



Qualification Specification

**GA Level 3 Diploma in Marine Biology and Ocean
Conservation Studies**

610/0262/8

This qualification is subject to the GA Centre Assessment and
Standards Scrutiny and General Moderation policy.

Section 1: Qualification Overview

1.1 Introduction: About this Qualification

Gatehouse Awards (GA) qualifications are designed to give candidates the skills to be active in the modern labour market and progress in their career and/or into higher level study.

This specification covers the Diploma-sized qualification in Marine Biology and Ocean Conservation Studies at Level 3.

This document provides centre staff, candidates and employers with an overview of the qualification content as well as the assessment and quality assurance requirements for this qualification.

This qualification is regulated by the Office of Qualifications and Examinations Regulations (Ofqual) in England and is part of the Regulated Qualifications Framework (RQF). All versions of this qualification are listed on the Register of Regulated Qualifications which is operated by Ofqual at <http://register.ofqual.gov.uk>.

This qualification is not designed to replace any existing qualifications.

1.2 Qualification Titles, Qualification Numbers and Important Dates

Qualification Title and Level	Qualification Number	Operational Start Date	Operational Review Date
GA Level 3 Diploma in Marine Biology and Ocean Conservation Studies	610/0262/8	03-01-2022	Jan 2027

1.3 Qualification Aims and Objectives

This qualification is an ideal qualification which will enhance candidates' job prospects and provide the underpinning knowledge for a successful career in marine biology and ocean conservation.

In the GA Level 3 Diploma in Marine Biology and Ocean Conservation Studies, learners will gain knowledge of the oceans, marine biodiversity and the interaction between marine life and humankind. Learners will understand the various threats to the oceans, seas and to specific marine environments and the impact of the increasing demands for aquaculture, alongside developing an understanding of other human activities such as marine engineering and freight, and how these affect marine life and the marine environment. In addition, learners will develop an understanding of conservation efforts in a variety of marine contents, examining in detail conservation efforts and ways used to mitigate the impact of climate change.

This qualification can be relied upon by employers to indicate that an individual has the knowledge and understanding to undertake a specific role in the workplace.

1.4 Qualification Structure and Overview: Units, GLH, TQT, Level and Credit Value

The structure of this qualification is as follows:

GA Level 3 Diploma in Marine Biology and Ocean Conservation Studies				
Mandatory Units	Unit Reference	Credits	GLH*	Study Time**
1. Principles of Marine Science: The Oceans	R/650/1084	5	40	10
2. Principles of Marine Science: Biodiversity	T/650/1085	5	40	10
3. Threats to Marine Life	Y/650/1086	6	40	20
4. The Demand for and Impact of Aquaculture	A/650/1087	6	40	20
5. The Impact of Humankind on the Sea, Oceans and Marine Life	D/650/1088	8	60	20
6. Principles of Marine Conservation	F/650/1089	8	60	20
		Total Credits 38	Total GLH* 280	TQT** 380

*Guided Learning Hours (GLH): Definition

The activity of a learner in being taught or instructed by – or otherwise participating in education or training under the immediate guidance or supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

**Total Qualification Time (TQT): Definition

The number of Guided Learning Hours assigned, plus an estimate of the number of study hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by – but, unlike Guided Learning, not under the immediate guidance or supervision of a lecturer, supervisor, tutor or other appropriate provider of education or training.

The number of study hours a learner is expected to undertake in order to complete each unit is expressed in the 'Study Time' above. This, including the GLH, provides the Total Qualification Time, or TQT, and represents an estimate of the total amount of time that could

reasonably be expected to be required in order for a learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of this qualification.

The estimates for Guided Learning Hours and Total Qualification Time above have been produced with due regard to information gathered from those with experience in education and training and is in line with guidance published by Ofqual on the allocation and expression of Total Qualification Time and Guided Learning Hours.

Level

The qualifications within this specification are designated at Level 3 on the Regulated Qualification Framework (RQF) according to the Level Descriptors for knowledge and understanding, which build on those used within the Qualifications and Credit Framework (QCF) and the European Qualifications Framework (EQF). This means that this qualification is considered by GA to lead to the outcome as follows:

Achievement at Level 3 reflects the ability to identify and use factual, procedural and theoretical knowledge and understanding of a subject or field of work to complete tasks and address problems that while well-defined, may be complex and non-routine, interpret and evaluate relevant information and ideas, and reflects an awareness of the nature of the area of study or work and different perspectives or approaches within the area of study or work.

1.5 Rules of Combination

This qualification consists of six mandatory units. There are no optional units.

The mandatory units within each qualification are detailed in Section 1.4 above. Candidates must successfully demonstrate their achievement of all the learning outcomes and assessment criteria within the mandatory units.

The learning outcomes and assessment criteria for each unit are provided in Section 4 below.

There are no further rules of combination.

1.6 Intended Audience, Age and Entry Requirements

This qualification is ideal for learners who work in, or intend to enter, a marine or ocean conservation related career.

This qualification is intended for learners aged 16 and above.

There are other no formal entry requirements for this qualification; however, due to the nature of the qualification content, those undertaking the qualification must have a proficient level of spoken and written English (e.g. GCSE Grade C / Grade 4 or above) or equivalent).

It is recommended that prior to commencing a programme of study leading to this qualification, candidates receive detailed advice and guidance from the training provider in order to ensure the programme and qualification will meet their needs.

1.7 Recognition of Prior Learning and Transfer of Credits

Recognition of Prior Learning (RPL) is a method of assessing whether a learner's previous experience and achievements meet the standard requirements of a GA unit or units prior to the candidate taking the assessment for the qualification, or part of the qualification, they are registered for.

Any prior learning must be relevant to the knowledge, skills and understanding which will be assessed as part of that qualification, and GA will subsequently amend the requirements which a candidate must have satisfied before they are assessed as eligible to be awarded the qualification.

Where there is evidence that the candidate's knowledge and skills are current, valid and sufficient the use of RPL may be acceptable for recognising achievement of a unit, units or whole qualification. The requirement for RPL in such instances will include a consideration of the currency of the knowledge gained by the candidate at the time they undertook the prior learning. RPL cannot be guaranteed in instances where industry practice or legislation has significantly changed in the time since the prior learning was undertaken / a previous award was issued.

No transfer of credits is permitted.

1.8 Relationship to Other Qualifications & Progression Opportunities

The GA Level 3 Diploma in Marine Biology and Ocean Conservation Studies is an ideal qualification from which a learner might progress onto higher level study, practical occupational training or a career in marine biology and ocean conservation.

Careers in this sector include marine animal welfare officers, ecologists and a wide range of careers in research-based and conservation roles.

1.9 Language of Assessment

This qualification is offered in English.

Further information concerning the provision of qualification and assessment materials in other languages may be obtained from GA.

1.10 Grading

All learning outcomes and assessment requirements must be met before a learner can be considered having achieved this qualification.

This qualification is not graded on a scale. Learners are assessed as Pass or Fail. Learners who aren't successful can resubmit work within the registration period.

1.11 Qualification Availability

This qualification is available via GA Approved Centres in the UK and internationally. If you would like further information on offering this qualification, please contact us.

Our contact details appear on our website, www.gatehouseawards.org

Section 2: Qualification Delivery, Assessment & Quality Assurance Model

2.1 Teaching and Learning Requirements

Courses leading to this qualification may consist of e-learning courses or classroom-based courses, or a blended option.

Learners can therefore undertake learning and assessment on a flexible basis.

Candidates must have suitable access to teaching and assessment staff as well as technical support. Specialist staff, high quality learning materials and access to assessment opportunities are essential for all centres.

Further details and guidance on the content of teaching and learning for each unit can be accessed by approved GA centres, or upon request.

2.2 Assessment and Quality Assurance Model

This qualification is delivered in-centre, where learners' work is internally assessed and internally moderated by centre staff to clearly show where learners have achieved the learning outcomes and qualification requirements. There is no requirement for external assessment.

Assessment, internal moderation and quality assurance activities are subject to external moderation and quality assurance conducted by GA. Centres operating this model are subject to the GA Centre Assessment and Standards Scrutiny (CASS) and General Moderation Policy.

2.3 Registering Candidates & Unique Learner Numbers

Candidates must be registered through the Ark, the GA online Learner Management System.

Owing to the Total Qualification Time of this qualification, the validity period of registrations made will be 2 years. Should a candidate not have achieved in the timescale, a new registration is required.

Each approved GA centre is provided with a user account to allow approved staff access to the online system.

Where the Unique Learner Number (ULN) of a candidate is known, this should be provided at the point of registration in order for GA to issue updates to the Learner Record Service.

2.4 ID Requirements

It is the responsibility of the centre to have systems in place to confirm each learner's identity.

Learners are required to declare that all work submitted for assessment is their own work.

2.5 Record Keeping

Records of learner's details, their work and any records of Reasonable Adjustments, Special Considerations and records containing learners' personal details must be kept by the centre in line with the Data Protection Act 2018 (including GDPR and all relevant privacy regulations) for a minimum of 2 years.

The centre must operate a safe and effective system of care and comply with clinical and information governance requirements, with appropriate policies and procedures in place to maintain confidentiality related to clients, staff and learners.

All records must be easily retrievable and made available to GA or the Regulator upon request.

Portfolios must be retained until the following External Quality Assurance visit to allow them to be sampled. Following external moderation and the award of a qualification by GA, centres may return portfolios to learners.

Records of all internal quality assurance and moderation activity undertaken must be kept and made available to GA upon request.

Section 3 – Centre Requirements: Assessment & Quality Assurance

Course providers offering these GA qualifications must ensure that they have the following resources in place.

3.1 Staff

The knowledge and experience of all staff involved in the teaching, assessment and internal quality assurance of this qualification will be considered during the approval and re-approval process and at External Quality Assurance Visits.

The course provider must ensure that they hold up-to-date and detailed information about the staff involved with the delivery and quality assurance of this qualification and must make records available to GA upon request. The information GA expects the course provider to hold for each member of staff includes, as a minimum:

- current up to date CV
- copies of relevant qualification certificates
- relevant and up to date CPD (Continuous Professional Development) records

The course provider must also ensure that they have the management and administrative arrangements in place which are suitable to support the registration of candidates and the qualification delivery.

Requirements for Teachers and Assessors

Those delivering and assessing this qualification must hold relevant qualifications.

Teachers and Assessors must hold relevant qualifications and have relevant expertise and experience.

GA recommends that Assessors hold relevant teaching or assessing qualifications suitable to support the making of appropriate and consistent assessment decisions.

Suitable teaching and assessing qualifications may include:

- Level 3 Award in Assessing Vocationally Related Achievement
- Level 3 or 4 PTLLS, or above (i.e. CTLLS or DTLLS)
- Level 3 or 4 Award/Certificate in Education and Training, Cert. Ed or PGCE
- Degree in Education
- Level 3 or 4 NVQ in Training and/or Learning & Development.

Assessors may be working towards a relevant equivalent teaching/assessing qualification under the guidance of a suitably qualified, experienced Assessor and their Internal Verifier.

Where a Teacher or Assessor does not hold teaching or assessing qualifications, they must ensure that they are able to demonstrate that they have delivered a minimum of 30 hours of teaching or assessing.

All staff involved with the delivery and assessment of this qualification must also be able to demonstrate ongoing professional development relevant to the sector subject area.

Requirements for Internal Moderators (also referred to as an Internal Quality Assurers or IQAs)

Assessors may have one or several appointed Internal Moderators.

This qualification are assessed by an Assessor and internally moderated and quality assured by an Internal Moderator to ensure standardisation, reliability, validity and sufficiency of the Assessor's assessment decisions.

Internal Moderators therefore need to have a thorough understanding of quality assurance and assessment practices, as well as sufficient technical understanding related to the qualifications that they are internally quality assuring. It is the centre's responsibility to select and appoint Internal Moderators.

To be able to perform the internal moderation and quality assurance role, an Internal Moderator must:

- have up-to-date working knowledge and experience of the specific occupational field
- have up-to-date working knowledge and experience of best practice in assessment and quality assurance
- hold one of the following Assessor qualifications or their recognised equivalent:
 - Level 3 Award in Assessing Competence in the Work Environment
 - Level 3 Certificate in Assessing Vocational Achievement
 - A1 Assess candidate performance using a range of methods
 - D32 Assess candidate performance and D33 Assess candidate using differing sources of evidence
- hold one of the following internal quality assurance qualifications or their recognised equivalent:
 - Level 4 Award in Internal Quality Assurance of Assessment Processes and Practice
 - Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice
 - V1 Conduct internal quality assurance of the assessment process
 - D34 Internally verify the assessment process
- show current evidence of continuing professional development in assessment and quality assurance.
- In addition, Internal Moderators must be familiar with GA's qualification requirements.

Internal Moderators may be working towards a relevant equivalent quality assurance qualification under the guidance of a suitably qualified and experienced Internal Moderator.

The Internal Moderator must have relevant occupational experience and hold relevant qualifications in the particular subject area being assessed. They must hold a regulated qualification at least at the level of the qualification they are assessing.

The knowledge and experience of Teachers, Assessors and Internal Moderators will be considered during the centre and qualification approval process and at External Quality Assurance Visits.

External Moderation (also referred to as External Quality Assurance or EQA)

Assessment and internal moderation and quality assurance activities are subject to external moderation and wider scrutiny and centre controls as per GA's quality assurance arrangements for centre-assessed qualifications

3.2 Assessment of Candidates

The centre must ensure that Assessors meet the requirements listed in Section 3.1 above in order to make assessment decisions leading to the award of these GA qualifications.

Candidates are assessed on the evidence contained within their portfolio.

3.3 Portfolio Requirements

Learners are expected to build a portfolio of evidence, clearly demonstrating where they have met the learning outcomes and qualification requirements.

Various types of evidence may be used, for example:

- essays/assignments
- short questions and answers
- workbooks
- professional discussions
- observations of performance in the workplace
- product evidence
- reflective accounts
- witness testimony
- records of questioning

Evidence in the portfolio should be mapped against the learning outcomes, reflect the type of evidence supplied and indicate its location within the portfolio. By using portfolio reference numbers, it will enable the learner, assessor, IQA and EQA to quickly locate the evidence submitted.

All evidence must meet CRAVES requirements.

3.4 CRAVES Requirements

Assessors must ensure that all evidence within the learner's portfolio judged to meet GA's 'CRAVES' requirements is:

- **current:** the work is relevant at the time of the assessment
- **reliable:** the work is consistent with that produced by other learners
- **authentic:** the work is the candidate's own work
- **valid:** the work is relevant and appropriate to the subject being assessed and is at the required level
- **evaluated:** where the learner has not been assessed as competent, the deficiencies have been clearly and accurately identified via feedback to the learner
- **sufficient:** the work covers the expected learning outcomes and any range statements as specified in the criteria or requirements in the assessment strategy.

3.5 Internal Moderation and Quality Assurance Arrangements

Internal Moderators (also known as Internal Quality Assurers or IQAs) ensure that Assessors are assessing to the same standards, i.e. consistently and reliably, and that assessment decisions are correct. IQA activities will include:

- ensuring Assessors are suitably experienced and qualified in line with the qualification requirements
- sampling assessments and assessment decisions
- ensuring that assessment decisions meet the GA 'CRAVES' requirements (Current, Reliable, Authentic, Valid, Evaluated and Sufficient)
- conducting standardisation and moderation of assessment decisions
- providing Assessors with clear and constructive feedback
- supporting Assessors and providing training and development where appropriate
- ensuring any stimulus or materials used for the purposes of assessment are fit for purpose.

Sampling of assessment will be planned and carried out in line with a clear IQA and moderation strategy, which incorporates the number of learners, number of Assessors, and the experience and competency of Assessors.

Centre IQAs may wish to refer to the guidance documents provided by GA to approved centres (available on the Ark) in order to formulate an appropriate Sampling Strategy.

3.6 External Moderation and Quality Assurance Arrangements

All GA Approved Centres are entitled to two EQA visits per year. Additional visits can be requested, for which there may be an additional charge.

EQA activities will focus on the centre's continuing adherence to and maintenance of the GA *Centre Approval Criteria* and the criteria and requirements for the specific qualifications for which it holds approval. These include:

- checking that the management of the centre and the management arrangements relating to the qualification are sufficient
- checking that resources to support the delivery of the qualifications, including physical resources and staffing, are in place and sufficient
- ensuring that the centre has appropriate policies and procedures in place relevant to the organisation and to the delivery and quality assurance of the qualifications
- the use of assessment materials and the arrangements in place to ensure that evidence for assessment is 'CRAVES' (Current, Reliable, Authentic, Valid, Evaluated and Sufficient)
- sampling assessment decisions against the qualification requirements across the range of levels, number of Assessors and assessment sites, according to the number of candidates
- the internal moderation and quality assurance arrangements
- sampling internal moderation records against the qualification requirements across the range of levels, number of Assessors and assessment sites, according to the number of candidates
- administrative arrangements
- ensuring that any actions from moderation and wider quality assurance activity have been carried out by the centre
- confirming any claims for RPL, reasonable adjustments or special considerations

Through discussions with centre staff, examining learner's work, moderation of assessment, talking to learners and reviewing documentation and systems, the GA EQA will provide the centre with full support, advice and guidance as necessary.

3.7 Venue Requirements

When training premises are used in the delivery of teaching and assessment of this qualification, centres should, wherever possible, provide suitable access in line with Disability Discrimination, Diversity & Equality law and regulations and any other regulations which apply.

3.8 Equipment

Centres must ensure that all products and equipment used in the delivery and assessment of this qualification must be authorised by GA and confirmed as fit for purpose and compliant with current Health and Safety legislation and any other relevant regulations. This will be considered at approval and during the on-going monitoring of centres.

Where specific products and equipment are required for the delivery and assessment of a GA qualification, the suitability of the products and equipment at the centre will be considered during the centre and qualification approval process and at External Quality Assurance Visits.

3.9 Teaching and Learning Resources

GA does not prescribe the use of set course books, workbooks or other materials but expects that centres providing such courses should use relevant and up-to-date, high-quality teaching and learning materials which allow candidates to adequately prepare for assessment.

All delivery and assessment resources should be inclusive of the principles of equality and diversity and the safeguarding of candidates.

GA provides additional resources for this qualification on the relevant qualification page of the website: www.gatehouseawards.org

Please note, any references to books, journals, websites or other third-party materials and publications made in this Qualification Specification are made in good faith only and Gatehouse Awards does not accept responsibility for the content of such materials or any opinions expressed within them.

3.11 Results

Centres may make claims for certification via the Ark when learners complete and the Assessor and Internal Moderator have confirmed achievement. Such claims for certification are subject to successful external moderation (EQA). Following the External Moderator's confirmation of a learner's achievement, GA will authorise claims for the certification of learners, details of which will be visible to the centre in the centre's Ark account. Certificates are usually issued within 10 working days of the award of the qualification.

3.12 Certificates

The qualification certificate will indicate both the title and the level at which the qualification is achieved.

Certificates will only be issued to learners who have achieved sufficient credits and met the rules of combination for the qualification they are registered for. If a learner has not achieved sufficient credits or failed to meet the rules of combination, the qualification certificate will not be issued.

Replacement certificates are available upon request.

Amendments to certificates are available upon request but may require the centre to provide evidence of the need for any amendment (e.g. learner proof of identification) and will involve the return of the original certificate. Replacements and amendments may incur an additional charge.

3.13 Direct Claims Status (DCS)

Direct Claims Status is not available for this qualification.

3.14 Appeals and Enquiries

GA has an appeals procedure in accordance with the arrangements for regulated qualifications.

General enquiries can be made at any time and should be directed to a GA Centre Administrator.

3.11 Ongoing Support

There are a number of documents on the GA website that centres and candidates may find useful: www.gatehouseawards.org

The website is updated regularly with news, information about all GA qualifications, sample materials, updates on regulations and other important notices.

Within the centre, a named Examinations Officer is responsible for ensuring that all information and documents provided to centre staff and candidates are correct and up to date.

GA must be kept up to date with contact details of all changes of personnel so centres can be provided with the best level of support and guidance.

At the time of approval, centres are assigned a designated Centre Administrator who is their primary point of contact for all aspects of service or support.

Learners should always speak to a member of staff at the centre for information relating to GA and our qualifications prior to approaching GA directly.

Contact details for GA can be found on the GA website www.gatehouseawards.org.

Section 4: Unit Specifications

4.1 GA Level 3 Diploma in Marine Biology and Ocean Conservation Studies (610/0262/8)

Mandatory Unit		GLH	Credits	Unit Reference
1	Principles of Marine Science: The Oceans	40	5	R/650/1084
<p>The learner will develop an understanding of the worlds' oceans including their properties and locations, the water cycle and water currents. Learners will also develop an understanding of the processes within the seas and oceans, including ocean hazards and natural disasters.</p>				
<p>Assessment Guidance</p>				
<p>Assessment of Learning Outcome 1 must cover the five oceans: the Pacific, the Atlantic, the Indian, the Southern and the Arctic oceans.</p>				

Learning Outcomes	Assessment Criteria
The learner will	The learner can
1. understand the location and characteristics of the oceans	1.1 Name and describe the locations of the oceans
	1.2 Describe the characteristics of each of the oceans
2. understand the physical and chemical properties of sea water	2.1 Describe the physical properties of water
	2.2 Describe the chemical composition of sea water
	2.3 Explain the difference between fresh water and sea water
	2.4 Explain what a thermocline is
3. understand the hydrological cycle	3.1 Explain what evaporation is
	3.2 Explain what condensation is
	3.3 Explain what precipitation is
	3.4 Explain what collection is
4. Understand water currents	4.1 Explain why water currents are important to the climate

	4.2 Explain why water currents are important to sea life
5. Understand potential ocean hazards and natural disasters	5.1 Describe how coastal zones can become hypoxic
	5.2 Explain why algal blooms are harmful to sea life
	5.3 Explain the harmful effects of marine debris and plastics
	5.4 Explain what a tsunami is and how it is generated
	5.5 Explain the significance of oil and chemical spills in the sea

Mandatory Unit		GLH	Credits	Unit Reference
2	Principles of Marine Science: Biodiversity	40	5	T/650/1085

Learners will gain knowledge of the characteristics, variety and variability of life in the sea, as well as the different marine environments and how marine life has adapted. The learner will also understand how marine biodiversity interacts with humankind and the importance of this within the field of medicine.

Assessment Guidance

Assessment for Learning Outcome 1 must include the five kingdoms of life: animal, plant, fungi, protist and monera. The six taxonomic categories must include: phylum, class, order, family, genus and species.

Learning Outcomes	Assessment Criteria
The learner will	The learner can
1. understand the biodiversity of marine life	1.1 Outline the importance of biodiversity to humankind
	1.2 Describe the characteristics of the kingdoms of life
	1.3 Describe the taxonomic categories which categorise all Kingdoms of life
	1.4 Describe how variability in biodiversity can be measured
2. understand the aquatic ecosystem	2.1 Explain what an aquatic ecosystem is
	2.2 Explain changes in species in relation to sea depth
	2.3 Describe how marine ecosystems have changed over time
3. understand the characteristics of different types of marine ecosystems	3.1 Describe the characteristics of coral reefs
	3.2 Describe the characteristics of sea grass beds
	3.3 Describe the characteristics of coastal ecosystems
	3.4 Describe the characteristics of mangrove swamps
4. understand adaptations of marine species	4.1 Describe symbiotic relationships between marine species

	4.2 Describe how marine species have adapted to differing pressures in the underwater environment
	4.3 Describe how marine species have adapted to saline conditions
5. understand how medicines are developed from marine species	5.1 Understand the role of aquatic species in relation to treatments for cancer
	5.2 Understand the role of aquatic species in relation to antibiotic resistance

Mandatory Unit		GLH	Credits	Unit Reference
3	Threats to Marine Life	40	6	Y/650/1086
<p>Learners will gain knowledge of how threats to marine life are multiple, and can be both naturally occurring and manmade. The learner will understand how storms and hurricanes threaten marine life, about the threat posed by changes in pH, and about the impact of global warming on marine life. In addition, learners will also understand how plastics, oil and debris affects marine life and how human activities, including fishing, pose a threat to marine species.</p>				
<p>Assessment Guidance</p>				
<p>No additional assessment guidance is available for this unit.</p>				

Learning Outcomes	Assessment Criteria
The learner will	The learner can
1. understand that multiple factors are a threat to marine species	1.1 Describe the multiple factors that can affect and threaten a single marine species
2. understand how storms and hurricanes threaten marine life	2.1 Explain how storms and hurricanes affect marine life
3. understand how changes in pH can damage marine life	3.1 Describe pH
	3.2 Explain marine acidification
	3.3 Explain the effects of acidification on marine species
4. understand how global warming affects the oceans	4.1 Explain the effects of global warming on the oceans
5. understand how plastics, oil and debris threaten marine life	5.1 Explain how plastics affects different marine species
	5.2 Explain how oil (both natural and spilt) affects different marine species
	5.3 Explain how debris affects different marine species
	6.1 Describe different methods of fishing and how they affect other species in the sea environment

6. understand how human activities threaten marine life	6.2 Explain how fish farming affects other species in the sea environment			
Mandatory Unit		GLH	Credits	Unit Reference
4	The Demand for and Impact of Aquaculture	40	6	A/650/1087
Learners will gain knowledge of the increase in demand for aquaculture, the reasons behind this increase and the different types of aquaculture around the world. In particular, the learner will understand the lifecycle and farming of salmon, as well as how fisheries impact on the environment, the fish and people who eat it.				
Assessment Guidance				
Assessment of Learning Outcome 2.2 must include consideration of (as a minimum) aquatic algae, crustaceans, fish, and molluscs. Assessment for Learning Outcome 3.1 must include each of the lifecycle stages: egg, alevins, fry, parr, smolts and adult.				

Learning Outcomes	Assessment Criteria
The learner will	The learner can
1. understand the factors which have increased demand for fish as a food source	1.1 Show how the demand and production of fish as food has increased over time
	1.2 Outline the health benefits of fish to humans as a healthy food source
2. understand the variety of aquaculture around the world	2.1 Name the countries with the highest aquaculture production
	2.2 Give examples of species used in aquaculture around the world
3. understand the lifecycle of wild salmon (<i>Salmo salar</i>)	3.1 Describe the lifecycle of wild Scottish salmon
	3.2 Describe the migration route of wild Scottish salmon across the Atlantic Ocean
4. understand the conditions and chemicals cultured salmon are exposed to	4.1 Describe the production cycle of Atlantic salmon in a fishery
	4.2 Describe diseases affecting farmed salmon
	4.3 Describe the pharmaceuticals and antibiotics used to treat diseases in farmed salmon
5. understand how the process of producing fish in fisheries can negatively affect the environment, the	5.1 Explain how the overcrowding of fisheries affects fish welfare
	5.2 Explain how using imported fish oils for feeding impacts foreign ecosystems

health of the fish and health of people who eat it	5.3 Explain the potential health risks to people from eating farmed salmon
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Mandatory Unit		GLH	Credits	Unit Reference
5	The Impact of Humankind on the Sea, Oceans and Marine Life	60	8	D/650/1088
<p>Learners will understand how humans impact on the sea, oceans and marine life through industrialisation, and about the impact of climate change and use of fossil fuels. Learners will gain knowledge of how fishing and tourism affects biodiversity, ecosystems and different species. In addition, learners will also consider the impact of marine engineering, freight, transport and the water, gas and oil industries.</p>				
<p>Assessment Guidance</p>				
<p>No additional assessment guidance is available for this unit.</p>				

Learning Outcomes	Assessment Criteria
The learner will	The learner can
1. understand how different human industries impact on the oceans	1.1 Identify industries that have an impact on the oceans and marine life
2. understand how human activities contribute to climate change and impact on the oceans	2.1 Describe how fossil fuel burning is leading to more carbon dioxide in the atmosphere
	2.2 Explain how climate change affects the oceans and marine life
3. understand how different types of tourism lead to changes in sea biodiversity, ecosystems, and water quality	3.1 Identify the types of tourism which have an impact on the oceans and marine life
	3.2 Explain how invasive species are introduced to different habitats via boats trips and cruise liners
	3.3 Explain how coral reefs are harmed by people diving and snorkelling
	3.4 Explain how increased sewage production from tourism can lead to eutrophication
4. understand how different ways of fishing affects marine species	4.1 Explain the impact of overfishing on the ocean and marine life
	4.2 Explain the impact of fisheries on the ocean and marine life

	4.3 Explain the impact of targeting rare or endangered marine species as a food source
	4.4 Explain the impact of the aquarium trade in marine species biodiversity
5. understand how marine engineering projects lead to the disruption of ecosystems, pollution and species loss	5.1 Explain the impact of deep-water oil and gas industry and the ocean and marine life
	5.2 Explain the impact of maritime freight production and transport on the ocean and marine life

Mandatory Unit		GLH	Credits	Unit Reference
6	Principles of Marine Conservation	60	8	F/650/1089
<p>Learners will gain knowledge of the range of methods used in preserving a variety of ecosystems, including coral reefs, sea grass beds, coastal ecosystems and mangrove swamps. Learners will also examine a variety of methods used to address the impact of climate change on marine environments, including sea warming and extreme weather, as well as developing an understanding of sustainable fishing and how controls can be applied for the prevention and restrictions of oils and plastics entering the sea.</p>				
<p>Assessment Guidance</p>				
<p>No additional assessment guidance is available for this unit.</p>				

Learning Outcomes	Assessment Criteria
The learner will	The learner can
1. understand different methods of preserving ecosystems	1.1 Describe methods used to preserve coral reefs
	1.2 Describe methods used to preserve sea grass beds
	1.3 Describe methods used to preserve coastal ecosystems
	1.4 Describe methods used to preserve mangrove swamps
2. understand how climate change can be mitigated with respect to acidification	2.1 Describe methods used to control acidification of sea bodies
3. understand how climate change can be mitigated with respect to sea warming and extreme weather	3.1 Describe how anthropogenic sources of carbon dioxide can be reduced
	3.2 Describe how reducing carbon dioxide levels can mitigate sea warming and extreme weather events
4. understand how overfishing and aquaculture can be controlled	4.1 Describe sustainable fishing practices
	5.1 Describe methods used to prevent and control the release of oils into the sea environment

5. understand measures to control the release of oils and plastics into the sea	5.2 Describe methods used to prevent and control plastics entering the sea
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Appendix 1: Internal Moderation and Quality Assurance Regulations and Guidance

3.1 Introduction to Internal Moderation

Internal Moderation is a centre's internal system that ensures learner evidence is complete and genuinely meets all the required criteria by which the learner is judged to have met in order to be awarded a qualification. The process involves regularly sampling and evaluating the centre's assessment practices and decisions, and it is the Internal Moderator's responsibility to act on their findings to ensure consistency and fairness.

Ensuring quality standards are maintained and are consistent within and across a centre's provision is the responsibility of the head of centre, who must ensure that suitable staff are in place to act as Internal Moderator(s) and provide full support and standards scrutiny of the centre's Assessment decisions.

3.2 Internal Moderation Processes

Internal Moderation involves three key processes: co-ordination of the assessment process, standardisation of assessment practice, and sampling of assessed work.

These processes are conducted by one Internal Moderator or, if there is more than one, a team of Internal Moderators who are under the direction of a Lead Internal Moderator.

Information about the experience and qualification requirements for Internal Moderators is provided in the *Qualification Specification*.

3.3. Co-ordination of the Assessment Process

Prior to delivery commencing, it is the Internal Moderator who will confirm that assessment tasks are appropriate. This may involve checking that proposed assessment activities, plans for practical assessments, or the briefs of any assignments or reports are fit for purpose. It may also include checking that internal tests or examination materials are fit for purpose.

In order to ensure that the planned assessment activities and materials are fit for purpose, the Internal Moderator will consider and judge whether the activities and materials provide inclusive opportunities for all learners to meet the assessment objectives and generate evidence which is current, reliable, authentic, valid, able to be evaluated and sufficient to meet the requirements of the qualification.

During delivery of assessment, Internal Moderators will work with the Assessment team, ensuring that assessment practices are being carried out correctly. This may involve observing assessment taking place.

3.4 Standardisation of Assessment

The standardisation process helps to ensure that all centre staff involved in the delivery, assessment and quality assurance are consistent and fair to all learners and interpret and follow the requirements of the qualification in the same way.

Internal Moderators are expected to ensure high levels of consistency across Assessors and centre delivery sites through sharing good practice and providing feedback and support, doing so accurately and in good time. The internal Moderator may highlight areas for further CPD or additional training as necessary.

3.5. Sampling Process

When planning and carrying out internal moderation activities, it is important that the Internal Moderator works to a sound sampling strategy to ensure that standardisation of assessment decisions can take place.

A centre's sampling strategy involves reviewing the quality of Assessor's judgements, which will include reviewing learner work.

The learner work may be sampled before the learner has completed the full qualification, for example by sampling one or two assignments, topic areas or units, as the learner completes them.

The Internal Moderator should check that planning and reviewing has taken place and feedback is given to learners by the Assessor. The Internal Moderator will also check and confirm the accuracy of the application of any mark schemes, guidance and overall assessment decisions.

The Internal Moderator will therefore be able to evaluate the quality and consistency of the Assessor's assessment decisions and be able to identify any problems at an early stage. It will highlight individual Assessor training and development needs, which in turn can inform the programme of CPD for the assessment team as a whole.

The Internal Moderator must plan their sampling activities as outlined below.

3.6 Establishing a Sampling Strategy

Sampling should enable the Internal Moderator to evaluate how Assessors have reached their decisions. They must be able to follow documentation which clearly shows that Assessors have checked that the evidence presented meets the rules of evidence.

Evidence must be confirmed by Assessors as '**CRAVES**'

- **Current:** the work is relevant at the time of the assessment
- **Reliable:** the work is consistent with that produced by other learners
- **Authentic:** the work is the learner's own work
- **Valid:** the work is relevant and appropriate to the subject being assessed and is at the required level
- **Evaluated:** where the learner has not been assessed as competent, the deficiencies have been clearly and accurately identified via feedback to the learner resulting in improvements in knowledge or competency leading to the award
- **Sufficient:** the work covers the expected learning outcomes and any range statements as specified in the criteria or requirements in the assessment strategy.

3.7 Planning Sampling Activities

The Internal Moderator should consider the following when considering the volume of work that they should sample:

- the learners' ethnic origin, age and gender to ensure a representative range of learners are sampled
- the Assessors' experience and qualifications, workload and their occupational competence. For example, if Assessors are qualified and experienced it may not be necessary to look at everything in a learner's portfolio. If Assessors have less than 12 months' experience, are new to the centre or a particular qualification, or perhaps have not assessed for a length of time, the Internal Moderator will need to sample substantially more of their decisions for the first 6 - 12 months
- the full range of assessment methods used for any one qualification, for example observation, witness testimony, professional discussion, reflective accounts, questioning, assignments, products, RPL, simulation, etc and ensure a good, representative range of assessment evidence is sampled
- previous feedback to Assessors regarding good practice and/or involved highlighting development needs, for example If the Internal Moderator has a particular concern regarding the assessment decisions of a particular Assessor they should focus on increasing the volume of work from that Assessor to continue increased monitoring and evaluation of risk
- whether any changes have been implemented relating to the assessment of the qualification or its units, for example if there have been amendments to the qualification specification, or instances where industry practice or legislation has changed
- the range of locations where assessments have taken place
- the sampling process must not be determined by any rule of thumb such as '10%.'

3.8 Producing a Sampling Plan

The Internal Moderator must develop a sampling plan at the beginning of the learner's (or cohort's) programme and record, on the plan, which topic areas/assessment methods they plan to sample, and when.

Copies of sampling plans should be made available to other Internal Moderators and the assessment team, and sampling carried out according to the plan.

Where variations are made, these should be recorded on the plan.

3.9 Completing a Sample Record

The Internal Moderator should record the quality assurance sampling activities on a Sample Record. As a minimum, this record must indicate the Assessor's decision, the content of the sample, the Internal Moderator's decision and relevant feedback to the Assessor.

Where the Internal Moderator agrees with the assessment decisions, certification claims can go ahead.

Where the Internal Moderator does not agree with the assessment decisions, full feedback must be given to the Assessor, with action points agreed which relate to the Assessor's areas for improvement and instructions for how the learner can be supported to produce the required evidence of knowledge and skills.

Sampling must take place before any certification claims are made by the centre and all records, including those of standardisation meetings, feedback to Assessors and CPD activity should be made available to the GA-appointed External Moderator (also referred to as the EQA) upon request.

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