

SEED SOURCING

NAME:

COURSE:

DATE:

THEME: SEED AND PLANT PRODUCTION AREAS & GENETIC ISSUES (SEED SOURCING)

TUTORIAL SETTING RECOMMENDED

GENETICS AND FRAGMENTATION

To complete this worksheet, learners are asked to watch a subset of the videos on the theme 'Seed Sourcing' (particularly the two regenTV videos by Linda Broadhurst) – and also select a real life restoration site (or potential restoration site) near you as case study. The site should be close to at least one small remnant in the process of being restored.

Revegetation projects are often conducted to link two remnants of a similar community type. Practitioners will need to work out from where they should collect seed. For example should the seed be collected from the small remnant or should the collection also include seed from further afield?

ACTIVITY 1.

Select a species likely to be important at your case study site to discuss each of the following questions and its relevance to appropriate seed sourcing.

1A:

How far does the 'local' provenance extend for that species?

1B:

How many individuals of the particular species occur in the remnant? What is the implication if there is less than 100 parent plants in the population?

1C:

What is the pollination method of the species? What are the implications of this to genetic diversity and seed sourcing for restoration?

1D:

Is the species likely to be stored in the soil? What are the implications of this to genetic diversity and seed sourcing for restoration?

*SEED SOURCING***NAME:****COURSE:****DATE:****ACTIVITY 2**

Select up to three species from each stratum at your site and complete Table 1 by ;

- Counting the numbers of individuals present;
- Identifying the means by which genes are naturally dispersed for the species;
- Discussing the implications for genetic diversity and potential solutions if diversity is under pressure.

Table 1: Template for analysing seed sourcing needs of species at a case study site

SPECIES	NUMBER ON SITE	CURRENT MEANS OF GENE FLOW	IMPLICATIONS FOR SEED SOURCING
Tree stratum			
Shrub stratum			
Ground stratum			

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ADDING THE PROBLEM OF CLIMATE CHANGE

Genetic diversity is under pressure in all fragmented landscapes – but is more threatened under climate change. To assist adaptation to climate change, geneticists propose revegetation projects adopt a provenancing strategy that includes some genetic material from ‘future climate’ areas.

ACTIVITY 3.

Discuss the pros and cons of the four provenancing strategies for revegetation featured in [Appendix 3 of the National Standards](#).

ACTIVITY 4

4A:

Using the web-based tools listed in the [National Standards-Appendix 3](#), and explained in the regenTV video presented by Trevor Booth, identify whether one of the important tree species in a site’s reference ecosystem will still be suited to climates predicted to occur at your site under one climate scenario.

4B:

If your species is likely to still suit future climates – identify the locations from which you might collect seed, in proportions corresponding to a composite or climate adjusted provenance strategy.

4C:

How would you document the strategy and sources of seed used and make this available to future managers?