Dam wall</li> <li>○ Canal</li> <li>○ Pipeline</li> <li>○ Perennial river</li> <li>○ Dam</li> <li>○ Flood bank</li> <li>○ Perennial</li> <li>○ Island in water</li> <li>○ Urban: high density</li> <li>○ Urban: open land</li> <li>○ Cadastral</li> </ul> | <ul style="list-style-type: none"> <li>Vegetation</li> <li>Eastern Valley Bushveld</li> <li>KwaZulu-Natal Coastal Belt</li> <li>KwaZulu-Natal Sandstone Coastal Sourveld</li> <li>Natal Hinterland Thornveld</li> <li>Ngongoni Veld</li> <li>Scarp Forest</li> </ul> |
|--|--|

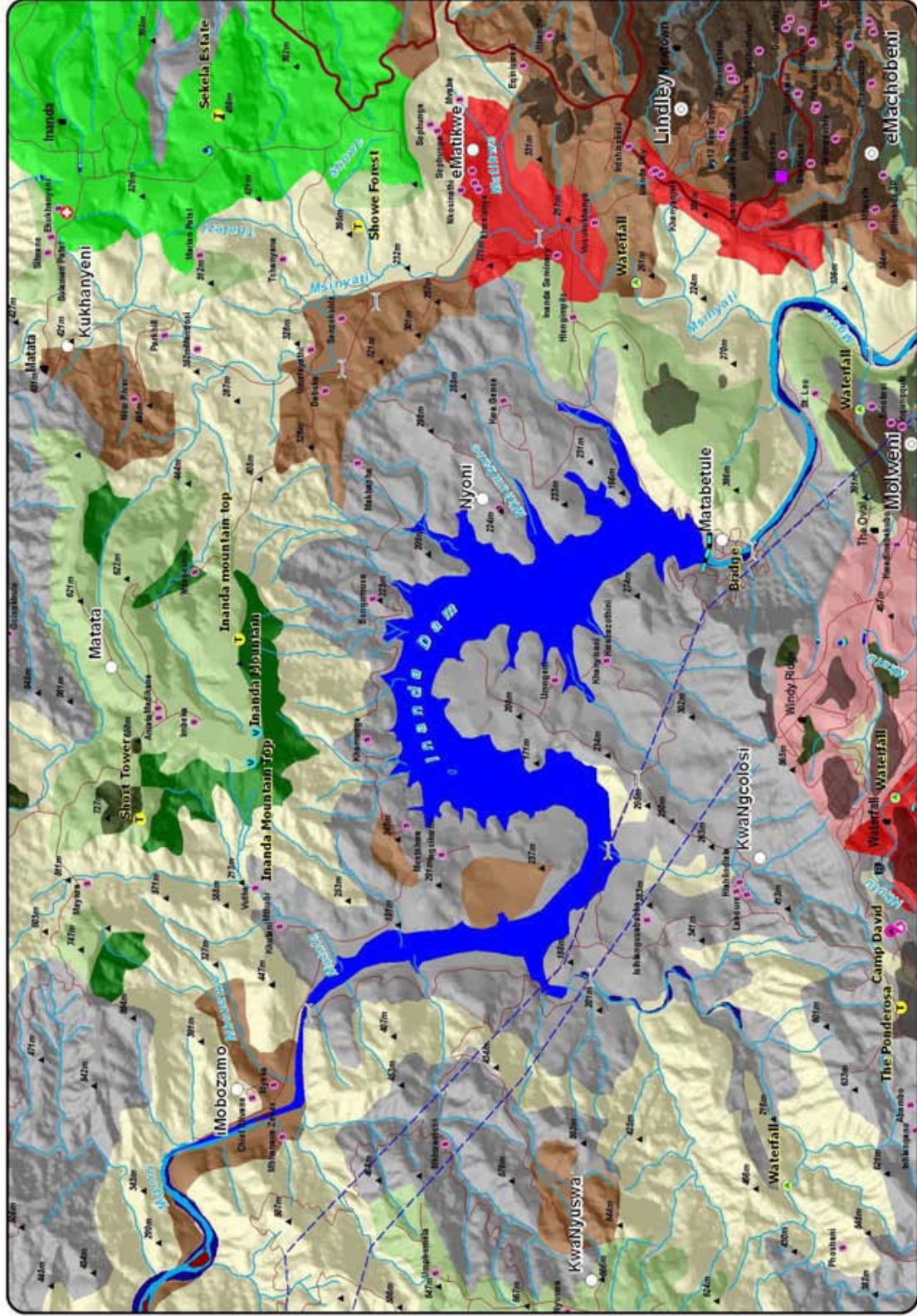
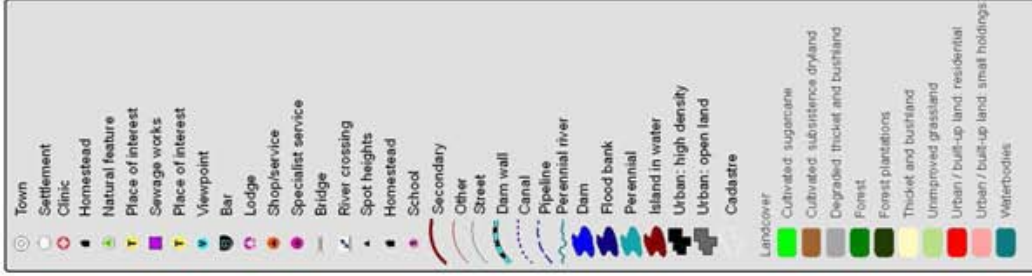


# Inanda Dam





# Land Cover



# Inanda Dam



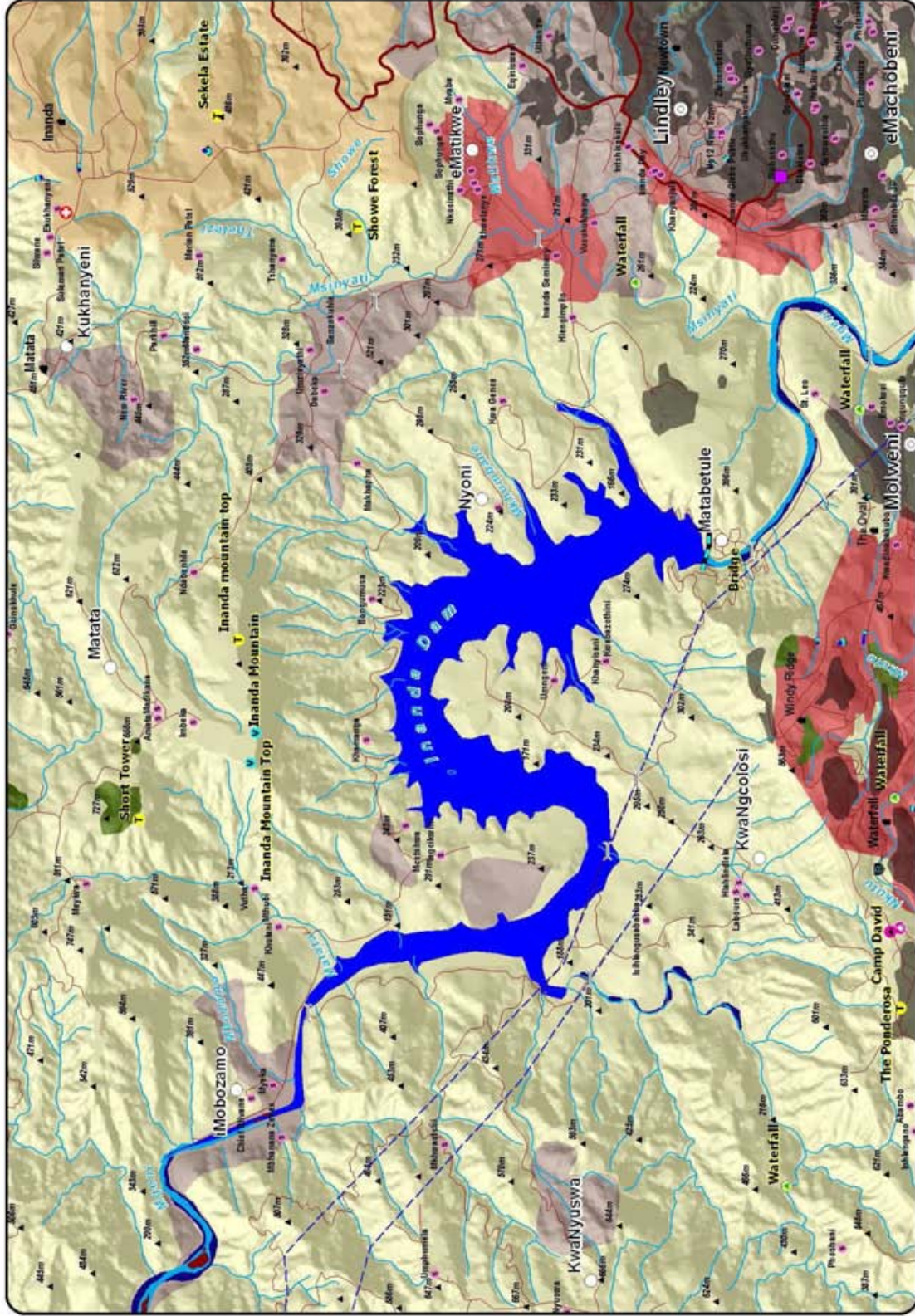
water & forestry  
Department of Water and Forestry  
REPUBLIC OF SOUTH AFRICA





# Land Use

|  |                     |  |                        |
|--|---------------------|--|------------------------|
|  | Town                |  | Commercial agriculture |
|  | Settlement          |  | Conservation           |
|  | Clinic              |  | Forestry               |
|  | Homestead           |  | Residential            |
|  | Natural feature     |  | Subsistence farming    |
|  | Place of interest   |  | Vacant/unspecified     |
|  | Sewage works        |  |                        |
|  | Viewpoint           |  |                        |
|  | Bar                 |  |                        |
|  | Lodge               |  |                        |
|  | Shop/service        |  |                        |
|  | Specialist service  |  |                        |
|  | Bridge              |  |                        |
|  | River crossing      |  |                        |
|  | Spot heights        |  |                        |
|  | Homestead           |  |                        |
|  | School              |  |                        |
|  | Secondary           |  |                        |
|  | Other               |  |                        |
|  | Street              |  |                        |
|  | Dam wall            |  |                        |
|  | Canal               |  |                        |
|  | Perennial river     |  |                        |
|  | Dam                 |  |                        |
|  | Flood bank          |  |                        |
|  | Perennial           |  |                        |
|  | Island in water     |  |                        |
|  | Urban: high density |  |                        |
|  | Urban: open land    |  |                        |
|  | Cadastral           |  |                        |



# Inanda Dam



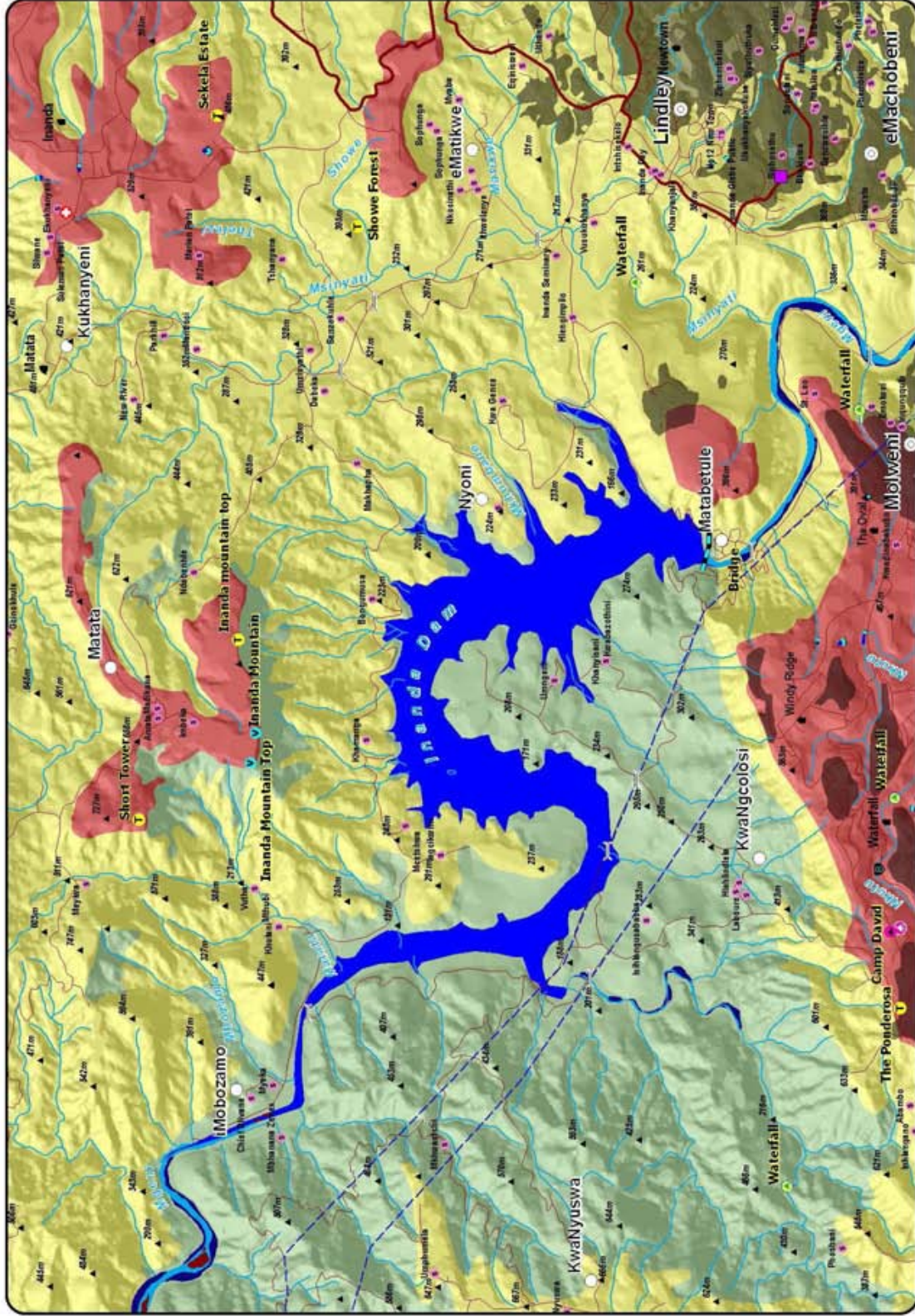
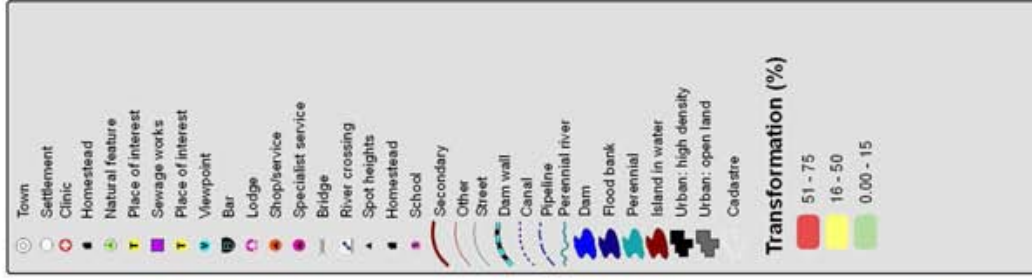
water & forestry  
KwaZulu-Natal  
REPUBLIC OF SOUTH AFRICA





# Vegetation

% Transformed



# Inanda Dam



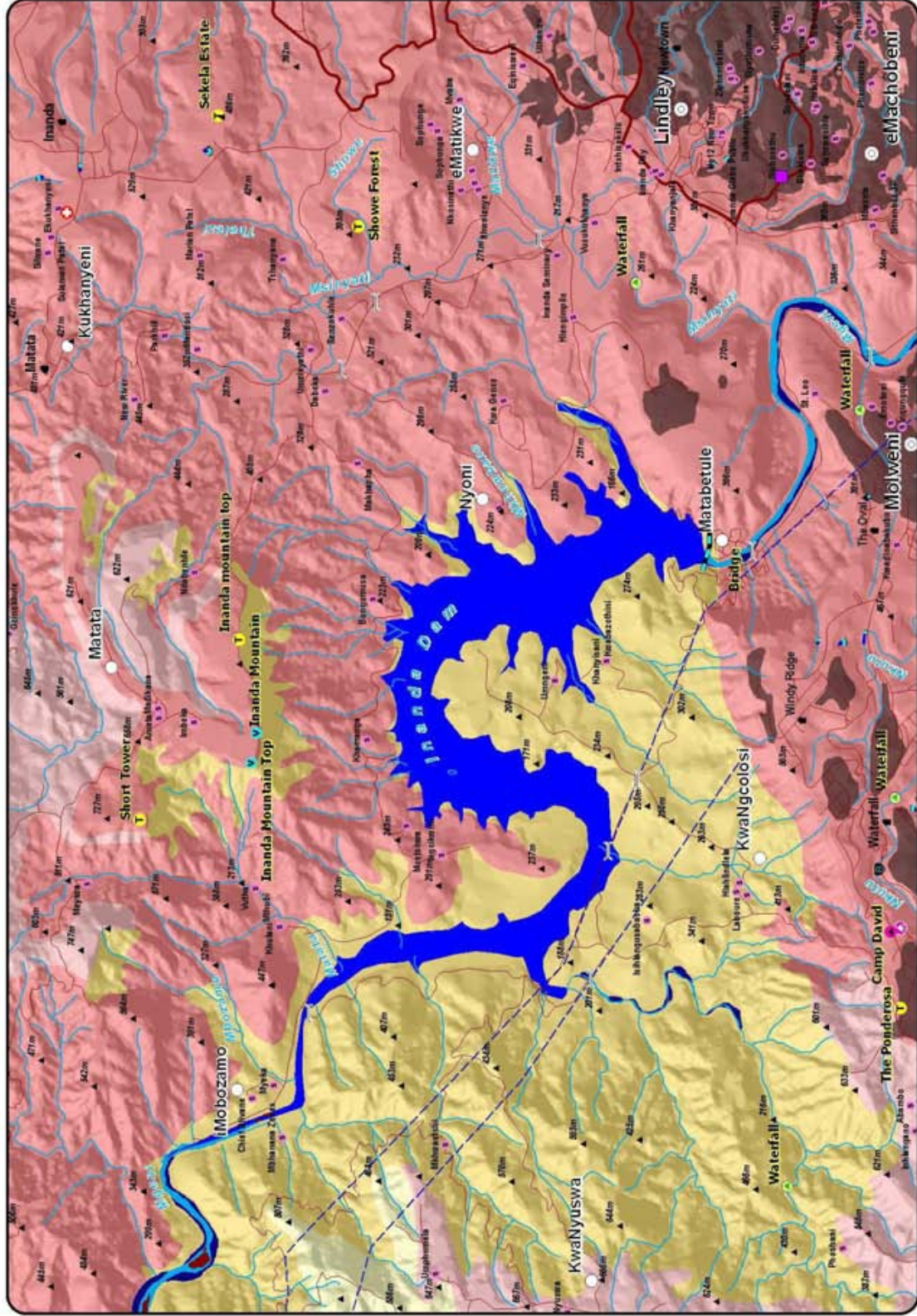
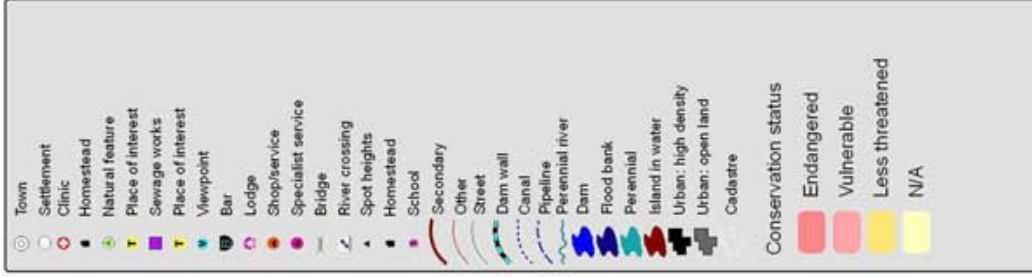
water & forestry  
KwaZulu Natal  
REPUBLIC OF SOUTH AFRICA







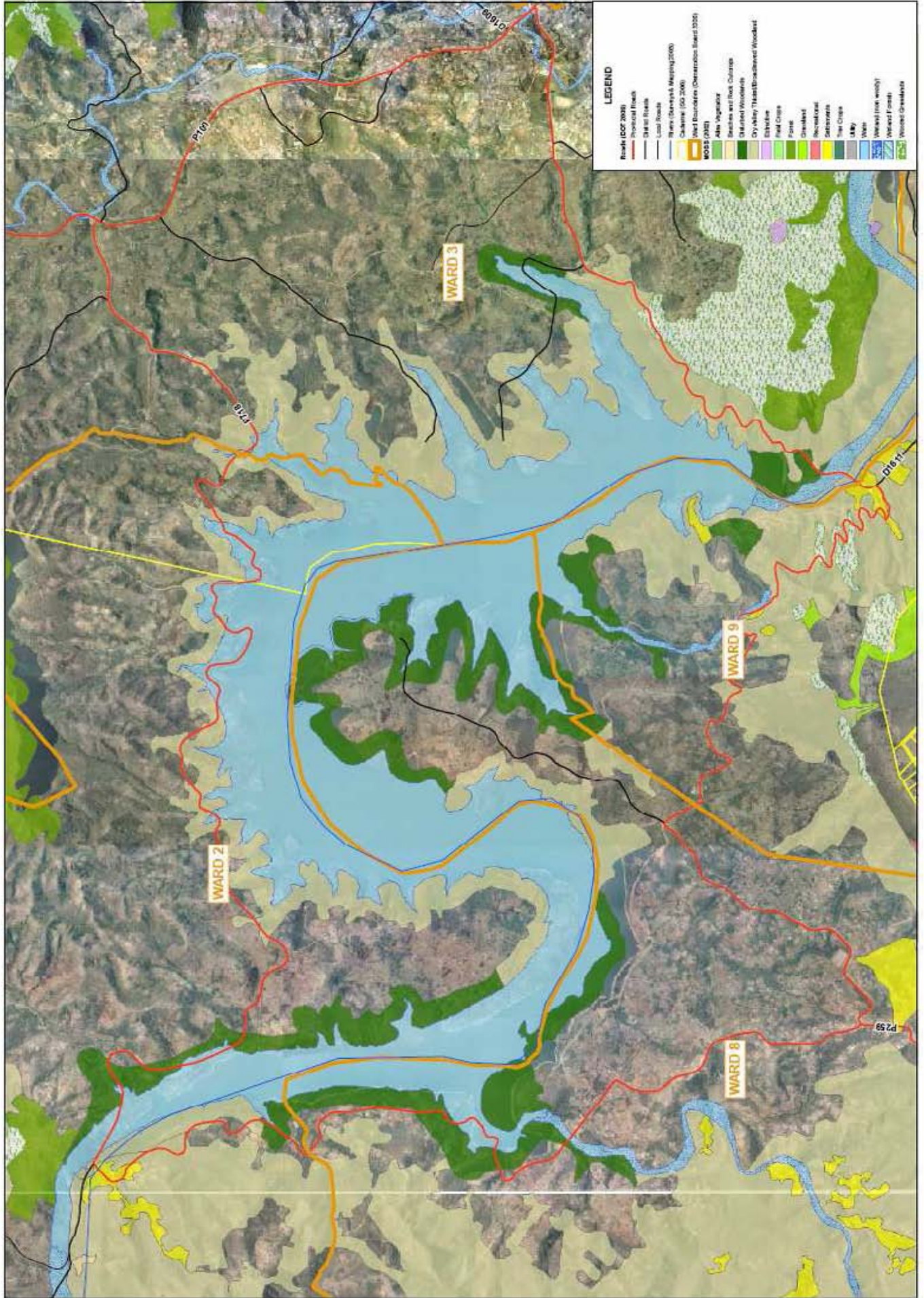
# Conservation Status



water & forestry  
 Department of Water Affairs and Forestry  
 REPUBLIC OF SOUTH AFRICA

# Inanda Dam





**LEGEND**

- Reservoir (DCP 2008)
- Provincial Road
- Distal Roads
- Local Roads
- Rivers (Streets & Mapping 2008)
- Caltrans (SO 2008)
- Ward Boundaries (Chenieres Forests 2005)
- MOSS (2002)
- Alley Vegetation
- Shrublands and Rock Outcrops
- Disturbed Woodlands
- Dry Valley Thicket/Scrubland Woodland
- Shrubland
- Field Crops
- Pasture
- Grassland
- Recreational
- Suburban
- Tree Crops
- Urban
- Water
- Wetland (from wetland)
- Wetland Forest
- Wetland Grasslands



## SUMMARY OF PHOTOGRAPHIC OBSERVATIONS

This area is infested with alien vegetation such as *Lantana camara*, *Chromolaena odorata*. The initial project eradication, which would benefit the community through job creation. (29 41 52.5 S, 30 51 56.4 E)



(29 41 48.2 S, 30 51 52.8 E) - Quarry site, which was viewed to be ideal for farming.

29 41 36.8 S, 30 51 24.4 E - Dam inlet next to a school, a rowing course for the school children was suggested.



29 41 25.2 S, 30 51 27.7 E - Access road used as an unofficial slipway.



29 41 31.3 S, 30 50 55.6 E - A strip of cultivated land



A cut-line next to Msinsi reserve it seems as if a new fence is to be put up.

29 40 52.3 S, 30 51 04.8 E - A dam inflow next to an agricultural area where the locals do subsistence fishing.



29 40 48.6 S, 30 51 04.8 E - An inflow next to an agricultural site.



29 40 48.6 S, 30 51 17.7 E - A small beach before Umsinsi Nature Reserve where the Nguni cattle drink from the dam.



Umsinsi Game Reserve fence runs into the dam, the issues of authorization should be established with DWAF.






29 40 48.3 S, 30 51 27.3 E - Umsinsi boats launch area, few bank erosion problems. Few problems were identified with regards to zoning for the boating and non-boating areas.



29 40 14.9 S, 30 50 49.1 E - High nutrient loads were evident in the water as indicated by the presence of blue green algae in the water around this region.





|   |  |
|---|--|
| <p>29 40 21.4 S, 30 50 49.1 E - An agricultural area with yams and mango trees.</p>   |  |
| <p>29 40 51.5 S, 30 50 34.3 E - Agricultural land used for commercial farming by eThekwini co-operative. The area can be used to grow high value crops such as oils that will benefit the cooperation.</p>  |    |
| <p>29 41 09.1 S, 30 50 16.3 E - A site identified as a high value bay.</p>  |   |
| <p>29 41' 42.9" S, 30 49' 49.2" E - A site next to Umgeni sample point 53, identified to be ideal for development. The access road is close to the dam, which makes it more attractive for development.</p> |  |
| <p>A small Island resort with a fence running into the dam.</p>   |  |



|   |  |
|---|--|
| <p>A small bridge at the river inflow and an access road on the side.</p>   |    |
| <p>Pump Station implementation identified as one of the initiatives to be proposed for the project.</p>   |  |
| <p>29 39' 45.3" S, 30 48' 30.8" E - Presence of alien weed on the river bank (Water hyacinth (<i>Eichornia crassipes</i>))</p>  |  |
| <p>29 39' 30.0" S, 30 48' 25.4" E - Access point to the dam, this site can be used as access for fishing activities.</p>  |   |
| <p>29 39' 05.3" S, 30 48' 08.5" E - Inanda dam at Umgeni River inflow at the bridge. This area was covered with alien weeds (Water hyacinth (<i>Eichornia crassipes</i>))</p> |  |



|  |   |
|--|---|
| <p>29 39' 31.1" S, 30 48 33.9" E - Cattle (Nguni) drinking area, arrangements should be made with the local community to allow for this activity to proceed.</p>   |   |
| <p>29 40' 32.0" S, 30 48' 47.0" E - A peninsula with a potential for development as a fishing zone. Low population density around the area.</p>                    |   |
| <p>29 41' 05.2" S, 30 48' 59.6" E - Agricultural area.</p>   |   |
| <p>29 40' 53.6" S, 30 49' 45.5" E - An area identified to have a potential for development.</p>  |   |
| <p>29 40' 53.6" S, 30 49' 51.7" E - Development potential as a bay.</p>  |  |
| <p>29 40' 21.4" S, 30 49' 56.2" E - Crystals clear waters next to two schools the area was sited as a potential site for rowing classes for the school pupils.</p> |   |
| <p>29 40 16.6" S, 30 49 55.1" E - The bushes on the banks had been cleared; it seemed like some form of development was going to take place.</p>                   |   |
| <p>29 39' 51.7" S, 30 50' 21.5" E - Agricultural land used for subsistence farming.</p>  |   |