BID Data Use Workshop - Use Case 1

Conservation of a non-timber forest product species

This is a use case story developed to be used as a base for practical exercises in thesecond capacity enhancement workshop on biodiversity data use within the Biodiversity Information for Development (BID) programme.

Please note that this use case is based on a fictitious story built for instructional purposes.

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Image of the fynbos by Joachim Huber, CC BY-SA 2.0, Obtained via [Wikimedia Commons](https://commons.wikimedia.org/w/index.php?curid=22485566)

## Description of the use case

*Truffula seussica* Geisel is a tree species that is endemic to South Africa and of economic importance because its fruits are used as a food source and in the production of oils used in cosmetics. Fruit production for this species occurs after their third year and continues for another 40 years.

The fruits of the Truffula are the main source of income for several communities living close to populations of this species. There is circumstantial evidence that the harvesting methods of the highly prized Truffula fruit have a direct impact on the regeneration of the species where it occurs.

A commercial company has recently undertaken a feasibility study which has highlighted that there is a growing market for cosmetics containing the oils of the Truffula fruit. This is attracting media attention. There is currently no species management plan for this important tree.

In South Africa, Truffula occurs naturally in fynbos habitat where it has been recorded by various botany enthusiasts, although its exact distribution within the fynbos is unknown and has become rare in those areas where it was found. The population is divided into two subpopulations: one in the northern part of its range and another in the south. Historically the species was quite common. However, over the last 100 years it has disappeared from many areas across its range resulting in a catastrophic decline in the global population.

Many parts of the fynbos are remote which makes access difficult and so it is difficult to estimate population size with any accuracy. However, it is likely that the population size has undergone a reduction of at least 80-90% over the last 55 years, based on evidence from local communities living close to the species. There are no population data available to be able to estimate the rate of reduction over the last 10 years alone.

The fynbos habitat has been modified due to the suitability of the land for commercial agriculture. Urban development is also adding to the pressure on the area as demand for housing in the nearest city is increasing.

With recent droughts in South Africa there is concern about the persistence of the species in its native range in the face of climate change.

An international organisation has a small grant fund available for conservation projects in the fynbos, which places emphasis on projects that benefit both people and conservation. They are encouraging research institutes and universities, conservation agencies, non government organisations and community based organisations to apply for these grants.

The Ministry of Environment has an overall responsibility to protect and manage the environment and natural resources for socio-economic development. The local authority is in the process of revising their spatial development plan for the next five years. The areas important for Truffula need to be considered in order to conserve this tree and secure the livelihoods of the communities that depend on this species.

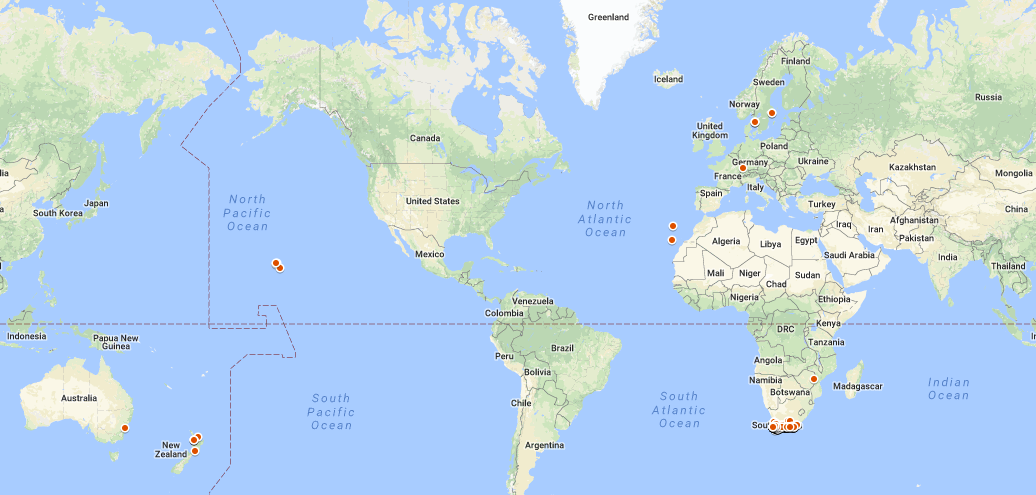
## Data collection

A dataset was obtained by doing searching on the [www.gbif.org](http://www.gbif.org) portal for the species *Truffula seussica*. Occurrence data were then filtered for those including coordinates. Citation:

GBIF.org (22 March 2018) GBIF Occurrence Download https://doi.org/10.15468/dl.k61alp

## Dataset description

280 results were obtained for the search. Data points are in red below.



# Exercise 1 - Identifying policy entry points

**This is a two part exercise**  
In this first part,. discuss and agree the problem, your approach and your desired impact, and describe them. Feel free to use the post-its and flip charts to develop your thinking, then nominate someone to type it up in the table in Exercise Sheet 1.

Policy entry points are opportunities to intervene. Whilst they are likely to reside predominantly in Government, there are often private sector entry points that can achieve significant impact as well. Sometimes entry points will be at the nexus of Government and private sector, and working with both groups can achieve enhanced impact.

In your groups, review the case study, discuss, agree, and list all of the entry points. Each entry point will have a primary gatekeeper or owner. For example, Ministries will “own” Government policies and plans, and companies will “own” commercial strategies.

Now review your entry points and mark each one against the following criteria to give a sense of which might be the highest priority:

* High profile today
* Future-relevant
* Magnitude of likely outcomes
* Tractable
* Urgency
* Learning and institution-building
* Critical path

# Exercise 2 - Stakeholder prioritization

In the previous exercise you have identified from the Use Case:

* Your desired impact
* Your key policy entry points

In this exercise, you will use information from the previous exercise and all the information available to you in the *Truffula* use case to **identify the stakeholders relevant to influencing your key policy entry points.**

1. Read through the *Truffula* use case and entry points from Exercise 1
2. Identify and list the stakeholders relevant to influencing your key policy entry points
3. Identify any missing stakeholders in the use case that you should engage
4. Discuss in your group 1-3 main reasons for identifying each stakeholder. Appoint a member of your group to write the reasons down on post-it notes
5. Complete the stakeholder mapping matrix on your table and select an individual from your group to report back
6. Group report back and discussion

# Exercise 3 - Data cleaning

We have given you the results of a GBIF search for Truffula trees (*Truffula seussica*), an economically-important tree endemic to South Africa. In pairs or groups of three, you will clean the dataset using some basic techniques. You have been provided with a step-by-step guide to this exercise.

# Exercise 4 - GIS-based data cleaning

In this exercise, you will take further steps to clean the *Truffula seussica* dataset you began cleaning in Excel. You have been provided with a step-by-step guide to this exercise.

# Exercise 5 - Calibrating an ecological niche model - training regions

In this exercise, you will get started on some basic environmental data processing for use in ecological niche modeling. By the end, you’ll have a set of environmental data layers that are ready to use for modeling the niche of *Truffula seussica*. You have been provided with a step-by-step guide to this exercise.

# Exercise 6 - Running an ecological niche model

Using the occurrence records you cleaned and the environmental dataset you have created, you will run Maxent to create an ecological niche model.You have been provided with a step-by-step guide to this exercise.

# Exercise 7 - Thresholding an ecological niche model

In this exercise, you will process results from Exercise 6 to produce a map of *Truffula seussica* suitable habitat. You have been provided with a step-by-step guide to this exercise.

# Exercise 8 - Inferring future distribution under climate change

In this exercise, you will infer a second niche model and project it into future climatic conditions. You will then process the results to create a map of future potentially suitable habitat for *Truffula seussica*. You have been provided with a step-by-step guide to this exercise.

# Exercise 9 - Red listing terms and concepts

# In this exercise, you will use all the information available to you in the use case, in the occurrence dataset and the ecological niche model to apply some of the key terms and concepts within the red listing process to the example of *Truffula seussica.*

# Work in groups of 2-3 people.

# You have 30 minutes to answer the five questions in the use case exercise sheet.

# Discuss the questions within your group.

# Use all of the resources available to you: the Red List Guidelines are particularly useful for this exercise

# Note down your reasoning for each answer on the exercise sheet

# Exercise 10 - Application of the IUCN Categories and Criteria

# In this exercise, you will apply each of the IUCN Red List Criteria to the example of *Truffula seussica.* At the end of the exercise you will be expected to make a final assessment of this species and assign it an IUCN Red List Category.

# Read through the use case provided again

# As a group, discuss the use case and assess the species using **each of the individual criteria.**

* Fill in the exercise sheet with your assessment and the justification for your assessment of the species.

# Make full use of the resources available to help you, including your mentors and the Red List Guidelines. Other tools that may be helpful include:

* + Criterion A Workbook
  + Generation Length Calculation Tool
  + [Geospatial Conservation Assessment Tool - GeoCAT - www.geocat.kew.org](http://geocat.kew.org/)

### Exercise 11 - Developing a mainstreaming plan

In this exercise, you will use information from all the previous exercises and all the information available to you in the *Truffula* use case to **develop a simple but realistic communication plan.**

Please note that in the next exercise you will be asked to pitch your key messages.

In your groups, discuss the following in relation to each of your stakeholders for your chosen policy entry point:

1. Why you want to communicate with them? i.e. your communication objective(s)
2. What message do you want to communicate with them?
3. What approaches will you use to communicate? i.e. push or pull
4. How will you communicate or present your message? i.e. types of communication activities and channels
5. What do you want to achieve by communicating the message? i.e. your desired outcome.
6. When in the process will you communicate with them?
7. Where might you communicate with them (e.g. specific opportunities/events)?
8. Indicate success criteria
9. Complete the communication plan matrix with your results
10. Select an individual from your team to report back

# Exercise 12 - Dragon’s Den

In your group, review the case study and all of the information you have gathered and generated over the last week. You have already described the problem, the approach and the desired impact. You know the entry points and the key stakeholders, and you have some insight into the influence those stakeholders hold and what they think about biodiversity. You have developed a communication plan, and you are equipped with a number of communication tools.

Your task is to synthesise all of this information into a succinct and convincing pitch to fund your approach and develop your information product. But you are not only pitching your own ideas, you are also scrutinising another group’s pitch, and you need to be prepared to ask some challenging questions. This might also help you to think about what the Minister will ask you when you make your pitch.

Find a group whose first language is the same as yours and pair up. Each pair of groups will take centre stage in front of the other same language groups, taking turns to make a pitch and act as Minister. There will be **five** minutes for the pitch, **two** minutes for follow-up questions by the Minister and then a further couple of minutes for plenary reflections on the pitch - what went well, what points could have been made more strongly, was the language appropriate etc.