



Australian Government

SFIAQUA221A Control predators and pests

Release 2

SFIAQUA221A Control predators and pests

Modification History

Release	TP Version	Comments
2	SFI11v2.1	Correction to minor typographical error
1	SFI11v1	Initial Release

Unit Descriptor

Unit descriptor	This unit of competency involves assisting with the control of predators and pests that might threaten cultured or held stock. It includes reporting on actual and potential problems and assisting with the construction and maintenance of control structures. Licensing, legislative, regulatory or certification requirements may apply to this unit. Therefore it will be necessary to check with the relevant state or territory regulators for current licensing, legislative or regulatory requirements before undertaking this unit.
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Application of the Unit

Application of the unit	Licences may be required for the control of pests and predators for example: • applying chemicals and treatments • operating firearms and powerheads. All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements</i>, including <i>occupational health and safety (OHS) guidelines</i> and <i>ecologically sustainable development (ESD) principles</i>. Equipment operation, maintenance, repairs and calibrations are undertaken in a safe manner that conforms to manufacturer instructions. Appropriate <i>personal protective equipment (PPE)</i> is selected, checked, used and maintained.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for predator and pest control	1.1. Problem species and their behavioural traits that have potential effects on cultured or held stock are recognised. 1.2. Behaviour and intensity of predators and pests, including any abnormal behaviour in stock, are observed and reported to supervisor. 1.3. Instructions are received from supervisor and carried out.
2. Check and maintain predator and pest control structures and equipment	2.1. Assistance with erecting or installing control structures and equipment is given. 2.2. Regular and routine inspections on control structures and equipment are carried out and major problems reported to supervisor. 2.3. Basic repairs and maintenance are carried out. 2.4. Wildlife is relocated safely. 2.5. Vegetation or other materials that can harbour or shelter pests and predators is cleared or removed.
3. Assist with disposal of wastes and mortalities	3.1. Collection equipment and holding/storage facilities are checked and prepared. 3.2. Wastes and mortalities are collected and transferred to the holding or storage facilities. 3.3. Disposal of wastes and mortalities is safely carried out. 3.4. Work practices employed minimise stock stress or damage.
4. Complete post-predator and pest control activities	4.1. Clean up of work area, including repairs and storage of equipment, is supervised and condition report prepared. 4.2. Relevant predator and pest control data, observations or information are recorded legibly and accurately, and any out of range or unusual records checked. 4.3. Compliance and other required reports are prepared and conveyed to senior personnel advising of the effectiveness of predator and pest control, and recommendations made for improvements. 4.4. Feedback on own work performance is sought from supervisor and opportunities to improve identified.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communicating ideas on possible improvements
- communicating with supervisor on work instructions for control activities
- operating predator and pest control structures and equipment
- providing oral reports to the supervisor on effectiveness of controls
- recognising normal and gross abnormal stock behaviour
- repairing and maintaining predator and pest control structures and equipment.

Literacy skills used for:

- recording predator and pest control information.

Numeracy skills used for:

- counting predators and pests
- reporting mortalities.

Required knowledge

- gross signs/symptoms of common diseases of cultured or held stock
- habitats and behaviour of pests and predators
- hygiene risks associated with predator and pest control
- normal behaviour of stock
- OHS requirements relating to predator and pest control
- potential effects on cultured or held stock
- predator and pest control structures and equipment options
- regulations about protected species
- safe use of chemicals
- work procedures for various tasks associated with predator and pest control.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment evidence required to demonstrate competence in this unit	Assessment must confirm ability to: • assist with the construction or erection, and maintenance of predator and pest control structures and equipment • recognise and report actual and potential predator and pest problems. Assessment must confirm knowledge of: • behavioural traits of problem species • construction or erection, and maintenance techniques for predator and pest control mechanisms.
Context of and specific resources for assessment	Assessment is to be conducted at the workplace or in a simulated work environment and should cover the range of pests, predators and diseases typically found in the region. Resources may include: • a range of pest and predator control mechanisms • culture or holding structures with/in water containing stock and threatened by actual and/or potential pests and predators • data sheet for recording observations and actions • work procedures for treatment and control of predators and pests.
Method of assessment	The following assessment methods are suggested: • demonstration • practical exercises • project work • written or oral short-answer testing.
Guidance information for assessment	This unit may be assessed holistically with other units within a qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant government regulations, licensing and other compliance requirements may include:

- biodiversity and genetically modified organisms
- biosecurity, translocation and quarantine
- Australian Quarantine Inspection Service (AQIS) Export Control (Fish) orders and other import requirements
- business or workplace operations, policies and practices
- ESD principles, environmental hazard identification, risk assessment and control
- fisheries or aquaculture regulations, permits and licences
- health and welfare of aquatic animals
- Indigenous land rights and cultural activities, including fishing by traditional methods
- OHS hazard identification, risk assessment and control.

OHS guidelines may include:

- appropriate workplace provision of first aid kits and fire extinguishers
- codes of practice, regulations and/or guidance notes which may apply in a jurisdiction or industry sector
- enterprise-specific OHS procedures, policies or standards
- hazard and risk assessment of workplace, maintenance activities and control measures
- induction or training of staff, contractors and visitors in relevant OHS procedures and/or requirements to allow them to carry out their duties in a safe manner
- OHS training register
- safe lifting, carrying and handling techniques, including manual handling, and the handling and storage of hazardous substances
- safe systems and procedures for outdoor work,

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	including protection from solar radiation, fall protection, confined space entry and the protection of people in the workplace • systems and procedures for the safe maintenance of property, machinery and equipment, including hydraulics and exposed moving parts • the appropriate use, maintenance and storage of PPE.
ESD principles may include:	• applying animal welfare ethics and procedures • control of effluents, chemical residues, contaminants, wastes and pollution • control of weeds, pests, predators and diseases, and stock health maintenance • improving energy efficiency • increasing use of renewable, recyclable and recoverable resources • maintaining biodiversity by sustainable fisheries or broodstock/seedstock collection • minimising noise, dust, light or odour emissions • preventing live cultured or held organisms from escaping into environment • reducing emissions of greenhouse gases • reducing energy use • reducing interactions with native and protected flora and fauna, marine or land parks or areas • reducing use of non-renewable resources • undertaking environmental hazard identification, risk assessment and control • undertaking facility quarantine, biosecurity and translocation of livestock and genetic material • using and recycling water, and maintaining water quality
PPE may include:	• buoyancy vest or personal floatation device (PFD) • gloves, mitts or gauntlets, and protective hand and arm covering • hard hat or protective head covering • hearing protection (e.g. ear plugs and ear muffs) • non-slip and waterproof boots (gumboots) or

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	other safety footwear • personal locator beacon or Emergency Position Indicating Radio Beacon (EPIRB) • protective eyewear, glasses and face mask • protective outdoor clothing for tropical conditions • respirator or face mask • safety harness • sun protection (e.g. sun hat, sunscreen and sunglasses) • uniforms or overalls • waterproof clothing (e.g. wet weather gear and waders).
<i>Predators and pests</i> may include:	• airborne • amphibians, teleosts, reptiles, birds, elasmobranch and mammals • competitors for food, space, shelter and oxygen • fouling organisms • human (e.g. poachers) • plants (weeds), seaweed and micro-algae • starfish, crustaceans, molluscs, insects and other invertebrates • terrestrial • water based.
<i>Behavioural traits</i> may include:	• day or night time activity • entry and exit into culture or holding structures • feeding or attack methods • location and hunting methods • size of prey targeted • solitary or groups.
<i>Potential effects</i> may include:	• increased avoidance activity • increased stress • loss/escape of stock • mortalities • reduced breeding • reduced feeding • reduced growth rates • transfer of disease or pathogens.
<i>Cultured or held stock</i> may include:	• adults, broodstock (ready to breed), seedstock or stockers, eggs and sperm, fertilised eggs, larvae, post-larvae, seed, spat, hatchlings,

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	yearlings, juveniles, fry, fingerlings, yearlings, smolt, sporophytes, seedlings and tissue cultures • finfish, crustaceans, molluscs, aquatic reptiles, amphibians, polychaete and oligochaete worms, plankton, micro-algae, seaweed, aquatic plants, live rock, sponges and other aquatic invertebrates • for human consumption (seafood), stockers for other farms, stockers for conservation or recreational fishing, display or companion animals (ornamentals), and other products, including pearls, skins, shells, eggs, chemicals and pigments • wild caught, hatchery or nursery reared.
Control structures and equipment may include:	• acoustic deterrents (e.g. gas gun, electronic, firecrackers and firearms) • biological control (e.g. cleaner fish, predator species, dogs and geese) • electrical wires and fences • exclusion nets, cages, netting and fences • firearms and powerheads • floodlights • human activity • overflow barriers, screens on inlets and outlets • poisons and chemicals (e.g. pesticides, herbicides and anti-foulants) • shelters and habitat • tin and fibro fences • traps • turbidity • visual deterrents (e.g. scarecrows).
Basic repairs and maintenance may include:	• mending screens, nets and fencing • replacing broken or unserviceable traps, shelters, habitats, scarecrows and lights.
Wastes may include:	• biohazard wastes (e.g. moribund animals, hormones and chemicals) • from predator and pest control structures • nutrient-rich water and sediments • uneaten food and settled solids.
Mortalities may include	• cultured or held stock • predators, pests and other organisms.

RANGE STATEMENT***Disposal*** may include:

- biohazards
- loose or packaged
- off site
- on site.

Unit Sector(s)**Unit sector**

Aquaculture operations