Education and Culture
Lifelong learning Programme
LEONARDO DA VINCI

Aquaculture & Sports Fisheries

Fish Identification

EQF

Level

5

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http://pesfa.eu/

Fish Identification

EQF Level 5:

Credit Points: 10

Unit abstract

The aim of this unit is to give the student a basic understanding in the field of fish identification. A student should be able to recognise and name European fish species. The student should know a number of biological characteristics and also be aware of the role of fish species within ecosystems. The student should be aware of endangered species and understand the background of their endangered status.

For both, sport fishing, aquaculture and ecology, a thorough knowledge of fish identification is paramount. For sport fishing, knowledge is necessary to apply correct fishing techniques in appropriate scenarios. Within aquaculture, knowledge of identification is required to enable adaptation of farming systems to current and new cultured fish species. Fish identification is an important factor in understanding ecological systems and processes.

Learning outcomes

On successful completion of this unit a learner will:

1 Be able to identify fish species

2 Understand the basic concepts of fish biology

3 Understand the habitats of European fish species

4 Understand status, threats and policy status of fish species

Unit content

1 Be able to identify fish species
Identification characteristics: barbells; the position of the mouth; caudal fin; length of eye; gill opening; lateral line scales; anal fin; dorsal fin; pectoral fin; pelvic fin; length of snout; standard length.
Identify: relevant Common species, Non-native species and endangered species
Naming fish: Genus name; species name; English name; locale name.
Taxonomy: family, relationships.

2 **Understand the basic concepts of fish biology**
Metabolism: catabolism citric acid cycle; anabolism.
Anatomy: skin; organs; types of muscles, breathing, blood circulation.
Reproduction: sex determination, sex differentiation, sex hormones, female genital, ovarian cycle, male genital, egg maturation, fertilisation; K- strategy ; R strategy.
Development: From egg to adult.

3 Understand the habitats of fish species
*Habitat abiotic: l*entic species; lotic species; temperature; oxygen level; pollution, ph; dept of water; transparent; muddy/turbid; substrate.
Habitat biotic: food available; predation; competition; vegetation
Behaviour; anadromous; catadromous; migration; way of spawning; way of feeding; nocturnal; shade preferring; stenotopic; eurytopic.

4 Understand the status, threats, policy status, of fish species
Endangered species: identification of endangered species, background of threats measures to reduce threats; protective measures; reintroduction.
Legislation: Wildlife Acts and laws; fisheries law; minimum sizes; closed fishing periods; nature conservation laws.
International treaties: EU red list; IUCN red list; CITES; habitat guidelines

Learning outcomes and assessment criteria

Learning outcomes **On successful completion of this unit a learner will:**	**Assessment criteria for pass** **The learner can:**
LO1 1 Be able to identify fish species	1.1 Identify species by their characteristics 1.2 Name species by Latin, English and local terminology. 1.3 Explain relationships between species
LO2 2 Understand the basic concepts of fish biology	2.1 Explain how biotic and abiotic factors affect the metabolism of given fish species. 2.2 Explain in terms of their anatomy which kind of feed a species prefers. 2.3 Explain which factors are necessary for a species to be able to reproduce and maintain the population
LO3 3 Understand habitats of fish species	3.1 Explain on locations which species you expect in different habitats.
LO4 4 Understand the status, threats, policy status, of fish species	4.1 Discuss the endangered status of a range of fish species 4.2 Understand the influence of legislation and international treaties on sport fisheries, ecology or aquaculture.

Guidance for tutors

Delivery

Tutors delivering this unit have opportunities to use as wide a range of techniques as possible. Lectures, discussions, seminar presentations, site visits, research using the internet and/or library resources and the use of personal experience would all be suitable. Whichever delivery methods are used, it is essential that tutors stress the importance of animal welfare, sound environment management and the need to manage the resource using legal methods.

The identification of fish can be learned by using pictures, but it is preferred to work with real fish, if possible. This can be done for example during netting or fishing. It is also a possibility to use preserved fish.

Health and safety issues relating to working in and around water must be stressed and regularly reinforced, and risk assessments must be undertaken prior to practical activities. Appropriate personal protective equipment (PPE) must be used during practical work.

Tutors should consider integrating the delivery, private study and assessment relating to this unit with any other relevant units and assessment instruments learners may also be taking as part of their programme of study.

Essential requirements

Learners must have access to library resources, and a number of multimedia resources. There has to be the possibility to visit different locations.

An appropriate first-aid kit should be carried and appropriate PPE such as waterproof clothing and boots should be used. Lifejackets and throw ropes will also be needed for working in and around water.

Employer engagement and vocational contexts

Learners could be introduced to a variety of professionals, either as guest speakers or on off-site visits to different locations. This will broaden their depth of knowledge, enhance and contextualise their learning experience. Relating the unit content to the work of organisations such as wildlife trusts, the Worldwide Fund for Nature (WWF) or national scientific institutes regarding biology will strengthen the vocational relevance.

This unit presents opportunities to demonstrate higher-level skills in application of number, communication, information and communication technology, improving own learning and performance, problem solving and working with others.