



Australian Government

Department of Education, Employment and Workplace Relations

SFIAQUA409B Implement, monitor and review stock production

Release: 1

SFIAQUA409B Implement, monitor and review stock production

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency involves implementing and monitoring stock production activities. It covers the review of records and the trial of new processes to improve performance. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
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Application of the Unit

Application of the unit	The unit has application to <i>cultured or held stock</i> in holding, display, hatchery, nursery or grow out facilities. The unit applies to personnel who have technical responsibilities for stock production and for improving production outcomes. Feeding, health management, handling, harvesting and post-harvest activities are covered by other aquaculture specialist units. Skills in supervising staff are covered by AHCWRK403A Supervise work routines and staff performance. 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> 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. Implement and monitor stock production plan	1.1. Production plan, policies and procedures are conveyed to staff for implementation. 1.2. Feed supplies are assessed against production plan and feeding schedule. 1.3. Distribution schedules are monitored and stocking rates varied, as required. 1.4. Stock growth or production is monitored using an appropriate performance recording system and harvesting is undertaken to meet marketing goals. 1.5. Stock health is monitored and any pest, parasite or disease outbreaks quickly controlled with samples being sent to relevant authorities, where required. 1.6. Effects of feeds and health treatments on stock are monitored and actions taken to avoid or minimise stock health problems and negative effects on product quality. 1.7. Options for mechanisation or automation of process or activity are assessed, including the use of specialised contract services. 1.8. Progress of production plan is reviewed regularly with staff.
2. Continually review and improve production performance	2.1. Physical and operations records are maintained for analysis and evaluation of production performance and for management of the business. 2.2. Evaluation of production performance at each stage or component of enterprise is undertaken to determine sustainability and profitability and for use in reviewing and revising production plans. 2.3. Information on innovations related to existing or potential enterprises and facility activities are obtained and assessed to determine their relevance and possible application. 2.4. Relevant innovations are tested to determine their suitability and adaptability to individual circumstances, their benefit/cost assessed, and outcomes reported to the management teams. 2.5. Management team is kept informed of production schedule and performance.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- communicating with staff and management
- assessing options for mechanisation or automation of process or activity, including the use of specialised contract services
- identifying profitable innovations
- implementing OHS procedures
- implementing stock production plans
- monitor health and welfare of stock
- operating, maintaining and repairing monitoring equipment
- providing feedback to team leaders and staff on stock husbandry and production operations
- purchasing equipment
- organising and monitoring multiple production activities
- recognising abnormal stock behaviour and environmental factors that can impact on operations.

Literacy skills used for:

- extracting data/information from journals, websites, magazines, books and trade journals
- interpreting aquatic engineering, culture technology and species biology papers
- reading and interpreting monitoring schedules
- recording and analysing monitoring information
- reading water quality guidelines.

Numeracy skills used for:

- applying formulae to calculate water flow
- using computer operations, including using spreadsheets and entering data
- measuring weights and volumes
- reading machines or test kits.

Required knowledge

- culture stock physiology, biology and ecology
- disease surveillance and treatment protocols
- environmental protection guidelines
- equipment used in production
- production methods for given species

REQUIRED SKILLS AND KNOWLEDGE

- stock husbandry and management
- water quality parameters and environmental requirements for given species:
 - basic and advanced water quality tests
 - monitoring equipment calibration and operating methods
 - monitoring equipment maintenance and basic repairs
 - monitoring equipment options and limitations.

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 the ability to: • develop operational guidelines and monitoring systems for stock production activities, including water supply and disposal • identify, review and test innovative practices and procedures • interpret water quality and environmental monitoring results • implement the holding, display, hatchery, nursery or grow out operational procedures • monitor stock growth and health and associated activities, including feed supplies, health treatments and stocking densities • maintain, review and act on records of production through stages of production • use contingency plans and emergency procedures for the aquaculture, seafood holding or ornamental enterprise. Assessment must confirm knowledge of: • water quality and environmental testing required for given situations • water quality and environment parameters • environmental impact statement guidelines.
Context of and specific resources for assessment	Assessment is to be conducted at the workplace or in a simulated work environment. Resources may include: • functioning aquaculture, seafood holding or ornamental facility, including staff • laboratory.
Method of assessment	The following assessment methods are suggested:

EVIDENCE GUIDE	
	• record books • research assignment • third-party reference • workplace project.
Guidance information for assessment	This unit may be assessed holistically with units relating to production, for example SFIAQU401C Develop and implement a stock health program, SFIAQUA408C Supervise harvest and post-harvest activities, and other units in 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.	
<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, 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>Relevant government regulations, licensing and other</i>	• business or workplace operations, policies and practices:

RANGE STATEMENT

compliance requirements may include:

- 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
 - 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

RANGE STATEMENT	
	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 • OHS hazard identification, risk assessment and control • product quality assurance: • 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 (e.g. Australian Grown and ISO 14001:2004 Environmental management systems).
OHS guidelines may include:	• 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 safety procedures,

RANGE STATEMENT	
	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:	• Australian Shellfish Sanitation program • display, packaging and sale of food, including seafood and aquatic products • equipment design, use, cleaning and maintenance • 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

RANGE STATEMENT	
	• 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.
ESD principles may include:	• 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, chemical residues, contaminants, wastes and pollution • 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

RANGE STATEMENT	
	surface water flows from machinery use and other activities • reducing energy use and introducing alternative energy sources.
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) • 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 sunglasses) • uniforms, overalls or protective clothing (e.g. mesh and waterproof aprons) • waterproof clothing (e.g. wet weather gear and waders).
Production plan may include:	• broodstock or seedstock source • culture structures • feeding: • formulated • natural or cultured live-feeds and micro-algae • handling, harvesting and on-farm transport • layout: • farm • hatchery • nursery • monitoring:

RANGE STATEMENT	
	• environmental • stock • water • on-farm post-harvest • stock health.
Physical and operations records may include:	• breeding, feeding and production records • environmental conditions • financial information for taxation purposes • inputs and services to production • mortality and health management • purchased labour, contracting and share-farming costs • rations, sales and purchases • stock transfers.
Information can be obtained from:	• books and publications • extension services and farm consultants • farm input suppliers • field days, workshops and conferences • fisheries and aquaculture research institutes' (e.g. RTO's, universities and government departments) websites • news media and farm newspapers/journals • other farmers.

Unit Sector(s)

Unit sector	Aquaculture operations
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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