

Apply species identification skills

Overview

This standard covers the application of species identification skills. Species identification is described by the Linnaean Society as, "working out what an organism is".

This standard is about the fundamental principles and procedures involved in making accurate and precise identifications of species (either fauna or flora) across all environments: terrestrial, freshwater, coastal and marine. It can be applied to native and non-native (i.e. alien species) species.

The characteristics of each species provide the tools for conservationists to identify them based on their taxonomy and environment. There are a range of techniques and tools required for correct species identification. Tools include the use of microscopes, field guides, technological equipment (e.g. sonar), keys (e.g. dichotomous, lateral), sound recording (e.g. bird, whale calls) and field signs.

Species identification skills form the basis of scientific enquiry and the conservation and management of biodiversity, which help, for example to inform key development and policy decisions.

This standard is suitable for ecologists and those who work in environmental conservation. Users of this standard are not expected to be expert in every species but are more likely to specialise in one or more habitat groups.

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Performance criteria

You must be able to:

- P1 clarify the purpose and scope of the species identification activity
- P2 select and use equipment and resources for the identification of species safely and correctly and comply with any restrictions or legislative constraints specified within the area of work
- P3 ensure you are aware of, have access to, and know how to use, relevant sources of information to aid species identification
- P4 clarify any relevant site or species restrictions or designations that are in place
- P5 identify and obtain any necessary permissions, consents or specific licences for both site access and species field data collection work
- P6 use the following to help indicate the likely species that are to be found:
 - P6.1 the location of the site e.g. its geographical location, altitude
 - P6.2 the time of year
 - P6.3 any present and historical, natural and man-made influences upon the site
 - P6.4 the ground and habitat types
- P7 identify appropriate indicator species that could infer the presence/absence of other associated species
- P8 apply identification skills to identify species
- P9 record relevant details to help confirm species identification, collecting specimens or samples where appropriate
- P10 ensure any species that are handled are done so in an appropriate manner and in accordance with any legislative requirements
- P11 observe appropriate bio-security measures
- P12 apply conventions for naming species correctly
- P13 identify factors that might influence the reliability and accuracy of correct species identification
- P14 recognise the limits of your own expertise and seek advice or validation where necessary
- P15 take appropriate action when protected or invasive non-native species are identified
- P16 follow relevant protocols, codes of conduct and legislation when carrying out species identification
- P17 carry out all work in accordance with relevant environmental and health and safety legislation, risk assessment requirements, codes of practice and organisation policies

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Knowledge and understanding

You need to know and understand:

- K1 the purpose and scope of the species identification activity
- K2 the equipment and resources required for species identification
- K3 relevant sources of information that can be used to aid identification and how to use these
- K4 the implications of relevant site restrictions or designations that are in place
- K5 how to obtain any relevant permissions, consents or specific licences for site access or species field data collection work
- K6 how the following may help indicate likely species that are to be found:
 - K6.1 the location of the site e.g. its geographical location, altitude
 - K6.2 the time of year
 - K6.3 the present and historical, natural and man-made influences upon the site
 - K6.4 the ground and habitat types
- K7 the species likely to be found in different types of habitat, their sounds, tracks, trails and signs
- K8 how to identify species at different stages of growth and at different times of the year
- K9 the hazards associated with handling species, safe working practices and any legal requirements
- K10 the importance of bio-security and appropriate bio-security measures for the site
- K11 the key characteristics of the main representative species within taxonomic groups or phyla and associated conventions for species nomenclature
- K12 how to use appropriate keys and techniques to identify species
- K13 how to record appropriate details to confirm species identification
- K14 the limits of your own expertise and where to seek advice
- K15 the importance of getting species identification validated
- K16 the action to take when protected or invasive non-native species are identified, the organisational and legal requirements for this and the possible consequences of not taking action
- K17 the potential impact of your activities on the environment and how to

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- K18 relevant protocols, codes of conduct and legislation when carrying out species identification and recording
- K19 how to record relevant details and the appropriate agencies to supply records to
- K20 your responsibilities under relevant environmental and health and safety legislation, codes of practice and organisation policies

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Glossary

Species found in terrestrial, freshwater, coastal and marine ecosystems include:

- Algae, including seaweeds
- Fungi
- Plants, ranging from 'lower order' mosses and liverworts to grasses and trees
- Invertebrates
- Amphibians and reptiles
- Birds
- Vertebrates, including mammals

Invasive non-native species - A list of high priority species is available on the GB National Non-native Species Secretariat (NNS) website together with advice on action to take and a system to report findings.

Possible action to take when protected or invasive non-native species are identified:

- report
- surveillance
- monitoring
- management

Survey: a one-off activity to collect data for a prescribed purpose e.g. 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

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