

PIL303A Maintain integrated plant and animal systems

This competency standard covers the process of maintaining integrated plant and animal systems. It requires the ability to plan maintenance works, undertake maintenance, and report completion of activities. Maintaining integrated plant and animal systems requires a knowledge of permaculture activities appropriate to climate and soil types, plants and animals commonly found on permaculture properties, permaculture maintenance principles and practices, recycling and typical permaculture solutions to water catchment and storage.

Element	Performance Criteria
1 Plan maintenance works for integrated plant and animal systems	1.1 Movement through the production areas is planned to minimise disturbance and degradation. 1.2 Legislative requirements, Codes of Practice and the relevant management strategy and plan are identified. 1.3 Equipment, machinery and materials for maintenance works are determined and obtained. 1.4 Where required, stakeholders are consulted about pending maintenance works. 1.5 Permaculture design specifications for the property are read and interpreted and any specific directions on maintenance approaches and strategies are followed
2 Undertake maintenance	2.1 Maintenance works conform to relevant risk control measures and practices, and are in accordance with enterprise guidelines. 2.2 Relevant protective measures are taken to avoid degradation and disturbance to soil, plants, animals and other parts of the ecosystem during maintenance works. 2.3 Activities of personnel and visitors are monitored to reduce risks to the productive systems undergoing maintenance
3 Report completion of activities	3.1 Site is made good on completion of works. 3.2 Equipment and machinery is cleaned and stored according to best practice.

- 3.3 Excess materials are removed from site and stored or disposed of according to best practice
- 3.4 Completed maintenance works are reported to supervisors and meet legislative requirements, best practice guidelines and Codes of Practice.

Range of Variables

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.

What aspects of integrated plant and animal systems may be relevant to this standard?	Species diversity, ecosystem diversity and community diversity, designing for succession. Eg animal tractors, planting sweet potato and following with pigs to plough up the soil.
What protective measures may be included?	Protective measures include protection from sun, eye injury, foot injury, animal fodder dust, hand protection ear protection and protection from animal hazards such as bites, kicks, animal disease transfer.

Evidence Guide

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

Competence in maintaining integrated plant and animal systems requires evidence that maintenance works have been planned and carried out on permaculture properties according to enterprise guidelines and permaculture principles. The skills and knowledge required to maintain maintaining integrated plant and animal systems must be **transferable** to a range of work environments and contexts. For example, this could include different properties, plant and animal systems, and maintenance activities.

What specific knowledge is needed to achieve the performance criteria?	<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"> • Permaculture activities appropriate to climate and soil types • Plants and animals commonly found on permaculture properties • Plant groups and vegetation structures • Permaculture maintenance principles and practices
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- “Weeds” as soil indicators and dynamic accumulators
- Typical permaculture solutions to water catchment and storage.
- Recycling of materials and waste

What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, some complementary skills are required. These skills include the ability to:

- Plan maintenance works for integrated plant and animal systems
- Undertake maintenance
- Report completion of activities

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 (2) be applied?	Written or verbal reports to property owner and updating of the design as it moves through the phases of succession.
2. How can information be collected, analysed and organised (2) ?	Through journals, reports and property plan overlays.
3. How are activities planned and organised (3) ?	Through regular meetings with the property manager, scheduling of work, recording of equipment used and time taken to conclude all tasks.
4. How can team work (2) be applied?	In planning and undertaking maintenance activities.
5. How can the use of mathematical ideas and techniques (2) be applied?	Timing and costing associated with maintenance works, calculating area of site to be worked, determining material quantities, estimating times to complete particular tasks, calculating the volume of feed needed for animals over the year and consequent planting requirements.
6. How can problem-solving	Determining the requirements of the plant and

skills (3) be applied?

animal species to be maintained, ensuring maintenance needs are met and that the development of the property is facilitated by the species selection and stocking/planting rates.

7. How can the **use of technology (2)** be applied?

Use of equipment and machinery, and computer planning tools and databases.

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

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

For information about assessing this competency standard for consistent performance and where and how it may be assessed, refer to the **Permaculture International Ltd Course Documentation**.
