



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **RTD2022A Carry out natural area restoration works**

**Release: 1**

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### **Modification History**

Not applicable.

### **Unit Descriptor**

This competency standard covers the process of carrying out natural area restoration work as part of a team. Natural area restoration is likely to be under routine supervision with intermittent checking. Competency is demonstrated by the application of knowledge and skills to a range of natural area restoration tasks. The work is usually within established routines, methods and procedures.

### **Application of the Unit**

Not applicable.

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

Not applicable.

### **Employability Skills Information**

Not applicable.

### **Elements and Performance Criteria Pre-Content**

Not applicable.

# Elements and Performance Criteria

## Elements and Performance Criteria

Element	Performance Criteria
1 Prepare for <b>natural area restoration</b> works	<p>1.1 <b>Services</b> are located using site and natural area restoration plans and in consultation with the supervisor</p> <p>1.2 <b>OHS hazards</b> are identified, risks assessed and reported to the supervisor</p> <p>1.3 The <b>environmental implications</b> of natural area restoration works are identified and the likely outcomes assessed and reported to the supervisor</p> <p>1.4 Natural area restoration <b>tools, equipment and machinery</b> are selected and prepared for use according to <b>enterprise work procedures</b> and <b>native plant species</b> to be established</p> <p>1.5 Pre-operational and safety checks are carried out on tools, equipment and machinery according to manufacturers specifications and enterprise work procedures</p> <p>1.6 Suitable <b>safety</b> and <b>personal protective equipment (PPE)</b> is selected, used and maintained</p>
2 Apply weed control measures	<p>2.1 Species and quantities of <b>weeds</b> requiring control are identified according to enterprise work procedures</p> <p>2.2 Herbicides are prepared, where necessary, according to manufacturers specifications and enterprise work procedures</p> <p>2.3 <b>Weed control measures</b> are undertaken according to the weed and non-target species <b>physiological characteristics</b>, and enterprise work procedures</p> <p>2.4 Work practices and control measures employed cause damage only to the target weed species</p>

- 3 Prepare the soil for natural area restoration
  - 3.1 **Soil treatments** are selected according to the **soil condition**, species requirements and enterprise work procedures
  - 3.2 Intact natural soil profiles are protected from damage
  - 3.3 Soil treatments are applied either broadly or at specific restoration sites according to enterprise work procedures
- 4 Replace native vegetation on the natural area restoration site
  - 4.1 **Vegetation replacement methods** are determined and assisted natural regeneration, planting, seeding or transplanting treatments are prepared according to the restoration plan and enterprise work procedures
  - 4.2 Assisted regeneration treatments are applied to remnant vegetation and intact soil profiles where required according to enterprise work procedures
  - 4.3 Seed (and fertiliser if required) is sown either by hand in discrete areas or broadly using sowing and/or ripping trailed machinery
  - 4.4 Containerised plants or transplants are positioned according to the restoration plan and planted firmly ensuring good contact between roots and surrounding soil according to enterprise work procedures
  - 4.5 Hand watering or irrigation, where specified, is undertaken to establish newly sown or planted vegetation
  - 4.6 The natural area restoration works are undertaken according to **OHS requirements**
- 5 Complete natural area restoration works
  - 5.1 Plant guards and/or fencing are installed and maintained according to the natural area restoration plan and enterprise work procedures
  - 5.2 . Multiple follow up weed control treatments are undertaken, as necessary, according to enterprise work procedures.
  - 5.3 **Waste material** is removed from the natural area restoration site and disposed of in an environmentally aware and safe manner according

to enterprise work procedures

- 5.4 Tools, equipment and machinery are cleaned, maintained and stored according to enterprise work procedures
- 5.5 A **clean** and **safe area** is maintained throughout and upon completion of work according to enterprise work procedures
- 5.6 Work outcomes are recorded or reported to the supervisor according to enterprise work procedures

## **Required Skills and Knowledge**

Not applicable.

## Evidence Guide

### What evidence is required to demonstrate competence for this standard as a whole?

Competence in carrying out natural area restoration works requires evidence that a person using natural area restoration tools, equipment and machinery can effectively assist other workers in controlling weeds, preparing soils, sowing and planting, installing ancillary equipment and cleaning up the natural area restoration site.

The skills and knowledge required to carry out natural area restoration works must be **transferable** to a different work environment. For example, this could include different environments, plant species and techniques of natural area restoration.

### What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:

Common and scientific names of native plants.

Common names of native animals.

Common names of weeds and pest animals.

The importance and value of the local provenance species.

Natural area restoration techniques.

Basic plant and animal ecology

Map and plan reading.

**What specific skills are needed to achieve the performance criteria?**

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

Participate in teams and contribute to team objectives.

Read written instructions, understand and interpret work procedures.

Communicate with team members and supervisor effectively.

Calibrate tools, equipment and machinery, measure distance, calculate area, planting and seeding rates, volumes and treatment application rates.

Minimise noise, dust, high activity vehicle traffic and water run-off to prevent nuisance-level environmental disturbance.

## What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

1. How can **communication of ideas and information (1)** be applied?

Ideas and information relating to natural area restoration activities and problems encountered should be discussed with other members of the work team and the supervisor.
2. How can **information be collected, analysed and organised (1)**?

The site and surrounding area should be inspected visually and the information gained discussed with the work team and supervisor.

Enterprise work procedures and site and natural area restoration plans should be consulted, interpreted and applied to coordinate natural area restoration activities with further clarification sought from the supervisor where necessary.
3. How are **activities planned and organised (1)**?

Equipment, materials and work procedures for natural area restoration activities will need to be arranged before and between work periods and there will be some responsibility for coordinating work with others.
4. How can **team work (1)** be applied?

The natural area restoration program will involve working with other members of a team to complete the program.
5. How can the use of **mathematical ideas and techniques (1)** be applied?

Applying site plan layout to the physical site, measuring distance, calculating areas, calibrating equipment and machinery, estimating quantities of materials, measuring treatment volumes and rates, and calculating planting and seeding rates will require mathematical application.
6. How can **problem solving skills (1)** be applied?

Problems relating to natural area restoration techniques, processes, the work site, workplace safety and other team members



may arise during natural area restoration activities.

7. How can the **use of technology (1)** be applied?

Technology may be applied in the preparation, use and maintenance of natural area restoration tools, equipment and machinery.

**Are there other competency standards that could be assessed with this one?**

This competency standard **could** be assessed on its own or in combination with other competencies relevant to the job function.

There is essential information about **assessing this competency standard for consistent performance and where and how it may be assessed**, in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

## Range Statement

### Range of Variables

The Range of Variables explains the contexts within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in particular training and assessment requirements may depend on the work situations available

What **natural area restoration** techniques are included in this competency standard?

Natural area restoration works may cover clearing of vegetation, soil stabilisation, weed suppression and control, planting of terrestrial and aquatic plant species as containerised or bare rooted plants, direct seeding of native species by hand or machine, protection and maintenance of remnant vegetation, encouragement of natural regeneration, weed and animal control, removal of debris, watering, mulching and construction of protective fencing and other plant guards.

What **services** may need to be located?

Services may include water supply, gas, power (electricity), telecommunications, irrigation, stormwater and drainage.

How may **OHS hazards** be identified?

Hazards may be identified through visual inspection of the area, understanding of site and restoration plans, and enterprise work procedures.

What **OHS hazards** may be associated with natural area restoration works?

Hazards may include disturbance or interruption of services, solar radiation, dust, noise, air- and soil-borne micro-organisms, chemicals and hazardous substances, sharp hand tools and equipment, manual handling, moving machinery and machinery parts, slippery and uneven surfaces, dehydration, stings.

What are the **environmental implications** when undertaking natural area restoration works?

Environmental implications associated with the natural area restoration program will be generally beneficial to the external environment when the revegetation is consistent with the needs of the flora and fauna indigenous to the site and geographic region. However, work activities undertaken may have immediate detrimental effects on the surrounding environment, including levels of noise, dust, high activity

	vehicle traffic and inappropriate waste disposal.
What <b>tools, equipment and machinery</b> may be required to carry out natural area restoration works?	Tools, equipment and machinery may include knives, trowels, spades, forks, rakes, hoes, shovels, buckets, brooms, wheelbarrows, hoses and hose fittings, tree-planters, secateurs or snips; ancillary equipment such as stabilising materials, weed mats, stakes, tree guards, fencing materials; and machinery such as tractors and 3-point linkage or trailed equipment, pesticide and fertiliser application machinery or backpacks.
What <b>enterprise work procedures</b> may apply to this standard?	Work procedures will be based on sound horticultural principles and practices and may include supervisors oral or written instructions, the natural area restoration plan (including species lists), enterprise standard operating procedures (SOP), specifications, routine maintenance schedules, work notes; product labels and Material Safety Data Sheets (MSDS); manufacturers service specifications and operators manuals; waste disposal, recycling and re-use guidelines; and OHS procedures.
What <b>plant species</b> may be used in the natural area restoration program?	Plant species may be local provenance natives or non- native cover plants in accordance with the planting schedule and local management plans.
What <b>safety equipment</b> may be required?	Safety equipment may include signage and barriers.
What <b>personal protective equipment (PPE)</b> may be required to undertake natural area restoration works?	Personal protective equipment may include hat, boots, overalls, gloves, goggles, respirator or face mask, face guard, hearing protection, drinking water, sunscreen lotion and hard hat.
What <b>weeds</b> may be targeted for control in the natural area restoration area?	Weeds may include exotic plants or native species from other regions, which impact on the establishment, health or growth rate of the natural area restoration species and the aesthetic quality of the site.
What <b>weed control measures</b> may be	Weed control measures may include the

appropriate to this standard?

application of non-residual, non-specific herbicide to weeds by spray, wick, cut and paint, injection, or hand removal of seedlings, whole plants or seed heads.

What **physiological characteristics** of weeds may affect the herbicide application method?

Characteristics may include seasonal aspects, stage of growth, metabolic processes, and presence of wood on the stem.

What **soil treatments** may be appropriate for this standard?

Soil treatments may include stabilising materials, dead vegetative material, mulch and weed mats or conditioning additives to effect a change in the water holding capacity of the soil, pH, organic components, soil structure and texture.

What **soil conditions** may require treatment?

The area to be revegetated may suffer from a variety of problems including vulnerability to or exacerbated water or wind erosion, non-wetting soils, low or high pH, salinity and waterlogging.

What types of **irrigation system** may be relevant to this standard?

Irrigation systems may include sprinklers, sprayers and drippers.

Irrigation system components may include pumps, lines, pipes, sprinklers, sprinkler heads, solenoids, filters, controllers, sprayers and drippers.

What **vegetation replacement methods** may be used when undertaking natural area restoration works?

Vegetation replacement methods may include hand sowing, direct seeding, tube planting, hand or machine assisted planting of seedlings, planting of divisions, transplanting, assisted regeneration and natural regeneration.

What **OHS requirements** may be relevant to this standard?

OHS requirements may include identifying hazards; assessing and reporting risks; cleaning, maintaining and storing tools, equipment and machinery; appropriate use of personal protective equipment including sun protection, drinking water to avoid dehydration, posture correction, eye protection, safe operation of tools, equipment and machinery; safe handling, use and storage of chemicals and hazardous substances; correct manual handling; basic first aid; personal hygiene and reporting

problems to supervisors.

What **waste material** may be relevant to this standard?

Waste material may include unused work material such as pesticides, plant debris, litter and broken components.

Plant-based material may be mulched or composted, plastic, metal, paper-based materials may be recycled, re-used, returned to the manufacturer or disposed of according to enterprise work procedures.

What tasks may be undertaken to maintain a **clean and safe area**?

Tasks may include keeping public access paths clear of debris, waste material, tools, equipment and machinery; disabling equipment and machinery after use; using signage and safety barriers during and removing after natural area restoration activities are completed, and removing debris and waste from the work area swiftly and efficiently.

For more information on contexts, environmental implications and variables for training and assessment, refer to the Sector Booklet.

## **Unit Sector(s)**

Not applicable.