End Point Assessment Plan: ST0577 Level 7 Non-integrated Degree Apprenticeship ECOLOGIST

CONTENTS

1. Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Ecologist apprenticeship standard. It is for end-point assessment organisations (EPAOs) who need to know how EPA for this apprenticeship must operate. It will also be of interest to Ecologist apprentices, their employers and training providers.

The apprenticeship has three options, Ecological Consultant, Ecological Scientist and Landscape Ecologist. It is not integrated, and the MSc qualification must be completed prior to the gateway.

Full time apprentices will typically spend 36 months on-programme (before the gateway) working towards the occupational standard, with a minimum of 20% off-the-job training. All apprentices will spend a minimum of 12 months on-programme.

The EPA period should only start, and the EPA be arranged, once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, all of the pre-requisite gateway requirements for EPA have been met and that they can be evidenced to an EPAO.
All pre-requisites for EPA assessment methods must also be complete and available for the assessor as necessary.

For level 3 apprenticeships and above, apprentices without English and mathematics at level 2 must achieve level 2 prior to taking their EPA.

The EPA must be completed within an EPA period lasting a maximum of 6 months, beginning when the apprentice has met the EPA gateway requirements.

The EPA consists of 3 distinct assessment methods:

Viva (supported by on–programme portfolio);
Practical Demonstration and Q&A;
Report and Presentation.

Viva (supported by on-programme portfolio)
Fail
Pass
Merit

Practical demonstration and Q&A
Fail
Pass
Merit

Report followed by presentation
Fail
Pass
Merit

The application for EPA will include evidence that the gateway condition has been met, will identify the option, include the apprentice's on-programme portfolio (which underpins the Viva) and list relevant subjects for the report and presentation. The options are: Ecological Scientist, Ecological Consultant or Landscape Ecologist.

Throughout the EPA process the apprentice will be expected to demonstrate professionalism in all the assessment methods.

2. EPA summary table

On-programme	Training to develop the occupation standard's knowledge, skills and behaviours
End Point Assessment Gateway	• Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard • English/mathematics at Level 2 • Achievement of MSc degree (L7) in an ecological discipline relevant to their job role for example; Ecology, Environmental Conservation or Conservation Biology • Identification of the chosen option (Ecological Scientist, Ecological Consultant or Landscape Ecologist) • Apprentices must have compiled the on-programme portfolio • List of 3 potential and relevant subjects for the report
End Point Assessment (within 6 months of passing the gateway)	• Viva (supported by on–programme portfolio); • Practical Demonstration and Q&A • Report and Presentation
Professional recognition	Aligns with recognition by: • Appropriate level of membership of the Chartered Institute of Ecology and Environmental Management.

Length of End-Point Assessment Period
The EPA will be completed within an EPA period lasting up to 6 months, beginning when the apprentice has passed the EPA gateway.

Order of Assessment Methods
The assessment methods can be delivered in any order.

3. Assessment Gateway

The trigger for the apprentice to be put forward for EPA by the employer will be the successful achievement of an MSc degree (L7) in an ecological discipline relevant to their job role, combined with employer being satisfied that the candidate has achieved the required occupational competency.

Apprentices without a minimum Level 2 qualification in English and mathematics will be required to achieve this level prior to being put forward for EPA. This stage is known as passing through the Assessment Gateway.

For the viva the apprentice will be required to submit:

- On-programme portfolio. This should demonstrate how each work project and training activity helps to achieve the Knowledge, Skills and Behaviours (KSBs) mapped to this assessment method.
- Include individual pieces of evidence to demonstrate competence against one or more KSBs mapped to this assessment method.
- Evidence sources may include evidence of work undertaken which may be supported by: client feedback, witness testimonies, employer/trainer feedback, training records, appraisal records, training course completion. This list is not definitive, other evidence sources are permissible however reflective accounts and self-evaluations are not allowed.
- The on-programme portfolio itself is not assessed, it is used to inform the questioning for the viva

The on-programme portfolio must contain at least one piece of evidence mapped clearly to each of the KSBs relating to this assessment method. Although each piece of evidence may map to more than one KSB, this will typically result in 15 pieces of evidence to cover all KSBs listed. The employer must sign off the portfolio of evidence, thereby authenticating it.

4. End Point Assessment Methods

There are three distinct assessment methods. These are detailed in the following sections.

4.1 Viva (supported by on-programme portfolio)

The rationale for this method is that an Ecologist will need to explain their research and practical tasks on a regular basis to both internal and external stakeholders, ensuring they tailor their communications to the audience whilst ensuring that their explanations are clear, accurate and relevant. The assessor will expect to see evidence of a wide range of experience in the portfolio, confirmed as genuine by the employer. This will enable the independent assessor to identify areas of excellence and where competence has not been adequately demonstrated, so that they can use questioning and active listening techniques within the viva to determine the appropriate grade for this assessment method.

Overview

This assessment has a single component, and this will take the form of a viva, which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the KSBs assigned to this assessment method. The portfolio will include details of the projects undertaken, which will include a high-level overview of the project, key objectives and deliverables, dates and time periods for the project

and a detailed description of the activities of the apprentice in order to achieve the project deliverables and should demonstrate how each work project and work-based training activity helps to achieve the KSBs set out in the apprenticeship standard.

The viva will focus on the projects, work-based training, development activities and performance reviews that the apprentice has undertaken during the apprenticeship.

Venue and guidance: EPAOs must provide guidance on what format the portfolio might take, including how it will be submitted and stating that it should not include any reflective self-assessment. The content of the portfolio will be used to support the viva which can take place in any of the following:

- Employer's premises
- A suitable venue selected by the EPAO (e.g. a training provider's premises)

The viva should take place in a quiet room, free from distractions.

Delivery

The independent assessor will conduct and assess the viva.

The viva must last for 50 minutes. The assessor has the discretion to increase the time of the viva by up to 10% to allow the apprentice to complete their last answer. Further time may be granted for apprentices with appropriate needs in line with the EPAOs Reasonable Adjustments Policy.

During the viva the independent assessor must combine questions from the EPAO's question bank and those generated by themselves with reference to the on-programme portfolio. This should be a minimum of 15 questions in total. The independent assessor may ask follow up questions to seek clarification where required. Assessment should take place against the knowledge, skills and behaviours mapped to this method in the mapping section of this document.

The viva will:

- explore aspects of the work, including how it was carried out, in more detail;
- require the apprentice to draw on their evidence to demonstrate the KSBs.

Requirements:

- Apprentices and their employers must receive appropriate notice of their viva; there should be a minimum of 3-weeks notice of the time, date and venue.
- EPAOs must structure a series of topic areas fundamental to the relevant option (e.g. ecological principles and their application, land use planning legislation or the scientific principles of representing data in spatial format), or discussion based on the areas of the standard to be tested as detailed in the KSB mapping section of this document. These will reflect the core and option KSBs and the type of business in which the apprentice is employed.
- The viva must seek to assess the depth of understanding to determine performance against the grading criteria.
- Video conferencing can be used to conduct the viva, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided in some way.
- Independent assessors must assess the viva using the grading criteria in this document.
- Apprentices may refer to their on-programme portfolio when answering the questions.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the viva. The independent assessor will make all grading decisions.

Other relevant information

A structured topic areas specification and question bank must be developed by EPAOs. The 'question bank' must be of sufficient size to prevent predictability and must be reviewed regularly (and at least once a year) to ensure that it, and its content, are fit for purpose. The specifications, including questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

Independent assessors must be developed and trained by the EPAO in the conduct of vivas and reaching consistent judgements.

Support material: EPAOs will produce the following material to support this assessment method:

- Standard documentation for recording of assessment results.
- Sample questions for independent assessors
- Question bank

4.2 Practical demonstration and Q&A:

4.2.1 Practical demonstration – observation

The assessor will expect to see evidence of competencies during the demonstration phase of this assessment, with the apprentice accurately following instructions in a logical order, proceeding to carry out the task with due regard for their own safety and that of others, being mindful of any impact their actions could have on the environment . The assessor will observe and identify areas of excellence and where competence has not been adequately demonstrated.

Overview

Apprentices must be observed by an independent assessor completing 4 practical demonstrations in which they will demonstrate the KSBs assigned to this assessment method. The EPAO will arrange for the observation to take place, in consultation with the employer. Practical demonstrations must be carried out over a maximum total assessment time of 10 hours. The demonstrations may be split into discrete sections held over a maximum of 2 working days and may involve different settings, for example outdoors and indoors or using computers.

The assessor has the discretion to increase the time of the practical demonstration by up to 10% to allow the apprentice to complete the last task that is part of this element of the EPA. There may be breaks between the 4 practical demonstrations and change of location from field to indoors as appropriate; these and the initial briefing will not be included in the specified duration.

Assessors will observe apprentices individually although up to a maximum of 5 apprentices could be assessed at the same venue and in the same session, to allow for cost effective use of resources whilst maintaining quality and rigour.

4.2.2 Q&A

EPAOs will create and set open questions to assess related underpinning knowledge, skills and behaviours. The questions will be asked after each practical demonstration task has been completed. The independent assessor may ask up to 5 questions to confirm that relevant KSBs have been met. Questioning must be completed within the total time allowed for the practical demonstration.

Delivery

- Apprentices must be provided with both written and verbal instructions on the tasks they must complete, including the timescales they are working to.

- There may be breaks during the practical demonstration to allow the apprentice to move from one location to another and for meal breaks.
- KSBs observed and answers to questions must be documented by the independent assessor.
- The independent assessor will make all grading decisions.
- EPAOs will produce specifications to outline in detail how the practical demonstrations will operate, what each will cover, and what should be looked for. It is recommended that this be done in consultation with representative employers.
- EPAOs should put measures and procedures in place to maintain the security and confidentiality of their specifications if employers are consulted.
- Specifications must be standardised by the EPAO. EPAOs must develop 'practical specification banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the specifications they contain, are fit for purpose. The specifications, including questions relating to underpinning KSBs must be varied, yet allow assessment of the relevant KSBs.

Venue: Practical demonstrations must be conducted in one of the following locations:

- The employer's premises (if facilities available for practical demonstration purposes)
- A suitable venue selected by the EPAO (e.g. a training provider's premises or another employer's premises)

Support material: EPAOs will produce the following material to support this assessment method:

- Outline of the assessment method requirements
- Marking materials
- EPAOs will produce specifications to outline in detail how the practical demonstrations will operate, what it will cover and what should be looked for. It is recommended that this be done in consultation with representative employers. EPAOs should put measures and procedures in place to maintain the security and confidentiality of their specifications if employers are consulted. Specifications must be standardised by the EPAO.
- EPAOs must develop 'practical specification banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the specifications they contain, are fit for purpose. The specifications, including questions relating to underpinning knowledge, skills and behaviours must be varied, yet allow assessment of the relevant KSBs.

Examples of potential tasks are detailed below (this is NOT a definitive list). The apprentice must be working safely and professionally while carrying out all procedures.

Example 1
Show, on site, how a PEA or Phase 1 Habitat survey would be carried out and explain how results would be recorded. Outcome: appropriate areas sketched on a site plan provided and a verbal explanation of the stages involved in the work plan.
Example 2
Provide a clear and concise verbal explanation of the relevant legislation when provided with a specific scenario. Outcome: the apprentice will evaluate the scenario, identify issues and annotate the site plan provided if appropriate and explain verbally, as they would to a client, any legal constraints that apply and how – and if – these can be overcome.
Example 3
Demonstrate how a piece of commonly used equipment is used/carry out a risk assessment for a specific scenario. Outcome: the apprentice will be provided with a scenario (effectively a client brief such as carry out a bat survey) including a site plan and will produce a written risk assessment before selecting the appropriate equipment from a

selection of three provided and verbally explaining the process involved in using this to generate the data provided and how this would be analysed to provide appropriate information to respond to the client.
Example 4
Identify plants provided and explain habitat requirements. Outcome: when presented with 10 plant specimens, at least 5 of which will be without flowers or fruiting bodies the apprentice will correctly identify these and will annotate the habitat map provided to indicate where each would be most likely to be found.
Example 5
Using a pre-prepared computer complete an exercise. Outcome: the apprentice will use GIS to transfer habitat data to a map base layer and add survey data provided as target notes to produce a map suitable for inclusion in an ecological report.

Rationale

An ecologist will be expected to carry out site investigation and appraisal in a practical setting throughout their career and be able to discuss their findings in detail, including their methodologies and thought processes. The practical demonstration will ensure that the candidate can show they are capable of carrying out a number of tasks and, during the Q&A component, explain effectively why they did what they did, how they did what they did, and what they concluded as a result.

4.3 Report followed by a presentation

All ecologists use survey data, either acquiring it working in the field, analysing data produced by others or interpreting it to inform future plans. They will regularly be required to write clear and concise reports and communicate their findings verbally, sometimes to a non-technical audience. The report, submitted prior to the assessment event, will provide the context for the subject matter and include reference to the underlying scientific principles. This assessment will provide the opportunity for apprentices to demonstrate competence in all these areas. Whichever option the apprentice is following there will be the requirement to carry out research, identify the appropriate technique for the specific task and produce a method statement (MS) to provide details of how this will be done to ensure that it can be precisely replicated by others as this is essential for ecological monitoring.

Overview

The assessor will expect to see evidence of competency in both reviewing and evaluating technical information and in report writing when reading the report and identify areas of excellence and where competence has not been adequately demonstrated. This will be developed during the presentation and provide the basis for using questioning and active listening techniques during the assessment event to confirm that relevant KSBs have been met.

4.3.1 Report

As occupational roles covered by the Standard can be widely different, each apprentice will be asked to suggest three potential topics for this assessment, to be approved by the employer, and included when the employer informs the EPAO that the apprentice is ready for EPA. The report needs to be relevant to the business and also appropriate for the EPA. To that end the report title will need to be signed off by the EPAO or comply with the guidelines supplied by the EPAO to ensure it meets requirements of this assessment method.

The independent assessor will, after consideration, confirm which title they feel is appropriate, informing the apprentice, and giving two weeks for the apprentice to prepare the report and presentation. The apprentice should be supervised during this time (by their line manager or usual supervisor) to ensure there is no malpractice.

The report, which will be 2000 words (+/-10%) will comprise the following:

(i) A short report outlining the methods of surveying and monitoring appropriate to the selected topic.
(ii) Identification of any constraints that apply to specific methods and the advantages and/or disadvantages of alternative approaches.
(iii) A method statement describing step by step how the survey method selected should be carried out.

A statement from the candidate confirming that this is all their own work with confirmation (sign off) from the employer will be included. The project report will be submitted to the EPAO 2 weeks after the assessor confirms the project report title.

4.3.2 Presentation & Discussion

The apprentice will prepare a presentation based on the report and this will include the following:

- A summary of the project report;
- demonstrations of knowledge, skills and behaviours mapped to this method;
- explanation of how and why specific techniques and criteria were selected and included in the method statement;
- recommendations;
- critical evaluation of the project.

The independent assessor will then draw out any further information using questions.

The presentation along with the project report will be completed and submitted to the EPAO 2 weeks after the project title has been confirmed by the assessor. 2 weeks notice should be given prior to the presentation and discussion taking place to allow the assessor time to review the report. If using an online platform, EPAOs must ensure appropriate measures are in place to prevent misrepresentation.

Delivery

The presentation will last for 15 minutes. The independent assessor has the discretion to increase the time of the presentation by up to 10% to allow the apprentice to complete their last point. The independent assessor will ask up to 8 questions at the end of the presentation for a duration of 15 minutes.

To deliver the presentation, the apprentice will have access to PowerPoint; flip chart; work products; videos; interactive demonstrations; notes and a computer as required.

The presentation will be conducted as follows:
The independent assessor will ask competency type questions taken from a bank developed by the EPAO. Questions generated by the independent assessor will also be asked.

- The independent assessor may ask follow-up questions to seek clarification where required.
- Assessment should take place against the knowledge, skills and behaviours listed in mapping section of this document.

The presentation will last 15 minutes and the discussion 15 minutes.

The independent assessor must:

a. plan the assessment prior to it taking place;
b. ensure that the location is appropriate;
c. ensure the presentation and discussion takes place in a room free from distractions with no other people present except those with prior approval from the EPAO;
d. ensure any special needs of the apprentice are taken into consideration;

g. ensure that the apprentice understands the process, the possible outcomes and how it is graded;
h. ensure that the grading criteria and relevant documentation are to hand before commencing;
i. capture an audio record of the presentation and discussion;
j. document the outcomes using the EPAO's standard documentation;
k. collect all presentation materials from the apprentice;
l. ensure the apprentice is not informed of the outcome of the assessment at this stage;
m. facilitate a review of the completed documentation and a discussion;
n. make the final decision about the outcome of the assessment and recommend the grade;
o. send documentation to the EPAO within the agreed time;
p. ensure that they are up to date and know internal/in-house policies.

The independent assessor will make all grading decisions.

Venue: EPAOs must ensure that the presentation and questioning elements are conducted in a suitable controlled environment in any of the following:

- employer's premises
- other suitable venue selected by the EPAO (e.g. a training provider)

Support Material: EPAOs will produce standard documentation for recording of the results.

5. Overall EPA grading

Performance in the EPA will determine the apprenticeship grade of fail, pass or merit.

Each assessment method will be graded pass, merit, or fail. In order to gain an apprenticeship pass or higher grade, the apprentice must achieve a minimum of a pass in each method.

All EPA methods must be passed for the EPA to be passed overall.

Fail - Fail in at least one method
Pass - Minimum of a pass in all methods
Merit - Merit in all methods

An apprenticeship pass represents full competence against the standard. A grade of merit means an apprentice is demonstrating competence above the standard. The following table shows the assessment grades to determine the overall grade.

Detailed guidance will be developed by EPAO and will be based on the following principles:

- All pass requirements need to be achieved to demonstrate all knowledge, skills and behaviours for occupational competence in the standard have been met and applied.
- Merit builds on the demonstration of pass requirements;
- Each assessment method is passed with merit if they meet the following number of merit elements:-
  Ecological Scientist – 3 out of 6 in Viva/ 2 out 4 in Practical/ 1 out of 2 in Report
  Ecological Consultant – 4 out of 8 in Viva/ 2 out of 4 in Practicall/ 2 out of 3 in Report
  Landscape Ecologist – 3 out of 6 in Viva/ 2 out of 4 in Practical/ 2 out of 3 in Report
- An overall grade of merit is awarded if an apprentice achieves the required number of merit elements in all of the three assessment methods.

Appendix B outlines how the levels of Merit, Pass and Fail will be established and measured.

6. Re-sits/Re-takes

The conditions applying to resits and retakes are as follows:

- Apprentices who fail one or more assessment method will be offered the opportunity to re-sit or re-take.
- A re-sit does not require further learning, whereas a re-take does.
- Apprentices should be provided with a supportive action plan to prepare for the re-sit or a re-take.
- The apprentice's employer will agree that either a re-sit or re-take is an appropriate course of action.
- An apprentice who fails an assessment method, and therefore the EPA in the first instance, will be required to re-sit or re-take any failed assessment methods only.
- Any assessment method re-sit or re-take must be taken within one year from passing the gateway requirement, otherwise the entire EPA must be taken again, unless in the opinion of the EPAO exceptional circumstances apply outside the control of the apprentice or their employer.
- Re-sits and re-takes are not offered to apprentices wishing to move from pass to merit.
- Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless the EPAO determines there are exceptional circumstances that have required a re-sit or re-take.

7. Roles and Responsibilities

Role	Responsibility
Apprentice	• complete the on-programme element of the apprenticeship • prepare for and complete the EPA
Employer	• identify when the apprentice is ready to pass the gateway and undertake their EPA • notify the EPAO that the apprentice has passed the gateway
EPAO	As a minimum EPAOs should: • appoint administrators/invigilators and markers to administer/invigilate and mark the EPA • provide training and CPD to the independent assessors they employ to undertake the EPA • have no direct connection with the apprentice, their employer or training provider i.e. there must be no conflict of interest • have processes in place to conduct internal quality assurance and do this on a regular basis • organise standardisation events and activities in accordance with this plan's IQA section • organise and conduct moderation of independent assessors' marking in accordance with this plan • have, and operate, an appeals process
Independent assessor	As a minimum an independent assessor should: • be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest • hold or be working towards an independent assessor qualification e.g. A1 and have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading • have the capability to assess the apprentice at this level • attend the required number of EPAOs standardisation and training events per year (as defined in the IQA section)
Training provider	As a minimum the training provider should: • work with the employer to ensure that the apprentice is given the opportunities to develop the KSBs outlined in the standard and monitor their progress during the on-programme period • advise the employer, upon request, on the apprentice's readiness for EPA prior to the gateway • play no part in the EPA itself

8 Internal Quality Assurance

The EPAO will, as required by all such independent organisations, have its own internal quality assurance procedures in place to ensure that the assessment process is robust and consistent so that valid and reliable assessment decisions are made. The EPA will be conducted by independent assessors who are trained and approved, by an EPAO listed on the Education and Skills Funding Agency (ESFA) Register.

The independent assessors for this EPA are required to be a professionally qualified ecologists and must also have been trained to carry out their assessment role. Independent assessors must either be currently working in the industry or, if not will be required to demonstrate that they have maintained links with the industry and current practices. Each application to become an assessor will be evaluated on its own merits and the process will consider all relevant factors such as a minimum of three years industry experience, academic qualification to MSc level or above, full membership of a relevant professional body and having post-qualification professional experience. Once appointed, the assessor will undertake training as required and be subject to quality assurance processes, including maintaining appropriate Continuing Professional Development (CPD) and submitting evidence of this on request. The required training will include how to undertake assessments, marking standardisation, questioning techniques, and observing demonstrations. All assessors will be required to confirm their current industry specialism, and the areas of expertise that they are competent to assess, i.e. the option(s) defined in the Standard.

Internal quality assurance refers to the requirements that EPA organisations must have in place to ensure consistent (reliable) and accurate (valid) assessment decisions. EPAOs for this EPA must ensure:

- Independent assessors are competent in the occupation they are assessing.
- Assessors complete an EPAO induction to demonstrate working knowledge of the apprenticeship standard and assessment methodology.
- Training is provided for independent assessors in terms of good assessment practice, operating the assessment tools and grading.
- Robust quality assurance systems and procedures that support fair, reliable and consistent assessment across the organisation and over time.
- Operation of induction, training and standardisation events for independent assessors when they begin working for the EPAO on this standard and before they deliver an updated assessment method for the first time. Further standardisation events must be attended at least once per annum.

Independent assessors must maintain a continuous, up-to-date and accurate record of their CPD activities that should:

- equate to at least 5 days CPD in the last year;
- demonstrate that their CPD activities are of learning activities relevant to current or future practice;
- they should seek to ensure that their CPD has benefited the quality of their practice;
- they should seek to ensure that their CPD has benefited the users of their work;
- present a written profile containing evidence of their CPD on request.

9. Affordability

This will be ensured by identifying appropriate venues and allocating candidates for assessment to one as close to their place of work as possible. If appropriate employer's premises may be used, particularly if there are several apprentices from the same company. The assessments may be carried out in any order to ensure efficiency of assessment and maximising the number of candidates that can be assessed on any one day. Although not ideal, the potential for carrying out assessment via skype or video conferencing may, in exceptional circumstances, be considered in agreement with the employer and the EPAO.

10. Volumes

It is estimated there will be 10 starters in the first year, 30 in the second and 50 once fully established.

11. Professional Body Recognition

The Chartered Institute of Ecology and Environmental Management (CIEEM) have confirmed that an apprentice successfully completing the apprenticeship would be eligible for recognition at Graduate level or above of CIEEM. While undertaking the apprenticeship they will be able to benefit from student membership of CIEEM.

ANNEX A: Mapping of the assessments to the Standard

Key	Assessment Method
VPP	Viva based on the on-programme portfolio
PDC	Practical demonstration of competency
RFP	Report followed by a presentation

Ref	Core Knowledge to be Assessed	VPP	PDC	RFP
K1	The underlying scientific principles in ecology and how to work in accordance with 'best practice' in the literature or input from colleagues.			√
K2	The principles underlying ecological techniques, such as Preliminary Ecological Appraisal (PEA), Phase 1 Habitat survey, 'best practice' in species survey/monitoring, and of the role of evaluation to inform future projects.	√		
K3	The theoretical knowledge of the advanced science and technology required to progress in the job role and relevant area of specialism and the importance of emerging evidence.			√
K4	Project management procedures and the importance of these in the working environment, both in the office and in the field in collaboration with multidisciplinary team members.	√		
K5	The internal/in-house policies, for example those relating to safe practice, lone working, and professional conduct, as well as record keeping, traceability and confidentiality (while these could be evident in the on-programme portfolio the Q&A component will be used to ascertain this).	√		
K6	The external regulations/legislation, those pertinent to the sector and organisation, such as those relating to specific species, protected areas and habitats and the importance of minimising disturbance during site-based investigations as well as that relating to Health and Safety.			√
K7	The business environment in which the company operates including personal role within the organisation, ethical practice and codes of conduct.	√		
K8	The requirements of internal/external customers and the appropriate workflows, improvements and/or scientific solutions for specific projects.	√		
Ref	**Core Skills to be Assessed**	VPP	PDC	RFP
S1	Good verbal and written communication skills, ability to plan and execute well-structured fieldwork, produce clear and concise technical reports, with appropriate interpretation and presentation of data; ability to summarise for a wider, non-technical, audience if appropriate.			√
S2	Working safely both within the office and on site, maintaining excellent housekeeping whilst following appropriate safety, environment and risk management systems.		√	

S3	Preparing for and performing risk assessment, desk study, PEA, and field survey tasks using the appropriate 'best practice' techniques, procedures and methods of relevance to the activity being undertaken, for example the formulation of species and habitat management plans.		√	
S4	Promoting and ensuring the application of quality standards relevant to the workplace/environment, including in report writing and communication.			√
S5	Carry out field surveys, with basic botanical identification skills to the standard to enable recognized techniques, such as Phase 1 Habitat surveys to be carried out.		√	
S6	Perform analysis, interpretation and evaluation of scientific data both gathered from existing sources and primary data generated during PEA and fieldwork such as Phase 1 Habitat surveys, and extended/Phase 2 surveys as appropriate.		√	
S7	Use creative thinking to solve problems, innovate, make new proposals (for example for ecological mitigation) and challenge the assumption that environmental factors are necessarily barriers to development where necessary.	√		
Ref	**Core Skills to be Assessed continued**	VPP	PDC	RFP
S8	Manage projects by planning and prioritising tasks, reviewing and evaluating progress against stakeholder objectives, and preparing appropriate reports.	√		
S9	Support senior staff in the management and development of stakeholder relationships, explaining factors such as the seasonal restrictions that may apply to ecological surveys.	√		
S10	Use standard IT packages and currently used applications including GIS mapping software, such as QGIS.		√	

An Ecologist, whether an Ecological Scientist, Ecological Consultant or Landscape Ecologist, will consistently conform to the following behaviours:

Ref	**Core Behaviours to be Assessed**	VPP	PDC	RFP
B1	Self-motivation including effective time management, project management, planning and completing work to schedule.	√		
B2	Willingness to listen, learn, and show initiative.	√		
B3	Work safely within both the office and on site, maintaining excellent housekeeping whilst following appropriate safety, environment and risk management systems.		√	
B4	Working autonomously as well as interacting efficiently within a professional multi-disciplinary team environment.	√		
B5	Respect for confidentiality on work related and personal matters, including the need for appropriate use of social media and information systems.	√		
B6	Understand the impact of work on others, especially where related to diversity and equality.	√		
B7	Handle change and respond to change management processes.	√		
B8	Take responsibility for personal development, demonstrating commitment to learning, self-improvement and to continual development of technical skills.		√	

Option requirements will be assessed in addition to the core knowledge and skills

Ref	**Ecological Scientist**	VPP	PDC	RFP
ESK1	The scientific theory and practice of ecological principles and how these are applied in conservation biology.			√
ESK2	Modelling and prediction techniques, for example those used in population modelling and scenario evaluation.	√		
ESK3	The management of large data sets and appropriate methods of analysis and representation.		√	

ESK4	The range of statistical analysis packages available and how and when to apply them.		√	
ESK5	The need for robust research-based policy/strategy development.	√		
ESS1	Statistical analysis using packages such as 'R'.		√	
ESS2	Identify the appropriate analysis to transform data into ecologically relevant information.		√	
ESS3	Communication of research finding to a non-technical audience, both in reports, which should include a non-technical summary, and directly in presentations.			√

Ref	**Ecological Consultant**	VPP	PDC	RFP
ECK1	The specific land use planning legislation applying to all habitats and wildlife, including those with protected status.			√
ECK2	The biosecurity protocols that need to be implemented when conducting fieldwork.		√	
ECK3	The requirements of licensing procedures for works affecting protected species.	√		
ECK4	The appropriate solutions to problems, such as conflict of interest between the aims of the client and the statutory requirements to protect wildlife.	√		
ECK5	Mitigation methods and how and when these should be applied.	√		
ECS1	The range of specific survey techniques that can be applied to determine if protected species are using a particular site and how and when these can be applied, (i.e. seasonality).		√	
ECS2	Use of the current standard equipment used in, for example, bat surveys.		√	
ECS3	Accurate data collection and recording in the field for later analysis.		√	
ECS4	Identify when a project will require a project specific licence and demonstrate the ability to produce an appropriate method statement.			√

Ref	**Landscape Ecologist**	VPP	PDC	RFP
LEK1	The underlying scientific principles of representing ecological data in a spatial format.	√		
LEK2	The drivers for landscape, rather than single site based, research for long term planning, policy and strategy formulation.	√		
LEK3	Current software, such as QGIS and the specific plugins relating to ecological analysis (e.g. TomBio).		√	
LEK4	The analytical techniques that can be used to identify opportunities for ecological enhancement, for example mapping Biodiversity Opportunity Areas.		√	
LEK5	The role of spatially represented material in effective communication to both technical and non-technical audiences.			√
LES1	Technical competency with Geographic Information System (GIS) software including QGIS.		√	
LES2	Identifying sources of existing data that can contribute to and contextualise specific projects.			√
LES3	Prioritise data according to designations, Red List/Biodiversity Action Plan status.			√
LES4	Be aware of emerging requirements such as Natural Capital Audits and Ecosystem Service mapping.	√		
LES5	Perform spatial analyses and produce maps that communicate data effectively.			√

ANNEX B Grading criteria for each of the assessment methods

This section contains the grading scheme for each of the options, Ecological Scientist, Ecological Consultant and Landscape Ecologist, in separate tables.

ECOLOGICAL SCIENTIST		
Viva based on the on-programme portfolio		
Fail	Pass	Merit
Has not met the pass criteria	Describes the scientific principles underlying ecological techniques and of working in accordance with 'best practice' in survey monitoring and evaluation K2; ESK2 Explains project management procedures particularly in collaborative working and in evaluating progress K4; S8 Describes the business environment and personal responsibility for ethical practice and codes of conduct towards colleagues and clients K7; K8 Explains examples of their involvement in developing stakeholder relationships, effective multi-disciplinary team working demonstrating awareness of the importance of confidentiality S9; B4; B5; K5 Describes what self-motivation is with respect to professional conduct, and provides examples of showing initiative and responding appropriately to feedback and in response to change and taking responsibility for personal development B1; B2; B7 Explains principles of safe working practice and risk management in the workplace and on-site, demonstrating awareness of potential impact on others B6 Describes the role of research in policy/strategy development ESK5 Explains examples of how creative thinking can be applied to problem solving, planning and prioritising tasks, evaluating progress and project management S7	Meets the pass criteria and in addition: Evaluates the importance of reflection in the evolution of 'best practice' and commitment to contributing to ongoing improvement of standards in ecology K2 Evaluates own professional limitations and how/when to refer to more senior colleagues for assistance B4 Explains business operations, project management and personal responsibilities within this context K4; K7; K8; S9; B5 Describes how robust research has been used in policy/strategy development using an example ESK5 Explains a wide range of standard techniques according to 'best practice', for example those relating to record keeping, confidentiality and professional conduct and explains examples of demonstrating leadership in applying creative solutions to specific problems that have occurred S7; S8; B6; K5 Evaluates the benefits of engaging with CPD and explains examples of taking responsibility for personal improvement B1; B2; B7
Practical demonstration of competency		
Fail	Pass	Merit
Has not met the pass criteria	Is able to demonstrate safe working practices while carrying out the practical task explaining any regulations, legislation, health and safety or risk management considerations that apply S2 Demonstrate the practical task set to the standard	Meets the pass criteria and in addition: Demonstrates how to lead an evolution of 'best practice' whilst applying risk management

	required by current 'best practice' following appropriate environment and risk management systems S3; S5; S6; S10; B3; ESK3; ESK4; ESS1 Is able to explain the appropriate analysis method and/or IT package that can be used to turn data into information so it can be presented and the need to keep up to date with technical advances S10; B8; ESS2	techniques to improve standards in ecology S3; S5; S6; S10; B3 Provides robust evidence of the theory underlying modelling and prediction techniques and how these are used in conservation biology ESK1; ESK2 Shows a critical awareness of advances in biosecurity and the importance of continual vigilance regarding invasive species S2 Provides robust evidence of CPD by demonstrating awareness of recent innovations in technical aspects of ecology, such as statistical packages for data analysis and management of large data sets in response to questioning. B8; ESK3; ESK4
Report followed by a presentation		
Fail	Pass	Merit
Has not met the pass criteria	Describes underlying scientific principles, and 'best practice', with reference to professional body criteria, literature and regulations/legislation and how these are applied to particular species or protected areas K1; K6; ESK1 Gives examples of safe practices, and effective record keeping and the ability to plan and execute well-structured fieldwork projects, produce clear and concise technical reports, appropriate interpretation and presentation of data summarised for a wider, non-technical, audience S1; ESS3 Demonstrate awareness of ensuring relevant quality standards are complied with and the impact of emerging evidence that may affect these. Effectively communicate constraints that apply to the specific method/subject of the report K3; S4	Meets the pass criteria and in addition: Evaluates the importance of scientific principles, regulations/legislation and how and when these are relevant and should be applied in fieldwork and report writing K1; K6; S9 Demonstrates leadership with respect to identifying and evaluating emerging technologies, how these could contribute to business development and be effectively communicated to colleagues and a non-technical audience. K3; S1; S4

ECOLOGICAL CONSULTANT		
Viva based the on-programme portfolio		
Fail	Pass	Merit
Has not met the pass criteria	Describes the scientific principles and legislation underlying ecological techniques and of working in accordance with 'best practice' in survey monitoring and evaluation K2; ECK3; ECK5 Explains project management procedures	Meets the pass criteria and in addition: Evaluates the importance of reflection in the evolution of 'best practice' and commitment to

	particularly in collaborative working K4 Describes the business environment and personal responsibility for ethical practice and codes of conduct towards colleagues and clients K7; K8; Explains examples of how creative thinking can be applied to problem solving, planning and prioritising tasks, evaluating progress and project management S7; S8; ECK4 Explains examples of their involvement in developing stakeholder relationships, effective multi-disciplinary team working demonstrating awareness of the importance of confidentiality S9; B4; B5 Describes what self-motivation is with respect to professional conduct, showing initiative, responding appropriately to feedback and in response to change and taking responsibility for personal development B1; B2; B7 Explains principles of safe working practice and risk management in the workplace and on-site, demonstrating awareness of potential impact on others K5; B6	contributing to ongoing improvement of standards in ecology K2 Explains the basis for protected species licenses and how and when mitigation should be applied ECS3; ECS5 Evaluates own professional limitations and how/when to refer to more senior colleagues for assistance B4 Explains business operations, project management and personal responsibilities within this context K4; K7; K8; S9 Explains how personal conduct can reflect on the profession and the importance of this when using social and other media in the work context B5 Explains a wide range of standard techniques according to 'best practice' and explains examples of demonstrating leadership in applying creative solutions to specific problems that have occurred S7; S8; B6; ECK4 Evaluates the benefits of engaging with CPD and explains examples of taking responsibility for personal improvement B1; B2; B7 Explains the need to avoid discriminatory practice when taking the lead and working with others B4

Practical demonstration of competency		
Fail	Pass	Merit
Has not met the pass criteria	Is able to demonstrate the principles underlying the ecological techniques that comprise the practical task, the range of alternatives that could be used, explain any regulations, legislation, health and safety or risk management considerations that apply S2; ECK2; ECS1; ECS3 Demonstrate the practical task set to the standard required by current 'best practice' following appropriate environment and risk management systems S3; S5; S6; B3; ECS2 Is able to explain the appropriate analysis method and/or IT package that can be used to turn data into information so it can be presented and the need to keep up to date with technical advances S10; B8	Meets the pass criteria and in addition: Demonstrates insight into how evolution of 'best practice' can lead to ongoing improvement whilst applying risk management techniques S3; S5; S6; S10; ECK2 Demonstrates awareness of a range of protected species survey techniques, the equipment used and any constraints that apply ECS1; EKS2 Shows a critical awareness of advances in biosecurity and the importance of continual vigilance regarding invasive species. B3; S2 Provides evidence of robust CPD with respect to awareness of recent innovations in technical aspects of ecology, such as in collecting and recording field data, in response to questioning. B8; ECS3
Report followed by a presentation		
Fail	Pass	Merit
Has not met the pass criteria	Describes underlying scientific principles, and 'best practice' with reference to literature and regulations/legislation applying to particular species or protected areas and of minimising disturbance K1; K6; ECK1; ECS4 Gives examples of safe practices, and effective record keeping and the ability to plan and execute well-structured fieldwork, produce clear and concise technical reports, appropriate interpretation and presentation of data summarised for a wider, non-technical, audience S1 Explains relevant quality standards and any constraints that apply to the specific method of the report were communicated effectively S4 Demonstrates awareness of ensuring relevant quality standards are complied with and the impact of emerging evidence that may affect these. Effectively communicate constraints that apply to the specific method/subject of the report K3	Meets the pass criteria and in addition: Evaluates the importance of scientific principles, regulations/legislation and how and when these are relevant and should be applied in fieldwork and report writing K1; K6; S1; ECK1; ECS4 Plans and produces instructions for fieldwork/laboratory techniques so these can be replicated and effectively communicated in both written and verbal formats in a professional manner S4 Explains leadership techniques with respect to identifying and evaluating emerging technologies, how these could contribute to business development and how to communicate this effectively to colleagues. K3

LANDSCAPE ECOLOGIST		
Viva based the on-programme portfolio		
Fail	Pass	Merit
Has not met the pass criteria	Describes scientific principles underlying ecological techniques and of working in accordance with 'best practice' in survey monitoring and evaluation K2; LEK1; LEK2 Describes advances in science and technology to progress in the job role and relevant specialism LES4 Explains project management procedures particularly in collaborative working K4 Describes the business environment and personal responsibility for ethical practice and codes of conduct towards colleagues and clients K7; K8 Explains examples of how creative thinking can be applied to problem solving, planning and prioritising tasks, evaluating progress and project management S7; S8 Explains examples of their involvement in developing stakeholder relationships, effective multi-disciplinary team working demonstrating awareness of the importance of confidentiality S9; B4; B5 Describes what self-motivation is with respect to professional conduct, showing initiative and responding appropriately to feedback and in response to change and taking responsibility for personal development B1; B2; B7 Explains principles of safe working practice and risk management in the workplace and on-site demonstrating awareness of potential impact on others K5; B6	Meets the pass criteria and in addition: Evaluates the importance of reflection in the evolution of 'best practice' and commitment to contributing to ongoing improvement of standards in ecology, including advances in the spatial representation of data and working at the landscape scale K1; LEK1; LEK2 Evaluates own professional limitations and how/when to refer to more senior colleagues for assistance B4 Explains business operations, project management and personal responsibilities within this context K4; K7; K8; S9 Explains how personal conduct can reflect on the profession and awareness of the importance of this when using social and other media in the work context B5 Explains a wide range of standard techniques using examples of when leadership has been demonstrated to apply creative solutions to specific problems S7; S8; B6 Explains the benefits of engaging with CPD and taking responsibility for personal improvement in the context of emerging issues such as Natural Capital audits and ecosystem service mapping and B1; B2; B7; LES4

Practical demonstration of competency		
Fail	Pass	Merit
Has not met the pass criteria	Is able to demonstrate the principles underlying the ecological techniques that comprise the practical task, explain any regulations, legislation, health and safety or risk management considerations that apply S2 Demonstrate the practical task set to the standard required by current 'best practice' following appropriate environment and risk management systems S3; S5; S6; S10; B3; LEK3; LEK4; LES1 Demonstrate the importance of keeping up to date with technical advances while completing the practical task B3; B8	Meets the pass criteria and in addition: Demonstrates how to lead an evolution of 'best practice' whilst applying risk management techniques S5; S6; S10; B3 Shows a critical awareness of advances in biosecurity and the importance of continual vigilance regarding invasive species in the planning and execution of desk based and field research. S2; S3; B8 Provides evidence of robust CPD with respect to awareness of recent innovations in technical aspects of ecology in response to questioning B2 Provides evidence of competence in using current mapping software and the appropriate techniques to use to identify management options LEK3; LEK4; LES1
Report followed by a presentation		
Fail	Pass	Merit
Has not met the pass criteria	Explains underlying scientific principles, and 'best practice' with reference to literature and regulations/legislation applying to particular species or protected areas and of minimising disturbance K1; K6; LES2 Gives examples of safe practices, and effective record keeping and the ability to plan and execute well-structured fieldwork, produce clear and concise technical reports, appropriate interpretation and presentation of spatial data in the form of maps for a wider, non-technical, audience S1; LEK5; LES5 Explains quality standards and effectively communicates constraints that apply to the specific method subject of the report S4; LES3 Demonstrates awareness of ensuring relevant quality standards are complied with and the impact of emerging evidence that may affect these. Effectively communicate constraints that apply to the specific method/subject of the report K3	Meets the pass criteria and in addition: Evaluates the importance of scientific principles, regulations/legislation and designations and how and when these are relevant and should be applied in analysis and report writing K1; K6; LES2; LES3 Plans and produces instructions for data analysis and representation techniques so these can be replicated and effectively communicating in both written and verbal formats in a professional manner S1; S4; B3 Explains leadership techniques with respect to identifying emerging technologies, including spatial analysis, and how these could contribute to business development and be effectively communicated to colleagues and a wider audience. K3; LEK5; LES5

