

<b>Training Package</b>	<b>Conservation and Land Management (RTD02)</b>	<b>HSC Requirements and Advice</b>
<b>Title</b>	<b>Observe and report plants and/or animals</b>	
<b>Unit code</b> <b>RTD2803A</b>	This competency standard describes tasks associated with the observation, recording and reporting on the presence of plants and/or animals against criteria provided by a supervisor or as required under legislation or regulations. It requires the ability to plan and organise observations, collect and record information and report data usually under routine supervision. Observing and reporting on plants and animals is likely to be under routine supervision with intermittent checking. Competency involves the application of knowledge and skills to a range of observation and reporting situations usually within established workplace routines.	<b>HSC Indicative Hours</b>  <b>10</b>

### Evidence Guide

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

Competence in observing and reporting on plants and animals requires evidence that specific species of plants or animals (or their presence) have been recognised in the field and reports to the appropriate authorities or supervisor.

The skills and knowledge required to observe and report on plants and animals must be **transferable** to a range of work environments and contexts. For example, this could include different designated areas and plant or animal species. Occupational Health & Safety standards must be observed at all times.

<b>What specific knowledge is needed to achieve the performance criteria?</b>	<b>What specific skills are needed to achieve the performance criteria?</b>	<b>Are there other competency standards that could be assessed with this one?</b>	<b>Assessment guide</b>	<b>HSC Requirements and Advice</b>
<p>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 unit are listed below:</p> <ul style="list-style-type: none"> <li>• criteria used to group species</li> <li>• common and scientific names of plants and animals</li> <li>• biological species occurring in the study area</li> <li>• the importance, value or potential impact of the species in a designated area</li> <li>• rare and endangered species</li> <li>• undesirable plants (e.g., weeds) and animals</li> <li>• maps and grid references.</li> </ul>	<p>To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complimentary skills are required. These include the ability to:</p> <ul style="list-style-type: none"> <li>• plan and organise observations</li> <li>• collect information and record</li> <li>• interpret data.</li> </ul>	<p>This competency standard could be assessed on its own or in combination with other competencies relevant to the job function.</p>	<p>For information about <b>assessing this competency standard for consistent performance and where and how it may be assessed</b>, in the Assessment Guidelines for this Training Package.</p>	<p><b>Key Terms and Concepts</b></p> <ul style="list-style-type: none"> <li>• common and scientific names</li> <li>• data presentation</li> <li>• degradation</li> <li>• endangered species</li> <li>• enterprise procedures</li> <li>• field data</li> <li>• field guides</li> <li>• field notes</li> <li>• hazards</li> <li>• identification techniques</li> <li>• legislation</li> <li>• <i>National Parks and Wildlife Act 2001 NSW</i> – this act amends the <i>National Parks and Wildlife Act 1974 (NSW)</i></li> <li>• non-destructive field observation techniques</li> </ul>

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				<ul style="list-style-type: none"> <li>• observation equipment</li> <li>• observation processes</li> <li>• occupational health and safety (OHS)</li> <li>• personal protective equipment (PPE)</li> <li>• plotting</li> <li>• quarantine and protection</li> <li>• rare and endangered species</li> <li>• recording and reporting</li> <li>• samples</li> <li>• species</li> <li>• threatened species</li> <li>• <i>Threatened Species Conservation (Amendment) Act 1995 (NSW)</i> – this act amends the <i>Threatened Species Conservation Act NSW 1995</i></li> <li>• undesirable plants and/or animals.</li> </ul>

Element	Performance Criteria	Range of Variables	HSC Requirements and Advice
1 Plan and organise observations	1.1 Defined process for observation is prepared and agreed by supervisor.	The Range of Variables defines the different contexts, work environments and parameters governing the performance of this competency standard. The variables chosen in training and assessment will need to reflect local industry and regional contexts.	
	1.2 Equipment for observation is obtained according to enterprise procedures.	<p>What <b>enterprise requirements</b> and <b>regulatory guidelines</b> may be relevant?</p> <p>Policies, procedures and management plans, relevant OHS requirements, and Codes of Practice or enterprise guidelines.</p>	<p><b>Learning experiences for the HSC must address:</b></p> <p>Knowledge of equipment required for observation of plants including:</p> <ul style="list-style-type: none"> <li>• camera</li> <li>• hand-held magnifying glass</li> <li>• plant identification books</li> <li>• field note book</li> <li>• jewellers tags</li> <li>• plastic bag</li> <li>• plant press</li> <li>• tape measure.</li> </ul> <p><b>AND/OR</b></p> <p>Knowledge of equipment required for observation of animals including:</p> <ul style="list-style-type: none"> <li>• camera</li> <li>• field binoculars</li> <li>• field note book</li> <li>• spotlight</li> <li>• portable hide</li> <li>• tracks, scats and bones identification book</li> <li>• animal identification books</li> <li>• animal sound recordings</li> <li>• terrestrial invertebrate pit traps</li> <li>• aquatic invertebrate sampling nets.</li> </ul>
	1.3 Requirements under legislation, protection agreements and <b>enterprise procedures</b> for species are noted.		<p><b>Learning experiences for the HSC must address:</b></p> <p>A basic understanding of current legislation covering observation of native plants and animals including:</p> <ul style="list-style-type: none"> <li>• Threatened Species Conservation (Amendment) Act 2002 (NSW) – this act</li> </ul>

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			<p>amends the <i>Threatened Species Conservation Act 1995</i> (NSW)</p> <ul style="list-style-type: none"> <li>• <i>National Parks and Wildlife Act 2001 NSW</i> – this act amends the <i>National Parks and Wildlife Act 1974</i> (NSW)</li> <li>• <i>National Parks and Wildlife Regulation 2002</i> (NSW).</li> </ul>
2	<p>Collect information and record</p> <p>2.1 <b>Plants and animals</b> and/or their presence are identified orally or from field guides to enterprise guidelines.</p>	<p>Which <b>plant species</b> to be reported may be included?</p> <p>Listed threatened species, listed notifiable or noxious weeds, plants not previously seen at regularly visited site, plants to be reported under enterprise or industry guidelines.</p> <p>Which <b>animal species</b> to be reported may be included?</p> <p>Listed threatened species, listed notifiable species, animals not previously seen at regularly visited site, invertebrates, aquatic organisms, and animals to be reported under enterprise or industry guidelines.</p> <p>Which levels of <b>scientific names</b> are used for plant identification?</p> <p>Family, genus and species.</p> <p>Which levels of <b>scientific names</b> are used for animal identification?</p> <p>Order, family, genus and species as appropriate.</p> <p>What <b>enterprise requirements</b> and <b>regulatory guidelines</b> may be relevant?</p> <p>Policies, procedures and management plans, relevant OHS requirements, and Codes of Practice or enterprise guidelines.</p>	<p><b>Learning experiences for the HSC must address:</b></p> <p>Naming of plants in the study area including:</p> <ul style="list-style-type: none"> <li>• scientific <ul style="list-style-type: none"> <li>– family</li> <li>– genus</li> <li>– species</li> </ul> </li> <li>• common</li> </ul> <p><b>AND/OR</b></p> <p>Naming of animals in the study area including:</p> <ul style="list-style-type: none"> <li>• scientific <ul style="list-style-type: none"> <li>– order</li> <li>– family</li> <li>– genus</li> </ul> </li> <li>• common.</li> </ul> <p>Types of plant species to be reported including:</p> <ul style="list-style-type: none"> <li>• listed notifiable or noxious weeds</li> <li>• dominant species in plant communities</li> <li>• plants occupying different layers in an ecological community</li> <li>• dominant plants from distinct seasons throughout the year</li> <li>• native and introduced plant species</li> </ul> <p><b>AND/OR</b></p> <p>Types of animal species to be reported including:</p> <ul style="list-style-type: none"> <li>• vertebrate feral and non-feral pests</li> <li>• common native mammals, birds, reptiles, amphibians</li> <li>• terrestrial invertebrates</li> <li>• aquatic invertebrates</li> <li>• nocturnal and diurnal animals</li> </ul>

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			<ul style="list-style-type: none"> <li>• tracks, scats and bones from common native and introduced animals</li> <li>• calls and sounds of animals.</li> </ul> <p>Knowledge of techniques for immediate identification of plants and/or animals including:</p> <ul style="list-style-type: none"> <li>• observing distinguishing features</li> <li>• using field guides</li> <li>• observation of habitat for tracks and prints.</li> </ul> <p>Knowledge of techniques for identifying plants and/or animals that cannot be identified in the field, including:</p> <ul style="list-style-type: none"> <li>• observing distinguishing features</li> <li>• collecting specimens where legal and appropriate</li> <li>• making notes and taking photographs to assist with identification at a later time</li> <li>• dichotomous keys</li> <li>• digital identification databases</li> <li>• local plant and animal experts.</li> </ul>
	<p>2.2 <b>Plants and animals</b> and/or samples are collected as required under enterprise guidelines.</p>		<p><b>Learning experiences for the HSC must address:</b></p> <p>Enterprise guidelines for collection.</p> <p>An awareness of potential hazards including:</p> <ul style="list-style-type: none"> <li>• physical <ul style="list-style-type: none"> <li>- uneven surfaces</li> <li>- dust</li> <li>- obstacles</li> <li>- fences</li> <li>- waterways</li> </ul> </li> <li>• biological <ul style="list-style-type: none"> <li>- plant/animal allergy</li> <li>- insects</li> <li>- spiders</li> <li>- snakes</li> </ul> </li> <li>• ergonomic <ul style="list-style-type: none"> <li>- inappropriate use of tools/equipment</li> <li>- poor manual handling</li> </ul> </li> <li>• environmental <ul style="list-style-type: none"> <li>- climate</li> <li>- disposal of waste</li> </ul> </li> </ul>

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			<ul style="list-style-type: none"> <li>- solar radiation</li> <li>• psychological <ul style="list-style-type: none"> <li>- dealing with emergencies</li> <li>- working alone.</li> </ul> </li> </ul> <p>An awareness of appropriate occupational health and safety (OHS) strategies including:</p> <ul style="list-style-type: none"> <li>• select, use and maintain appropriate personal protective equipment (PPE)</li> <li>• sufficient drinking water</li> <li>• basic first aid training</li> <li>• access to first aid kits</li> <li>• safe work practices and procedures</li> <li>• access to appropriate communication devices</li> <li>• environmental policies.</li> </ul>
	<p>2.3 <b>Protection and quarantine</b> requirements under legislation, protection agreements and enterprise procedures for species are observed.</p>	<p>Which <b>protection and quarantine</b> arrangements are relevant to this standard?</p> <p>Personal protection, restriction on the movement of species and/or associated hygiene arrangements, and protection of rare-endangered species.</p> <p>What <b>enterprise requirements and regulatory guidelines</b> may be relevant?</p> <p>Policies, procedures and management plans, relevant OHS requirements, and Codes of Practice or enterprise guidelines.</p>	<p><b>Learning experiences for the HSC must address:</b></p> <p>The need to follow quarantine and protection arrangements including:</p> <ul style="list-style-type: none"> <li>• not trapping, killing or keeping any native vertebrate animal and/or not collecting any threatened plants or plant parts</li> <li>• not removing any living or dead plant and/or animal material from a National Park</li> <li>• not destroying habitat of threatened plant and/or animal species.</li> </ul>
	<p>2.4 Observation activities minimise degradation and disturbance and comply with legislation and OHS requirements.</p>		<p><b>Learning experiences for the HSC must address:</b></p> <p>Knowledge of non-destructive field observation techniques including:</p> <ul style="list-style-type: none"> <li>• photography</li> <li>• notebook drawings</li> <li>• use of field identification guides</li> <li>• leaving plants intact</li> <li>• replacing log, rocks and other material back to their original position</li> <li>• not capturing or disturbing animals</li> <li>• observing animals from a distance</li> <li>• studying scats, scratchings and footprints.</li> </ul>

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3 Report data	3.1 Information on observed plants and animals are recorded and organised according to enterprise guidelines.	<p>What could <b>lists</b> include?</p> <p>Written descriptions, drawn illustrations or photographs presented in any media, enterprise lists of plants, lists of noxious plants, feral or dangerous animals. Lists may vary according to land use and habitat of subject area.</p> <p>What <b>enterprise requirements</b> and <b>regulatory guidelines</b> may be relevant?</p> <p>Policies, procedures and management plans, relevant OHS requirements, and Codes of Practice or enterprise guidelines.</p> <p>To <b>whom</b> should plants be reported? The supervisor or appropriate authority, as set out in enterprise procedures.</p>	<p><b>Learning experiences for the HSC must address:</b></p> <p>Knowledge of techniques for recording data including:</p> <ul style="list-style-type: none"> <li>• field note books</li> <li>• field record sheets</li> <li>• electronic databases</li> <li>• sound recordings.</li> </ul> <p>Field information to be recorded including:</p> <ul style="list-style-type: none"> <li>• date</li> <li>• observer</li> <li>• location</li> <li>• description of habitat</li> <li>• time of day</li> <li>• animal and/or plant description.</li> </ul>
	3.2 Information is communicated to supervisors according to enterprise guidelines.	<p>Which forms of <b>workplace communication</b> is relevant to this competency standard?</p> <p>Field guides to identify species, obtaining advice, communicating with staff and the public, and taking notes.</p>	<p><b>Learning experiences for the HSC must address:</b></p> <p>Animal and/or plant surveys reported to relevant authorities including:</p> <ul style="list-style-type: none"> <li>• local council staff</li> <li>• land owners and managers</li> <li>• interested research bodies</li> <li>• rangers</li> <li>• field naturalists groups</li> <li>• local community groups</li> <li>• employers</li> <li>• supervisors.</li> </ul>
	3.3 Records are compatible with enterprise recording and database arrangements.		<p><b>Learning experiences for the HSC must address:</b></p> <p>Knowledge of a range of enterprise data record formats including:</p> <ul style="list-style-type: none"> <li>• field record sheets</li> <li>• spreadsheets</li> <li>• databases</li> <li>• tables</li> <li>• graphs</li> <li>• maps</li> <li>• drawings and photographs.</li> </ul>

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	3.4 Occurrence of an organism is plotted and described using maps and grid references.	Which forms of <b>workplace communication</b> is relevant to this competency standard?  Field guides to identify species, obtaining advice, communicating with staff and the public, and taking notes.	<b>Learning experiences for the HSC must address:</b>  Techniques for plotting occurrence of organisms on maps including: <ul style="list-style-type: none"> <li>• estimation of map coordinates</li> <li>• topographic maps</li> <li>• scale rulers and compasses.</li> </ul>

### 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      3 = perform, administer and design the process

1. How can <b>communication of ideas and information (2)</b> be applied?	Verbal and written reports.
2. How can <b>information be collected, analysed and organised (2)</b> ?	Presence of fungi, plants and animals.
3. How are <b>activities planned and organised (2)</b> ?	Timelines, equipment and materials for observation work.
4. How can <b>team work (2)</b> be applied?	Seeking advice from others in dealing with problems, coordinating observations.
5. How can the use of <b>mathematical ideas and techniques (1)</b> be applied?	Counting and estimating plants and animals.
6. How can <b>problem-solving skills (2)</b> be applied?	Planning and conducting observations, recognising situations requiring notification.
7. How can the <b>use of technology (2)</b> be applied?	Observation and measuring equipment.