

Competency Standard for Otter Survey, Mitigation and Management

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CIEEM

Acknowledgements

Development of this Competency Standard was informed by the Ecological Competences: Skills and Process document developed by the team at Atkins (2019).

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Notes

a) Achievement of the **Capable** level requires meeting all criteria at both **Foundation** and **Capable** levels. Achievement of the **Proficient** level requires meeting all criteria across all three levels.

b) '**Experience**' means that you have done so on numerous occasions.

All practitioners should have knowledge and understanding of:	
Otter ecology and behaviour	Understanding, as far as possible in context of limited published material, of: 1) Behaviour, distribution, seasonality, historic changes in population 2) Breeding, natal features and behaviours related to breeding 3) Approximate territory ranges/sizes and social organisation 4) Adaptability, habitat requirements and diet 5) Pressures and risks to otters, including potential human-otter conflicts.
Distribution	Knowledge of national and local distribution in the UK and/or Ireland, including an understanding of where otter populations are well established and where otters are recolonising.
Conservation status	Knowledge of conservation status with reference to constituent parts of UK and Europe as a whole. Understanding of the key threats to otters and the reasons for their decline and subsequent recovery.
Health and safety	Knowledge and understanding of health and safety issues associated with these surveys, including identifying safe survey techniques such as using boats, waders, working at height, etc. Able to recognise other safety issues associated with working by/in water, e.g. water level, flow, silt, risk of leptospirosis, urban sites, etc. Able to plan and undertake work in a safe manner, incorporating appropriate personal hygiene measures and controls. Able to record the controls and responses to change by way of an appropriate risk assessment or method statement.
Biosecurity	When undertaking surveys an awareness of appropriate biosecurity measures for self and other surveyors including cleaning and disinfecting equipment before deploying. Awareness of aquatic and terrestrial non-native species. Undertake as standard appropriate biosecurity measures (use nationally approved disinfectants) relating to working near water (both still and flowing) and working with animals. Able to undertake the 'check, clean, dry' methodology.
Key References and Reading List	See relevant section of CIEEM's Good Practice Guidance for Habitats and Species V3 (May 2021).

Competency Standards			
Activity	**Foundation**	**Capable**	**Proficient**
Policy and legislation (P1.1)	Awareness of key legislation and a basic understanding of the different types of protection afforded by the legislation. Awareness of local and national policies and initiatives aimed at species recovery and environmental protection. Awareness of the planning process and guidance.	Good knowledge and understanding of legislation and offences. Can correctly interpret the legislation with regard to specific scenarios (e.g. planning, design, licensing and construction scenarios) and is able to provide accurate advice.	Is regularly approached for advice and may provide training to other ecologists on policy and legislation with respect to otters. Is experienced with managing risks to landowners, developers and contractors arising out of environmental, legal and policy requirements. Is able to lead consultation with relevant authorities.
Licensing and permissions	Awareness of licences available and required for otter survey. Awareness of which survey techniques require otter survey and/or camera-trapping licences and when a licence is not required for survey (these may be region-specific). Awareness of when development licences are required (can provide examples of typical licensable and non-licensable development activities). Awareness of the legal basis, purpose, and process of licences, and the requirement to comply with licence conditions (these may be region-specific).	Has detailed knowledge of survey techniques that require otter survey and/or camera trapping licences and can discern licence requirements in non-standard cases. Holds or is eligible to hold an otter survey and/or camera trapping survey licence (where regional legislation permits). Good knowledge of the development licence process and good understanding of when a licence is required. Good understanding of the three tests/ considerations to obtain a development licence, understanding of what an appropriate level of mitigation is. Competent to be named as an accredited agent, and to be the named ecologist, on a development licence. Capable of implementing a non-complex licence (e.g. for destruction or disturbance of a non-breeding resting site). Consistently able to identify the correct licensing route for a project.	Has in-depth knowledge and experience of licensing requirements and application processes with regard to otters. Has prepared successful otter development licences and method statements and can implement a complex licence (e.g. destruction or disturbance of breeding sites). Holds or is eligible to hold an otter survey or mitigation licence. Provides advice and training to other ecologists on licensing.

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Activity	**Foundation**	**Capable**	**Proficient**
Field survey 1 – Planning and undertaking field survey. (S1)	Awareness of the principles of otter survey. Adoption of good practice guidelines when they are available. Has started to put principles into practice by assisting with surveys (under supervision) and understands when/how they should be applied. Assists with survey planning (including geographic extent and the application of suitable survey buffers). Starting to apply knowledge to commonly applied fieldwork techniques consistently and effectively whilst under supervision. Awareness of a wide range of otter field signs and how they might differ from other species. Developing the ability to identify a wide range of otter field signs and distinguish otter signs from other species under supervision. Knowledge of the full range of habitat types where you would expect otter presence. Awareness of requirement to conduct field sign surveys sensitively, minimising potential disturbance.	Experienced in regularly leading standard/ non-complex otter survey (e.g. presence/absence surveys, surveys to locate potential resting sites) and survey planning, in a range of habitats in context of the purpose of the survey. Regularly applies knowledge of survey methods. Designs surveys at a suitable geographic scale, relevant to the aims/objectives of the survey, reflecting knowledge of otter ecology and the importance of territorial range for otter. Consistently demonstrates a competency in finding and identifying a wide range of otter field signs. Consistently is able to differentiate signs of otter from other species. Demonstrates ability to conduct field sign surveys sensitively, minimising potential disturbance.	Regularly designs, leads and coordinates effective surveys for projects with complex otter impacts (e.g. road/ rail schemes, large hydro schemes, large flood protection schemes) or large catchment-based conservation projects, or can demonstrate an equivalent level of experience through a long period of surveying at smaller sites. Is regularly approached and provides support, training and advice to other ecologists on planning/ undertaking otter surveys and identification of field signs. Able to provide technical review and support for surveys, including complex surveys. Complex surveys encompass interpretation of how otters may be using habitats at the landscape level, monitoring activity using direct methods and determining breeding areas.

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Activity	**Foundation**	**Capable**	**Proficient**
Field survey 2 – Identification of resting sites and important features. (S1)	Awareness of structures and habitats that suggest potential as resting sites and awareness of other important features. Basic understanding of the need to build up evidence base to support interpretation. May have assisted on surveys where potential resting sites and other important habitat features have been recorded, classified and monitored. Understands the importance of conducting potential resting site surveys within the limits of protective legislation (refer to licensing section). Awareness of camera-trapping and developing knowledge under supervision as to when camera-trapping could be advantageous.	Knowledge and experience of resting site identification and classification. Takes account of importance of features considering factors such as connectivity, resources and seasonality. Proven awareness of the diversity of potentially suitable resting site features (natural and man-made). Has experience in leading surveys where potential/confirmed resting sites and other important features have been identified. Conducts potential resting site surveys within the limits of legislation (refer to licensing section). Able to design a camera-trapping survey that addresses survey aims. Knowledge of variables that affect probability of detection. Understands situations where camera-trap surveys are not appropriate. Able to minimise potential disturbance from camera-trapping. Demonstrates ability to identify the sex of animals if image capture quality is good. Able to record data from camera-trap survey in a format that facilitates interpretation and summarise this in a report.	Is regularly approached and provides support, training and advice to other ecologists in identification of resting sites. Designs or provides technical review and support for resting site surveys. Demonstrates ability to interpret camera-trapping datasets, identify data-gaps and potential sources of bias. Has undertaken many camera-trapping surveys and has experience and knowledge of behaviours at resting and breeding sites.
Field survey 3 – Understanding survey limitations (S1)	Awareness of optimal survey timings, frequency, intervals and weather conditions for otter assessment and how these factors can impact interpretation/survey results/ false-negatives. Awareness of the limitations of sign-based surveys for presence of otter and avoiding over-interpretation of field signs in relation to assessing otter activity. Awareness of common factors limiting the survey results such as health and safety and access constraints.	Good knowledge and understanding of how otter ecology and other factors can limit and/or bias surveys and their interpretation.	Is regularly approached and provides support, training and advice to other ecologists. Designs or provides technical advice and review for surveys reflecting survey limitations.

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Interpretation (SM3)	Able to obtain and interpret metadata information (for example, survey data, biological records, habitat assessment, project design and programme) under supervision and report accurately whilst acknowledging limitations and uncertainties. Awareness of how metadata can be used to formulate and justify approaches, through the formulation of conclusions.	Able to independently interpret results to form a hypothesis of otter use of a habitat/site whilst acknowledging limitations and uncertainties. Able to make evidence-based conclusions. Able to use data collected to provide robust assessment and formulate justifications for approach taken.	Able to obtain and interpret information as part of a non-standard assessment. Able to interpret results to form a hypothesis of otter use of a habitat/site whilst acknowledging limitations and uncertainties for non-standard scenarios. Able to use information analysed to form robust evidence-based conclusions.
Impact assessment (A4)	Able to interpret survey results and form a hypothesis with guidance from a supervisor, in context with limitations and uncertainties. Awareness of impacts and the zone where this applies to otter welfare, behaviour or use of a site. Aware of limitations as detailed in Field Survey 3.	Able to independently interpret results to form a hypothesis of otter use of a habitat/site whilst acknowledging limitations and uncertainties. Able to make evidence-based conclusions. Able to use data collected to provide robust assessment and formulate justifications for approach taken. Able to independently interpret survey results, including any constraints identified, to form a hypothesis of otter use of non-complex or small-scale sites. Able to apply knowledge of otter use of the site to assess the likely impacts of site work or land management practices on otters. Designs appropriate and effective mitigation or management strategies unsupervised in non-complex cases. Applies knowledge of both the geographical value of an otter population and legislative status. Applies knowledge of limitations (Field Survey 3). Understands when Habitats Regulations Appraisal (HRA) is necessary (where otter is a qualifying Annex II species).	Able to interpret results relating to complex or large-scale projects, to form a hypothesis of otter use of the site whilst acknowledging limitations and uncertainties. Is regularly approached for advice and may provide training to other ecologists. Able to provide technical review and support for more complex assessment. Applies knowledge of limitations (Field Survey 3).

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Activity	**Foundation**	**Capable**	**Proficient**
Mitigation and compensation design (M2)	Awareness of standard avoidance, mitigation, restoration, compensation and terrestrial/aquatic management techniques and when they could be used. Awareness of the mitigation hierarchy (avoid/reduce/compensate) and identify appropriate measures to be incorporated into the design of the works or site management under supervision.	Working knowledge of the applications, limitations and risks of different avoidance, mitigation, restoration and compensation techniques, restoration plans, terrestrial/aquatic management options and application to different projects. Applies knowledge of management techniques and when they could be used, such as timing of works, safe working distances from resting sites, fencing, culvert design and the design and siting of artificial holts. Designs appropriate and effective mitigation or management strategies unsupervised in non-complex cases. Designs appropriate solutions for whole project lifetime in standard/non-complex cases including the design and implementation of mitigation. Able to clearly articulate, evidence and justify appropriate options. Experience of overseeing avoidance, mitigation, restoration, compensation, and terrestrial/aquatic management projects.	Able to design appropriate avoidance, mitigation, restoration, and compensation solutions for large/complex or multiple projects in conjunction with other considerations (e.g. habitat condition, prey availability). Has experience of leading the implementation of mitigation and compensation strategies for complex, large-scale or multiple projects. Is regularly approached for advice and may provide training to other ecologists.



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