LANFiM10

Catch fish using electrofishing techniques

Overview

This standard is about catching fish from a fishery using electrofishing techniques. It covers determining if the environmental conditions are appropriate for electrofishing. It also includes preparing electrofishing equipment for use, together with boats, nets and equipment used to hold live fish, setting up the fishing area and using electrofishing equipment safely to allow fish to be caught. The ability to observe and report on the effectiveness of the electrofishing operation is also important.

This standard requires the setting up of bankside and backpack electrofishing equipment including the generator, electrofishing control box, leads, anode and cathode.

This standard allows for modifying the methods of catching of fish due to large fish numbers, fish transfers, changes in water conditions or the species.

This standard requires that you carry out work safely in line with relevant legal and health and safety requirements and that you work to maintain bio-security and minimise environmental disturbance at all times.

The relevant legislation controlling the application of this standard will vary depending on the location – in England, Wales, Northern Ireland or Scotland.

Performance criteria

You must be able to:

1. carry out all activities required to safely catch fish using electrofishing techniques in line with relevant health and safety requirements
2. select and use appropriate personal protective equipment (PPE) for the work required
3. obtain the relevant fish-catching specification
4. confirm that the relevant licence/permit(s) to carry out electrofishing are in place before commencing the activity
5. undertake a risk assessment to determine if it is safe to electrofish
6. prepare and maintain equipment to the required standard for electrofishing
7. prepare suitable fish holding units to receive, and maintain the condition of fish
8. prepare the fishing area to minimise fish escapes
9. select the appropriate voltage for the conditions to capture, but not harm, the fish
10. operate nets and anode within a team
11. maintain communications with the team throughout the electrofishing activities
12. control electrofishing activity to ensure it only impacts the intended fishing area
13. observe the performance of the electrofishing operation, ensuring compliance with the relevant fish-catching specification
14. identify and communicate with the electrofishing team the need to stop or modify the electrofishing activity
15. handle captured fish in a manner that minimises stress
16. monitor and observe the recovery of fish and report on any signs of stress, disorder or abnormality to the appropriate person
17. implement emergency procedures in the event of an incident whilst performing electrofishing activities
18. sterilise, where appropriate, and store electrofish catching equipment after use, in accordance with requirements
19. maintain suitable levels of bio-security when catching fish using electrofishing techniques

Knowledge and understanding

You need to know and understand:

1. your responsibilities under relevant environmental, health and safety legislation and codes of practice associated with electrofishing activities
2. the importance of using the correct personal protective equipment (PPE)
3. why fish are caught as part of fisheries management operations
4. the environmental conditions required for holding fish
5. the correct licencing/permits required to carry out electrofishing
6. why electrofishing is the primary monitoring tool for many fisheries
7. the advantages and disadvantages of electrofishing
8. how natural features within a water body can help to define a fishing area
9. the range of electrofishing techniques, including the ways in which they are used to fish different types of water body (running water and still water) effectively
10. the importance of establishing suitable fishing areas in advance of electrofishing
11. the principles of electrofishing, including how electrofishing can damage fish
12. the equipment that is required to support electrofishing and how to prepare and maintain ready for safe operation
13. when to use boom boats and handheld anodes when catching fish using electrofishing
14. why it is important to remove fish quickly from the electric field
15. the expected reaction of different fish species during electrofishing activities
16. how to recognise stress in the stunned fish
17. how to recognise signs of recovery in stunned fish
18. why it is important to the electrofishing process to have sight of all people involved in the electrofishing activity
19. water conductivity and its importance to the setup and effective use of electrofishing equipment
20. the potential impact of adverse environmental conditions on electrofishing
21. how morphology, water temperature and fish size can impact on electrofishing activities
22. the importance of bio-security during electrofishing activities

Glossary

The definitions below should help you understand the standard:

Anode

An anode is an electrode through which conventional current flows into a polarized electrical device.

Conductivity

The ability of water to conduct electricity

Holding units

Equipment used to hold live fish e.g. buckets, dustbins, tanks, etc.

Morphology

A branch of biology dealing with the study of the form and structure of organisms and their specific structural features.

Water conditions

Visibility, water flow, depth, etc.

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