



Australian Government

Department of Education, Employment and Workplace Relations

SFIAQUA401C Develop and implement a stock health program

Release: 1

SFIAQUA401C Develop and implement a stock health program

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit of competency involves developing and implementing a stock health program and work procedures for others involved in maintaining the health of stock. It includes protecting filter feeding stock from contamination.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>The unit has application to cultured or held stock in an aquaculture, seafood holding or ornamental facility. The unit applies to personnel who have planning responsibilities and supervise the work of others. Skills in supervising and assessing the performance of staff are covered by AHCWRK403A Supervise work routines and staff performance.</p> <p>All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements, including occupational health and safety (OHS) guidelines, food safety and hygiene regulations and procedures, and ecologically sustainable development (ESD) principles.</i></p> <p>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.</p>
--------------------------------	--

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

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.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Develop health program for <i>cultured or held stock</i></p>	<p>1.1. Stock health management plan and stock production plan are read and strategies and objectives confirmed with relevant senior personnel.</p> <p>1.2. Locally prevalent <i>health problems</i> are identified.</p> <p>1.3. Potential <i>exotic pests, predators and diseases</i>, especially those with significant economic impact and/or that are <i>notifiable</i>, are identified.</p> <p>1.4. Husbandry practices which prevent and control health problems are identified according to current industry practices.</p> <p>1.5. Control measures which aim to prevent the introduction of pests, predators and diseases to the facility are selected.</p> <p>1.6. <i>Control measures</i> that protect <i>filter feeding stock</i> from <i>contamination</i> or other stock from pests, predators or disease are selected.</p> <p>1.7. <i>Routines for health treatment</i> of stock are developed according to sound veterinary principles.</p> <p>1.8. A yearly calendar of health management operations is developed according to overall stock production program and stock health management plans.</p> <p>1.9. Options for mechanisation or automation of process or activity are assessed, including the use of specialised contract services, and recommendations made to senior personnel.</p>
<p>2. Implement a stock health program</p>	<p>2.1. Stock health program is communicated clearly to all involved and roles and responsibilities established.</p> <p>2.2. Work procedures that ensure personal safety and environmental protection are established for the use of <i>therapeutic</i> chemicals and biological agents and communicated to staff.</p> <p>2.3. Stock health program is monitored for effectiveness and modified, where appropriate.</p> <p>2.4. Legal requirements and regulations are met.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- communicating details of the stock health program so personnel understand their roles and responsibilities
- assessing options for mechanisation or automation of process or activity, including the use of specialised contract services
- diagnosing health problems in cultured or held stock
- planning, organising and implementing annual health program
- providing feedback to staff on their performance in relation to stock health program
- researching and analysing options for safe and effective husbandry practices, controls and treatments, and options for improving efficiency, such as use of mechanised or automated equipment and contract services
- safely operating required tools and equipment according to OHS requirements.

Literacy skills used for:

- developing and recording a daily routine for health control and disease prevention
- developing and recording a yearly calendar of events to implement stock health
- interpreting the stock production plan and stock health management plan
- monitoring developments in stock health by accessing written and electronic media
- passing on instructions and work procedures to staff.

Numeracy skills used for:

- calculating medication and chemical requirements
- confirming appropriateness of dose rates calculated by supervisors or other junior staff.

Required knowledge

- characteristics of healthy cultured or held stock
- ecology and behaviour of pests and predators, and disease agents or species
- legislation and regulations relating to animal and plant health care, uses of chemicals and food safety issues
- legislation and regulations relating to shellfish sanitation and depuration program
- purpose of stock health programs
- relevant OHS legislation, regulations and codes of practice
- work procedures used for disease control and prevention in cultured or held stock
- vulnerability of cultured or held stock to pests, predators and diseases
- welfare requirements of cultured or held stock.

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment evidence required to demonstrate competence in this unit	<p>Assessment must confirm the ability to:</p> <ul style="list-style-type: none"> • choose between treatment or prevention options taking into account economic, regulatory, environmental and OHS factors • develop and use work procedures covering all aspects of stock health • monitor effectiveness of stock health activities, including performance of staff. <p>Assessment must confirm knowledge of:</p> <ul style="list-style-type: none"> • costs of chemicals and other disease treatment or control methods • interaction between stock, the environment and disease agents in the development and treatment or control of disease • regulations relating to use of chemicals and other disease treatments or control methods.
Context of and specific resources for assessment	<p>Assessment is to be conducted at the workplace or in a simulated work environment.</p> <p>Resources may include:</p> <ul style="list-style-type: none"> • functional aquaculture, seafood holding or ornamental facility • work procedures.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • workplace project with a range of evidence, including workplace records, work procedures, staff duty statements, health management calendar, minutes of meetings, journal or diary, annotated photographs, and third-party reports and supporting documents, such as annotated research notes and comparative budgets.

EVIDENCE GUIDE**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:

- business or workplace operations, policies and practices:
 - commercial law, including fair trading and trade practices
 - consumer law
 - corporate law, including registration, licensing and financial reporting
 - disability policies and practices
 - equal opportunity, anti-discrimination and sexual harassment
 - industrial relations and awards, individual employment contracts and share of catch agreements
 - jurisdictional variations
 - superannuation
 - taxation
 - trade practices
 - warnings and dismissals
 - worker's compensation
- ESD principles, environmental hazard identification, risk assessment and control
- fisheries or aquaculture regulations, permits, licences, quotas, catch restrictions, and other compliance requirements, including:
 - Australian Exclusive Economic Zone

RANGE STATEMENT

- international treaties and agreements
- food safety, Hazard Analysis Critical Control Point (HACCP), hygiene and temperature control along chain of custody
- imports quarantine and inspection, and importing approved arrangements for Australian Quarantine Inspection Service (AQIS), Australian Customs Service (ACS) and Biosecurity Australia (BA)
- Indigenous native title, land claims and cultural activities, including fishing by traditional methods
- maritime and occupational diving operations:
 - foreign and Australian legislation applying to quarantine and customs
 - International Convention for the Safety of Life at Sea (SOLAS)
 - International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 1978)
 - Marine Emergency Response Search and Rescue (MERSAR)
 - National Standards for Commercial Vessels
 - pollution prevention - International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)
 - Uniform Shipping Laws (USL) Code
 - use of vessels, right of way and other marine orders, bunkering and refuelling
- land, buildings and vehicles:
 - buildings and structures design and appearance, constructions and additions
 - poaching, trespass and theft
 - road laws for use of motor vehicles, bikes, trucks and other transport equipment
 - soil and water management
 - use of chemicals and biological agents
 - use of firearms and powerheads
 - use of utilities, including water, natural gas, electricity and sewage
 - water or land lease, tenure or ownership and use

RANGE STATEMENT	
	<ul style="list-style-type: none"> • OHS hazard identification, risk assessment and control • product quality assurance: <ul style="list-style-type: none"> • correct naming and labelling (e.g. country of origin, Australian Fish Names Standard and eco-labelling) • correct quantities, sizes and other customer requirements • third-party certification, such as Australian Grown and ISO 14001:2004 Environmental management systems.
<i>OHS guidelines</i> may include:	<ul style="list-style-type: none"> • appropriate workplace provision of first aid kits and fire extinguishers • clean, uncluttered, hygienic workplace • 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, 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.
<i>Food safety and hygiene regulations and procedures</i> may include:	<ul style="list-style-type: none"> • Australian Shellfish Sanitation program • display, packaging and sale of food, including seafood and aquatic products • equipment design, use, cleaning and

RANGE STATEMENT	
	<p>maintenance</p> <ul style="list-style-type: none"> • exporting requirements, including AQIS Export Control (Fish) orders • handling and disposal of condemned or recalled seafood products • HACCP, food safety program, and other risk minimisation and quality assurance systems • location, construction and servicing of seafood premises • people, product and place hygiene and sanitation requirements • Primary Products Standard and the Australian Seafood Standard (voluntary) • processing, further processing and preparation of food, including seafood and aquatic products • product labelling, tracing and recall • receipt, storage and transportation of food, including seafood and aquatic products • requirements set out in Australian and New Zealand Food Authority (ANZFA) Food Standards Code and state and territory food regulations • temperature and contamination control along chain of custody.
<i>ESD principles</i> may include:	<ul style="list-style-type: none"> • controlling use and recycling of water, and managing water quality and quantity • increasing use of renewable, recyclable and recoverable resources • managing environmental hazard identification, risk assessment and control • managing imported products quarantine and inspection, facility biosecurity, translocation of livestock and genetic material, and health certification • managing stock health and welfare, especially for handling, holding, transport and slaughter • managing sustainable fisheries or broodstock/seedstock collection requirements, such as size limits, quotas, season restrictions, population dynamics, fishing impacts, reducing by-catch, fisheries management strategies, and maintaining biodiversity • managing, controlling and treating effluents,

RANGE STATEMENT	
	<p>chemical residues, contaminants, wastes and pollution</p> <ul style="list-style-type: none"> • minimising noise, dust, light or odour emissions • planning environmental and resource efficiency improvements • preventing genetically modified and live cultured or held organisms from escaping into environment • protecting native and protected flora and fauna, marine or land parks or areas, adhering to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), the Ramsar Convention, World Heritage and other international treaties for which Australia is a signatory • reducing emissions of greenhouse gases • reducing use of non-renewable resources • reducing disturbances to soils, erosion and surface water flows from machinery use and other activities • reducing energy use and introducing alternative energy sources.
<i>PPE</i> may include:	<ul style="list-style-type: none"> • 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) • insulated protective clothing for freezers or chillers and refrigeration units • non-slip and waterproof boots (gumboots) or other safety footwear • personal locator beacon or Emergency Position Indicating Radio Beacon (EPIRB) • protective eyewear, glasses and face mask • protective hair, beard and boot covers • protective outdoor clothing for tropical conditions • respirator or face mask • safety harness • sun protection (e.g. sun hat, sunscreen and

RANGE STATEMENT	
	<ul style="list-style-type: none"> sunglasses) • uniforms, overalls or protective clothing (e.g. mesh and waterproof aprons) • waterproof clothing (e.g. wet weather gear and waders).
<i>Cultured or held stock</i> may include:	<ul style="list-style-type: none"> • adults, broodstock (ready to breed), seedstock or stockers, eggs and sperm, fertilised eggs, larvae, post-larvae, seed, spat, hatchlings, 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.
<i>Health problems</i> may include:	<ul style="list-style-type: none"> • pests and competitors • predators • diseases - infectious and non-infectious (environmental) • parasites and other pathogens • toxic algae • chemicals or other contaminants.
<i>Exotic pests, predators and diseases</i> may include:	<ul style="list-style-type: none"> • any pest, predator or disease agents not present in the region that may have a severe economic impact on the aquaculture, seafood holding or ornamental enterprise or regional industry sector • pests: <ul style="list-style-type: none"> • any organisms which negatively impact on the production of the cultured or held stock • competitors (e.g. food, space, shelter and oxygen).
<i>Notifiable</i> refers to:	<ul style="list-style-type: none"> • state/territory and federal regulations or cooperative disease control programs.

RANGE STATEMENT	
Control measures (relevant to filter feeding stock) may include:	<ul style="list-style-type: none"> • capture and relocation • deterrence (e.g. cultural, biological or environmental) • elimination (e.g. shooting or chemical poisoning) • exclusion (e.g. physical barriers) • others, as appropriate.
Filter feeding stock may include:	<ul style="list-style-type: none"> • bivalves: <ul style="list-style-type: none"> • clams • giant clams • mussels • oysters • pearl oysters • scallops • larval stages of cultured or held stock • live-feeds, such as <i>Artemia</i>, Rotifers, <i>Daphnia</i> • 'living rock', corals and other invertebrates • sponges • tunicates.
Contamination may include:	<ul style="list-style-type: none"> • chemicals and pollutants • E. coli, other faecal coliforms and other bacteria • toxic algae • viruses.
Routines for health treatment may include:	<ul style="list-style-type: none"> • bathing or dipping • disinfectants (e.g. foot baths and tanks) • environmental manipulation (e.g. salinity and shade) • fallowing of ponds and net sites • filters, ultraviolet (UV) and ozone • oral treatments (in feeds) • removal of troublesome organisms • selection of resistant phase or species • sprays or water treatments • vaccinations or injections.
Therapeutic may include:	<ul style="list-style-type: none"> • non-registered agents/chemicals • registered agents/chemicals • veterinary advice • withholding periods for chemicals and medicines.

Unit Sector(s)

Unit sector	Aquaculture operations
--------------------	------------------------

Co-requisite units

Co-requisite units	

Competency field

Competency field	
-------------------------	--