

Conduct field surveys

Overview

This standard covers conducting field surveys in accordance with a survey plan. It could also apply to conducting surveillance and monitoring and could be part of a wider assessment. Field surveys are important as the findings are often used to facilitate decision making.

Field surveys may include: landscape and marine features; flora and fauna, including species population assessment; habitat type and condition; environmental change; and human impact on the environment. Most surveys will involve both primary and secondary sources of data.

You must ensure that you have the required permissions, consents and licences prior to carrying out field surveys.

You must carry out your work in a way that takes account of its impact on the environment.

Your work must conform to all relevant legislation and codes of practice, industry standards and guidance.

This standard is suitable for anyone required to carry out field surveys and have responsibility for collecting and recording data. Analysis of data is covered in *LANEnC5 Analyse data from field surveys and report findings*.

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Performance criteria

You must be able to:

1. maintain the health and safety of yourself and others at all times, in accordance with the relevant legislation and codes of practice
2. assess the risks associated with the site and the work to be carried out, including the risks of lone working where relevant, before starting work and throughout the activity
3. clarify the purpose, scope and objectives of the survey, surveillance or monitoring and the specification for data collection and recording
4. clarify your role and responsibilities in conducting the survey and your relationship to others
5. clarify any relevant site restrictions or designations that are in place
6. confirm that you have any necessary permissions, consents or specific licences for both site access and species field data collection work
7. confirm that appropriate personal protective equipment (PPE) for the work to be carried out is worn at all times
8. use survey equipment and materials safely and correctly when conducting field surveys
9. conduct all survey work in accordance with the relevant environmental and health and safety legislation, risk assessment requirements, codes of practice and policies of your organisation
10. observe biosecurity measures while conducting field surveys
11. conduct field surveys by applying the specified survey techniques and check that data is accurate to the level required in the survey specifications
12. confirm that the data gathered meets the requirements of the survey specification and is valid, reliable and sufficient
13. take prompt action in accordance with the survey plan, where data cannot be obtained
14. take the required action when protected, or invasive non-native species, are identified
15. take care that the effects of your work and access do not adversely affect the condition of the survey site
16. communicate with interested parties and encourage them to ask questions or seek explanations, and provide them with information
17. deal effectively with issues that arise within the scope and limitations of your responsibilities and report issues that cannot be resolved, in accordance with organisational procedures
18. record all field survey data fully, in the format specified, and report within the required timescales in accordance with the survey plan

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Knowledge and understanding

You need to know and understand:

1. how to identify the site to be surveyed using maps and other methods
2. how to identify hazards and assess risks associated with the site and the work to be carried out and the importance of site-specific risk assessment and control measures that are appropriate for your area of work
3. the relevant health and safety procedures and Safe Systems of Work (SSoW), including lone working where appropriate
4. the purpose, scope and objectives of the survey, surveillance or monitoring and the requirements for data collection and recording
5. your responsibilities in relation to survey activity
6. the implications of any relevant site restrictions or designations that are in place
7. the relevant permissions, consents or licences required for both site access and species data collection, how to obtain these and the importance of providing proof of authority when conducting a field survey
8. the importance of public liability and professional indemnity insurance
9. the current legislation and codes of practice, industry standards and guidance, organisational policies, procedures and protocols, business and professional ethics relevant to your area of work, and to which you must adhere, including wildlife and access legislation
10. the type of clothing and personal protective equipment (PPE) suitable for the activity
11. the survey equipment and materials required, how to use them safely and correctly and any restrictions or relevant legislative constraints
12. the importance of biosecurity and the required biosecurity measures for the site
13. how to identify landscape features, flora and fauna, different habitat types, and the impact of humans on the environment, in accordance with the survey plan
14. why different survey methodologies are used on different occasions and at different sites and why they should be implemented as specified
15. the range of field survey techniques available, their advantages and disadvantages and the principles of their use
16. the methods of identifying relevant indicators for monitoring environmental change and the principles of monitoring against indicators
17. how to use primary and secondary data sources
18. the meaning of valid and reliable data and possible sources of error and bias in data collection

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19. the type of data that could be relevant to the survey but that is not included in the specifications
20. the action to take where data cannot be obtained
21. the differences between quantitative and qualitative information and the methods of collecting and recording these
22. the action to take when protected, or invasive non-native species, are identified, the organisational and legal requirements for reporting and possible consequences of not taking action
23. the ways in which conducting field surveys may impact on the habitat, wildlife or landscape and how to minimise this
24. your and the organisation's responsibility for protecting the environment and working sustainably
25. the importance of consistency and standardisation between surveyors
26. the importance of seeking validation and verification of species identification
27. the importance of communicating with interested parties and providing them with information when conducting field surveys
28. the importance of checking that completed work meets requirements in accordance with the information provided
29. the issues that can occur when carrying out field surveys, the actions to take and organisational procedures for reporting issues that cannot be resolved
30. the limits of your expertise and where to seek advice
31. the required format and timescales for the reporting of data, and the need for confidentiality when data contains personal details in accordance with data protection legislation

Glossary

Data collection methods could include: written, oral, aural, electronic, visual

Examples of field surveys:

The term “survey” is open to broad interpretation due to the wide range of surveys, including physical, biological and cultural, that are carried out in different contexts, using a range of techniques. The following list gives a guide to survey themes and the minimum level of complexity that would be appropriate:

- **surveys of biodiversity:** the presence or abundance or distribution of a particular species of plant or animal. Species population assessment. Working with diversity indices.
- **surveys using standard classification systems used in conservation:** for example, a Nature Conservation Council Phase 1 habitat survey which uses the recognition of groups of plant species to allow a terrestrial habitat classification, such as mapping and counting of indicator species for an ancient woodland.
- **surveys of people:** for example, counting the number of visitors using a public right of way or promoted access trails, or a beach; conduct visitor interviews or evaluate local support for a project.
- **surveys of the effects of farming/fishing/tourism activities:** such as an index of grazing on moorland, damage being caused to coastal dunes by visitors, the effectiveness of “motor-bike traps” on a bridleway or the destruction of marine seagrass beds by boat anchoring.
- **surveys of habitat:** that is the physical environment of any community, involving factors such as vegetation, geology, geomorphology, soils, sediments, topography, temperature, wind, rain, river flow, water quality, tides and waves.
- **surveys of contamination of the natural environment as a result of pollution:** investigations might look at the extent and intensity of chemical damage to the habitat and associated biological impacts.
- **surveys of the status of conservation effort:** examples might include mapping access networks, the condition of a footpath network and ancillary structures (signs, handrails, access points), archaeological features or the level of erosion to river-retaining banks, sand dunes and the foreshore.
- **surveys of the effects of climate change:** could include effects on biodiversity, agriculture, weather, water levels, progress towards climate change targets.
- **operational surveys:** could include stocking density assessments for forestry, to confirm mapping accuracy, fence lines etc.
- **inventory surveys:** to establish production and volume assessments for forestry and could also include plant health surveys, herbivore impact surveys etc

Interested parties:

- those directly involved
- those affected by, or with an interest in, the site

National and industry guidelines for surveys include: National Vegetation Classification (NVC) Phase One Habitat Survey; British Trust for Ornithology Breeding

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Bird and Wetland Bird surveys; Bat Survey Guidelines; UK Butterfly Monitoring Scheme; Environment Agency River Corridor or Joint Nature Conservancy Committee Intertidal surveys.

Sources of data:

- primary
- secondary

Surveys could include:

- a one-off activity to collect data for a prescribed purpose e.g. a baseline survey
- surveillance: a repeated survey building up a picture that can detect change but does not trigger action
- monitoring: repeated observations building up a picture that can detect change and trigger action

Techniques could include:

- mapping/aerial photographs
- use of cameras, drones, GPS, radar tracking, remote sensing, audio telemetry, earth observation technology etc
- counting and estimating
- use of citizen science
- sampling
- tagging
- trapping

Types of data:

- qualitative
- quantitative

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