



Australian Government

Department of Education, Employment and Workplace Relations

SFIOBSV304B Analyse and report onboard observations

Release: 1

SFIOBSV304B Analyse and report onboard observations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency involves analysing trends, unusual occurrences and uncertainty in scientific and fisheries management data collected during onboard observations of fishing activities, and reporting results within the required timeframe. 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	This unit has application to observers analysing and reporting onboard observations. 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>.
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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. Check data and perform basic computations	1.1. Raw measurement data, estimations and observations are examined for consistency with expectations and reasonable ranges. 1.2. Scientific quantities are calculated with the required accuracy and precision, and checked. 1.3. Results are presented in appropriate formats.
2. Analyse trends and relationships between sets of data	2.1. Results are analysed to determine trends and relationships between sets of data. 2.2. Logical conclusions are drawn from the analyses. 2.3. Results that are inconsistent with expectations are recognised and reported. 2.4. Possible causes and effects of unexpected outcomes are identified by examining cruise records and notes of atypical observations.
3. Report results	3.1. Charts, tables and graphs are used to present results in the appropriate formats. 3.2. Reports are presented in a format and style consistent with requirements. 3.3. Results are communicated within the specified time and according to other organisational requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- analysing, recording and reporting scientific data and samples to enhance research and fisheries and environmental management
- critical thinking to identify and analyse trends and other non-standard findings from data collection and to draw logical conclusions as to likely causes and effects
- presenting and recording data and findings in formats appropriate for scientific and management uses
- reporting the results of observations during cruises to interested stakeholders.

Literacy skills used for:

REQUIRED SKILLS AND KNOWLEDGE

- preparing reports and presentations.

Numeracy skills used for:

- conducting measurements, estimations and analyses of data and samples collected during onboard observations.

Required knowledge

- environmental management procedures, regulations and codes of practice relevant to the specific sector within the seafood industry
- statistical analyses
- ESD principles and practices
- commercial fisheries and unique aspects relevant to the fishery, sector or geographic area
- fisheries management methodologies and associated data requirements
- fisheries research methodologies and the application of scientific data
- inductive and deductive reasoning processes
- work regime and typical equipment used to collect data on target species, product and likely by-catch.

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 analyse data from onboard observations and to draw reasonable conclusions about the impact of fishing on the resource, the ecosystem and the wider environment.

Assessment must confirm the ability to:

- apply basic statistical analyses to raw data
- follow relevant plans, procedures and protocols
- perform relevant calculations and analyses of data and samples collected
- present results in formats suitable for scientific and management purposes
- recognise non-standard samples and observations and assess possible causes and effects
- report findings that identify and provide possible explanations for unusual observations.

Assessment must confirm knowledge of:

- analytical techniques
- basic statistical analyses
- biological sampling techniques and other data collection methodologies
- fisheries and environmental management strategies
- fisheries research methodologies and the use of scientific data
- the Australian fishing industry, including major species, fishing methods and equipment.

Context of and specific resources for assessment

Assessment is to be conducted at the workplace or in a simulated work environment.

Resources may include:

- relevant documentation, such as:

EVIDENCE GUIDE	
	• data collection and sampling plans • observation procedures and protocols • recording and reporting forms.
Method of assessment	The following assessment methods are suggested: • examples of records and reports prepared by the candidate to illustrate analytical and reasoning capability • practical exercises involving the analysis of sets of data and samples to identify trends and likely impacts on resources • third-party reports, including reports from cruise crew members, fisheries managers and scientists • written or oral short-answer questions to assess underpinning knowledge.
Guidance information for assessment	This unit may be assessed holistically with other units in the Observer Skill Set: • SFIOBSV301B Monitor and record fishing operations • SFIOBSV302B Collect reliable scientific data and samples • SFIOBSV303B Collect routine fishery management data.

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>Relevant government regulations, licensing and other compliance requirements</i> are followed including:	• biodiversity and genetically modified organisms • biosecurity, translocation and quarantine • Australian Quarantine Inspection Service (AQIS) and other import requirements • business or workplace operations, policies and

RANGE STATEMENT	
	practices • correct marketing names and labelling • 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 • maritime and occupational diving operations, safety at sea and pollution control • OHS hazard identification, risk assessment and control
<i>OHS guidelines</i> 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 • 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 • the appropriate use, maintenance and storage of personal protective clothing and equipment (PPE).
<i>ESD principles</i> may include:	• applying animal welfare ethics and procedures • control of effluents, chemical residues, contaminants, wastes and pollution • maintaining biodiversity by sustainable fisheries or broodstock/seedstock collection • reducing energy use • improving energy efficiency • reducing emissions of greenhouse gases • reducing use of non-renewable resources • increasing use of renewable, recyclable and

RANGE STATEMENT	
	recoverable resources • undertaking environmental hazard identification, risk assessment and control.
Scientific quantities may include:	• conversion factors of species • mean, median and mode • measurements to support specific research projects • ratios • total counts, fractions, decimals, percentages and proportions • trends.
Methods of analyses may include:	• comparative • deductive • inductive • root cause • statistical.
Possible cause and effect issues may include:	• changed fishing practices, such as into wind, across wind and depth • equipment faults and calibration errors • environmental and ecological influences • equipment reading errors and faulty measuring and sampling techniques • fishing equipment and techniques • fishing pressure and effort • interaction with seals, turtles and dolphins and other protected species • sea bird abundance.
Appropriate formats may include:	• charts • databases • graphs • journals • logbooks • spreadsheets • tables • work sheets • written reports and memos.
Communication channels may include:	• email • journals and logs • radio • routine oral and written briefings

RANGE STATEMENT

	• satellite telephone • special written reports on unusual occurrences • SMS and ext • website, blogs, Twitter and other web-based media • written reports and memos.
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Unit Sector(s)

Unit sector	Observer operations
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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