



## National Unit Specification: general information

**UNIT** Fisheries Management: An Introduction (SCQF level 5)

**CODE** F6AM 11

### SUMMARY

This Unit allows candidates to develop some the basic knowledge and skills in relation to freshwater fish species, their habitat and the management practices associated with different types of fisheries. Using investigative techniques the characteristics of specific fisheries are identified and the management practices associated with these fisheries studied. Candidates will also have an opportunity to enhance their learning by assisting in a range of practical fishery management operations.

The Unit is suitable for candidates who want to develop or further develop their skills in freshwater fisheries and their management.

### OUTCOMES

- 1 Identify and describe British freshwater fish and their characteristics.
- 2 Investigate a freshwater fishery.
- 3 Investigate the fisheries management practices associated with the given fishery.
- 4 Assist with freshwater fishery management operations.

### RECOMMENDED ENTRY

While entry is at the discretion of the centre, it would be beneficial if candidates had previous experience and knowledge of freshwater fish and freshwater environments.

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#### Administrative Information

**Superclass:** SJ

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## **National Unit Specification: general information (cont)**

**UNIT** Fisheries Management: An Introduction (SCQF level 5)

### **CREDIT VALUE**

1 credit at SCQF level 5 (6 SCQF credit points at SCQF level 5\*).

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

### **CORE SKILLS**

There is no automatic certification of Core Skills in this Unit.

The Unit provides opportunities for candidates to develop aspects of the following Core Skills:

- ◆ *Communication* (SCQF level 5)
- ◆ *Problem Solving* (SCQF level 5)
- ◆ *Information Technology* (SCQF level 5)
- ◆ *Working with Others* (SCQF level 5)

These opportunities are highlighted in the Support Notes of this Unit Specification.

## **National Unit Specification: statement of standards**

### **UNIT Fisheries Management: An Introduction (SCQF level 5)**

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

#### **OUTCOME 1**

Identify and describe British freshwater fish and their characteristics.

##### **Performance Criteria**

- (a) Identify correctly freshwater fish with reference to an appropriate identification key.
- (b) Describe correctly the life cycles of given freshwater fish.
- (c) Describe correctly the habitat of given freshwater fish.
- (d) Describe correctly the diet and feeding behaviour of given freshwater fish.

#### **OUTCOME 2**

Investigate a freshwater fishery.

##### **Performance Criteria**

- (a) List and plot the distribution of freshwater fisheries in the local area on a given map.
- (b) Plan an investigation to identify the characteristics of a given fishery.
- (c) Carry out the identified tasks in the investigation.
- (d) Record the investigation observations of the characteristics of a given fishery.

#### **OUTCOME 3**

Investigate the fisheries management practices associated with the given fishery.

##### **Performance Criteria**

- (a) Identify the fishery management practices for the fishery.
- (b) Describe a range of fishery management practices for the fishery.
- (c) Record the investigation observations of the fishery management practices of a given fishery.
- (d) Review the findings of the investigation into the fishery management practices for the fishery with respect to both the fishery and the environment.

#### **OUTCOME 4**

Assist with freshwater fishery management operations.

##### **Performance Criteria**

- (a) Assist with the management of aquatic or riparian vegetation at a given fishery.
- (b) Assist with the repair or maintenance of bank side angler facilities at a given fishery.
- (c) Assist with fish stock management operations at a given fishery.
- (d) Demonstrate safe working practices at all times.

## National Unit Specification: statement of standards

### UNIT Fisheries Management: An Introduction (SCQF level 5)

#### EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

To achieve Outcome 1 written and/or oral evidence is required whereby the candidate must:

- ◆ identify eight species of freshwater fish by common name using a key; routes through the key must be clearly indicated.
- ◆ describe the life cycle of one species of freshwater fish
- ◆ describe the habitat requirements of one species of freshwater fish
- ◆ describe the diet and feeding behaviour of one species of freshwater fish

The evidence for Outcomes 2 and 3 will be gathered through the production of a single portfolio. Candidates must plan, visit and observe a range of fishery management practices taking place at a local fishery and include the following minimum information:

- ◆ three actual physical characteristics of the fishery from, size, flow, depth, substrate, temperature
- ◆ three actual chemical characteristics from, pH, oxygen, water hardness, water conductivity, total dissolved solids, phosphate, colour
- ◆ three actual biological characteristics from, aquatic plants, aquatic macro invertebrates, phytoplankton, zooplankton, fish.
- ◆ two environmental fishery management practices from, flow management, aquatic or riparian vegetation management, bank maintenance, tree planting, fencing, dredging
- ◆ two fish stock fishery management practices from, restocking, predator control, stock removal, brood stock capture, routine stock sampling
- ◆ two angler management practices relating to; swims, angling platforms, car parks, access paths, fishery rules, built facilities.
- ◆ Review one of the fishery management practices investigated and relate it to the fishery investigated in Outcome 2.

All investigations must be recorded and reviewed satisfactorily using a standard pro forma (see Assessment Support Pack)

The investigations for Outcomes 2 and 3 may involve groupwork but all investigation records must be the work of the individual candidate.

To achieve Outcome 4 performance evidence supplemented with an assessor observation checklist is required whereby the candidate must:

- ◆ assist with aquatic or riparian vegetation management on two occasions
- ◆ assist with the repair or maintenance of two bank side angler facilities from, for example, paths, fences, platforms, buildings
- ◆ assist with two fish stock management operations from, restocking, predator control, stock removal, brood stock capture, routine stock sampling
- ◆ demonstrate safe working practices during all practical activities

## **National Unit Specification: statement of standards (cont)**

### **UNIT**      Fisheries Management: An Introduction (SCQF level 5)

*The Assessment Support Pack (ASP) for this Unit provides sample assessment material. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard.*

## National Unit Specification: support notes

### UNIT Fisheries Management: An Introduction (SCQF level 5)

This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

#### **GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT**

This is an optional Unit in the NPA Rural Skills at SCQF level 5 but can also be taken as a stand alone Unit.

The context for this Unit is British freshwater fish and the fisheries they support. The Unit should provide information on the distribution of local fisheries, their general physical, chemical and biological characteristics and the practices that are employed in their management.

It is important that the practical aspects of the learning takes place involving fisheries management in either a work setting or simulated work setting. Partnerships with Land-based colleges, training providers or employers are likely to provide the most appropriate settings.

**It is important that the deployment of appropriate learning environments is preceded by a valid risk assessment, particularly identifying any protective personal equipment which the candidate may require.**

For Outcome 1 the emphasis should be on fish species found in local fisheries but should cover the main families of British freshwater sport fish, for example Salmonidae, Cyprinidae, Percidae and Esocidae.

Wherever possible fish identification should be carried out using actual specimens, though good quality detailed colour photographs or line drawings may be used. The external features that help to distinguish individual species should be used as an aid to identification.

The keying out process should be carried out using a simple key (eg the Institute of Fisheries Management Key) rather than the very comprehensive dichotomous fish identification keys.

Fish species of local interest should be selected for the description of life cycles, habitat requirements and diet and feeding behaviour; the descriptions should be fairly general.

For Outcome 2 the emphasis should be on a specific local fishery, either still water or running water and should cover the general physical, chemical and biological characteristics of the water in question. The investigation may involve the collection of data in the field for example through the measurement of physical and chemical characteristics using meters and the identification under guidance of weed and invertebrate species. The sampling and identification of fish species may be carried out in conjunction with Outcome 3 of the *Fish Capture and Handling* Unit. Alternatively information may be gathered from existing records relating to the fishery.

For Outcome 3 the emphasis is on the practical fishery management practices carried out on a specific local fishery; the broad range of techniques relating to the management of the environment, the fish stocks and the anglers should be covered. Consideration should also be given to the wider environmental implications of the fishery management practices.

## National Unit Specification: support notes (cont)

### UNIT Fisheries Management: An Introduction (SCQF level 5)

For Outcome 4 the practical routine fishery management operations should be practiced with the candidates assisting with the tasks.

The operations selected should reflect those practiced on local fisheries and could include the manual control of aquatic and riparian vegetation and the repair or maintenance of wooden structures such as angling platforms, path edgings, signs, fences, stiles or sheds.

The practical stock management operations should also reflect those used on local fisheries and could include assisting with restocking with fish ova, fry, parr or adult fish. Practical stock management operations including predator / competitor control, brood stock capture and routine fish stock sampling could be carried out in conjunction with Outcome 3 of the *Fish Capture and Handling* Unit

### GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

Candidates should be given the opportunity to identify fish which are of interest to them or form a part of their local freshwater fisheries.

The candidate should be familiar with the identification of species from different Families of British freshwater fish, for example Salmonidae, Cyprinidae, Percidae and Esocidae.

Wherever possible live specimens should be used but good quality photographs or digital images may be substituted.

Outcomes 2 and 3 should be developed by case studies based on site visits to an appropriate local fishery. Local organisations such as Scottish Environment Protection Agency, the District Salmon Fishery Board, the local Fisheries Trust and local fishery owners, employees and angling clubs could make valuable contributions to the knowledge and understanding. An investigative approach is encouraged and could involve teamwork on site and also for gathering background information using classroom, library and ITC resources.

Outcome 4 should be delivered in an entirely practical way with candidates assisting with practical tasks on local fisheries, ideally supported by individuals from within the industry.

### OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

Outcome 1 could provide opportunities for the development of *Problem Solving* at SCQF level 5 through the use of keys.

Outcomes 2 and 3 could provide opportunities for the development of *Communication, IT, Problem Solving* and *Working with Others* at SCQF level 5 through the investigations.

## **National Unit Specification: support notes (cont)**

**UNIT** Fisheries Management: An Introduction (SCQF level 5)

### **GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT.**

A suitable instrument of assessment for Outcome 1 would be restricted response questions.

For Outcomes 2 and 3 a portfolio of evidence.

For Outcome 4 a series of practical exercises.

### **Opportunities for the use of e-assessment**

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

### **DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS**

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)