Native Vegetation Change Detection Program

Native Vegetation Council Information Sheet No.25

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BACKGROUND

Clearance of native vegetation has significantly contributed to biodiversity decline, land degradation and loss of ecosystems in South Australia. Less than 20 percent of indigenous vegetation remains in most agricultural areas, with some regions reporting figures of less than 12 percent. Vegetation clearance across the State has contributed to 25 percent of all recorded plants and animals being considered as threatened and about 65 percent (2.8 million hectares) of native vegetation in rural agricultural regions remains at risk.

Native vegetation in South Australia is protected by the *Native Vegetation Act 1991* (the Act) and the *Native Vegetation Regulations 2003* (the Regulations). The Native Vegetation Council (NVC) is an independent body appointed under the Act with the responsibility for making decisions about a wide range of matters concerning native vegetation protection and management in South Australia.

One of the functions of the NVC is '**to keep the condition of the native vegetation of the State under review**'. To do this, the NVC has introduced a **native vegetation change detection program**. The aim of the program is to **monitor any loss in quantity or quality of native vegetation** in the rural agricultural regions of South Australia.

THE CHANGE DETECTION PROGRAM

How does the program work?

Satellite imagery is obtained over a region of the State at regular intervals. This provides a series of geographically and spectrally calibrated images of the same location across a period of time.

Scientific methods are then applied to the images, highlighting areas where a change in vegetation cover is detected.

What happens once a change is detected?

When a change is detected in vegetation cover the data is verified to eliminate any legitimate changes - for example those occurring to planted vegetation, clearance of native vegetation approved by the NVC or under Regulations, seasonal variations or changes resulting from fire or flood.

The verification process may include

- analysing high resolution aerial photography of the area;
- obtaining information directly from the landowner(s); and/or
- an onsite or aerial inspection.

Archival imagery dating back to the 1950s can also be used to determine the history of the vegetation. This allows (among other things) for lawful vegetation clearance under the Regulations (such as regrowth clearance) to be identified.

What can be seen?

The following images provide examples of what can be detected with this program.

Figure 1: Satellite imagery with data representing a change in vegetation overlaid in red

Figure 2: High-resolution aerial photography taken before change

Figure 3: High-resolution aerial photography taken after change

FURTHER INFORMATION

Clearance of native vegetation without complying with the Act is an offence. The NVC is required to investigate all breaches of the Act. The Native Vegetation Monitoring and Compliance Team of the Department of Environment, Water and Natural Resources (DEWNR) undertakes this function.

Any changes detected by the Native Vegetation Change Detection Program that may be breaches of the Act are referred to the Monitoring and Compliance Team for further investigation. (For further information refer to the Native Vegetation Information Sheet *Compliance and the Native Vegetation Act*.)