



Leverhulme Centre
for Nature Recovery

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Response to the consultation on subject content for the new Natural History GCSE

The submission was co-written by researchers from the University of Oxford and practitioners from the Oxfordshire Schools Sustainability Network. It was submitted to the Department for Education on 3 September 2026.

Subject aims

Are the subject aims easy to understand, clear and unambiguous?

Yes

The aims cover key points, will give students a good depth and breadth of knowledge and to situate that knowledge within a local and global context.

We recommend some additional aims which we feel are complementary, could strengthen the GCSE and dovetail with the needs to build wellbeing and transferrable skills in young people, and support the role of teachers who may feel underprepared to teach this subject.

1. To support young people in coming to enjoy and find personal wellbeing through connection with the natural world, through direct observation and cultural responses.
2. Through study of green spaces in their local area and the people who look after it, build a sense of connection and pride in their locality.
3. Aim to help students build self confidence, relational skills and thinking skills through the study of natural history.

4. Enable learners to take responsibility and control of their own learning with educators learning with them and acting as learning coaches, in particular supporting the varying needs of students to engage cautiously with the natural world where they feel initially worried about doing so.

Others may want a stronger focus on climate and nature issues but we support the need for young people of this age to enjoy learning about nature before being overburdened with an expectation to do something about it.

Subject content

Paragraphs 7 – 12 of the proposed subject content detail the requirements for the study of habitats and wildlife in the UK. Do you agree with these requirements?

Yes

There must be a balance between the details of taxonomy which could be offputting if not done in context and learning in depth about species and ecosystems which will bring greater enjoyment and lead on to an interest in taxonomy. There is a danger of learning by rote.

Fieldwork needs to be introduced gently to those who may be concerned about being in natural spaces and touching objects and species. In particular there need to be cultural and demographic sensitivities. All students can come to enjoy spending time studying nature if the experience is mediated sensitively at the start. Students should not be put off by over zealous approaches to fieldwork from the off or will put off those who are not already familiar with being outdoors in nature. Using familiar local spaces can help overcome fears. And giving time in early lessons to gain familiarity and courage are essential. So fieldwork schedules need to build in this time at the start.

The focus for building skills in identification and the use of keys etc should be based on what the students can actually see, and encourage them to hunt for additional species as they become more familiar with the common ones they can find. Learning to identify species they haven't seen is very boring, unless it is prior to going outside and finding those species e.g. for a bird or butterfly count.

Fieldwork skills should include drawing. This is a traditional skill to study natural history and invites close observation and understanding, and is good for student wellbeing.

Mathematical skills should be used in the service of real enquiry questions that the students generate from their own observations, rather than introduced in the abstract and artificially applied to inauthentic observations.

There needs to be enough flexibility in what species students can study to take account of location and seasons and variability of weather conditions during their period of study.

Requiring students to understand a range of habitats is good, but perhaps they could focus on habitats they can study in their own local area, and then consider differences with habitats

they may come across elsewhere in the UK if they are lucky enough to travel there. To have in depth knowledge of each habitat is a lot of content, much of which will be necessarily abstract and perhaps offputting. We strongly recommend that this GCSE is largely experiential as a pedagogy. NB - Coastal may be a better classification than marine.

Farmland and urban are likely to be the habitats most students are close to, so we would recommend not excluding them from an understanding of how the ecosystems within them are formed and persist. This is key knowledge for human management of the green spaces that most people experience.

Whilst the idea of ecological succession is important, we would consider the idea of a climax community to be refuted (at least disputed), so perhaps 'alternative stable states' would be more up-to-date. Formation of habitats and adaptation of species would be best studied with some particular examples rather than "in general". For the historic perspective it is important to include the timescales over which changes have occurred i.e. rates of change and the consequences for the impacts. For example the rates of climate changes and the impacts on the extinction rates. While this is focused on UK habitats and wildlife it doesn't make much sense if it is not situated within the global context. Species don't see borders, most are spread across and move across continents and oceans, arriving and leaving the UK seasonally, and migrating as the climate changes over time. It is also useful to consider the abundance of biodiversity elsewhere in the world in the context of changes that have happened in the UK over time.

Finally, we appreciate the focus on the UK, but wonder how the GCSE might be adapted for the British Overseas Territories and other parts of the world where it might be of interest to use the qualification.

Paragraph 13 of the proposed subject content details the requirements for the study of human influence on the natural world. Do you agree with these requirements?

Yes

This section could be made much richer through a more nuanced and less blame focused approach to human-nature interaction. We suggest that as well as human impact ON the natural world, students study the human interrelations with the rest of the living world as more of a two way interaction. The way in which humans have been a force for change, moving species and changing ecosystems over the entire history of humanity, puts in context what is happening now as an acceleration rather than a new phenomenon. In particular, the movement of species between ecosystems as a way of talking about human influences on nature is useful as it includes introduced species which are not considered invasive because they have been in the landscape for a long time.

It would be useful for students to look at human responses to the natural world in culture throughout the history of humanity, and to consider the changing relationships over time between humans and the more than human world, seen through art and literature, and popular culture, and the differences seen between different peoples across the globe, in the past and today.

It's also really helpful for students to see how perspectives of the natural world are shaped by discourse, social media, literature etc. (e.g. 'the environment' as a cold abstraction, 'living world' as emphasising life, how 'getting bogged down' and 'swamped' frame negatively frame what are precious and vital habitats). The changing perceptions of landscape and tidiness are fascinating to study through art, poetry, literature, modern discourse analysis etc. Students could have fun interviewing local people about their perceptions of tidy vs wilder green spaces and what happens when people learn more about nature.

It would be useful for them to understand the ways in which human life and human civilization is entirely dependent on the natural world. International examples could be included and the ideas can be brought home by looking at the ways in which local heat and floods are affected by the way in which the local landscape is managed by humans, and the nature based solutions that can be implemented to help mitigate some of the impacts of climate change.

It would be useful for students to understand the impacts of wildlife of urbanisation, farming, fishing etc but also the parallel and consequential impacts ON humans e.g. of noise, pollution, chemicals in food, microplastics in soils etc.

It's great to teach students about the positive impacts people can make, and it would be great to include some nature recovery activities as part of their GCSE to be included in assessment.

As well as considering direct impacts and direct improvements, it would be highly desirable to students' understanding of how we can manage impacts on the natural world to take a broader systems thinking, bringing in supply chain impacts of our purchasing decisions and commercial activities e.g. of timber, fibre, food, and the commercial and financial systems that drive extractive industries. Fashion is a really good topic through which to explore these issues with young people. Whilst empowering, this approach also absolves students of too much individual agency and anxiety over what they can do about the loss of nature across the world. They can focus on their own direct sphere of influence in terms of protecting local wildlife in their own gardens for example, while understanding the implications of decisions made by themselves and their families, and sharing these ideas with others.

It is really important that alongside climate change and biodiversity loss teaching should include messages of hope, successful restoration projects and examples of positive environmental action. For instance, this could include successful examples of invasive species control, pollution prevention, reintroductions, managing overexploitation etc. Examples could be found at a regional/local scale. This will help build informed, motivated and resilient young people rather than leaving students feeling overwhelmed. Encouraging students to think about what they hope for in their local habitats and what is possible within the constraints of resources can contribute positively to active engagement in conservation.

Paragraphs 14 – 20 of the proposed subject content detail the requirements for fieldwork. Do you agree with these requirements?

Yes

We suggest the purpose of the fieldwork could be made clearer. For instance, is it designed to be exploratory, project-based, investigating changes of time/seasons, human impacts?

It would be preferable if regular fieldwork drove classroom based study, rather than the other way round. Have a look and then go and work out what it is, what it's doing there etc. More project based enquiry than book and slide based learning. Natural History is by its nature an observational and scientific discipline: the logging, measuring etc, with a rich history that students can enjoy being part of. We strongly consider that teaching, learning and assessment should be fieldwork focused, and include fieldwork skills.

Interaction with natural materials could happen inside if necessary e.g. catching bugs and then looking at them under the microscope, or hatching butterflies in the classroom etc.

We feel that the default location for fieldwork should be at school and local, rather than seeing this option as a fallback. This will support school initiatives to increase biodiversity in school grounds and build local knowledge and connection, and care for and enjoyment of local spaces. It can also help to engage local experts and have repeat visits to local sites to see changes over time and study it in increasing depth. This could be an opportunity to signpost local wildlife groups and bring them in as partners. Many nature groups are eager to encourage younger people to join, so this could be an excellent starting point as long as the aims and expectations are clear. Encouraging students to develop expertise in, and enjoyment of, the wildlife and habitats closest to where they live would help build lifelong stewardship while making the curriculum more relevant and accessible.

We strongly advocate for drawing to be part of fieldwork learning and reflection.

Fieldwork can be made flexible to accommodate different learners and therefore more inclusive. For instance, some may wish to rigorously collect data whereas others may be more intrigued by ecological connections. Assessment needs to be flexible enough to embrace the approach of different learners.

We would encourage the inclusion of active nature restoration projects and the study of the impacts of those projects as part of fieldwork. This gives students a positive way to deal with potential anxiety over the loss of biodiversity. Students' report on those actions needs to be assessed in a manageable way for the teachers and centre involved, perhaps through open exam questions rather than simply ones focused on knowledge recall.

It would be useful to guide how fieldwork should feature in the assessments. The process of collecting data in different ways is what is important rather than the findings themselves because this builds skills in developing and testing hypotheses that are needed to understand the natural world. Are skills in the field going to be assessed, presented upon or as written outcomes in exams? Can practical work and skills development help avoid issues of AI compromising assessment?

Paragraphs 18 and 19 of the proposed subject content set the fieldwork requirement using a metric of 'hours', differing from the metrics used in some other GCSE subjects. This is to support schools to structure fieldwork flexibly across the duration of the course, including during regular timetabled lessons, if they wish. Do you agree with using a metric of 'hours' for the fieldwork requirement?

Yes

The metric of hours works well as long as 20 hours is emphasised as a minimum time actually outside e.g. not including travel time, or indoor preparation time.

We feel strongly that fieldwork should be threaded through the delivery of the course, and that the requirement cannot be satisfied by one field trip to one habitat once during the course. The exams must favour evidence of engagement with a number of local habitats. Otherwise students who have the opportunity to go and do lots of lengthy in depth fieldwork sessions in one particular habitat will be advantaged over those who have to fit it in within school hours on a local site.

Appendix 1 – Use of mathematics and statistics in natural history

Are the proposed range and extent of mathematical and statistical techniques, set out in Appendix 1, easy to understand, clear and unambiguous?

No

The mathematical skills can be much more closely tied to the fieldwork skills: e.g. the different methods of doing a transect leads to different data sets of the same area, and can be analysed in different ways.

The maths element risks being maths driven, whereas this GCSE offers the opportunity to show students how maths is useful in studying nature.

Students need to understand how maths is going to be integrated into this course and be enthused about maths as a result rather than worrying about it and assuming they can't do it.

Appendix 2 – Examples of wildlife typically found for each habitat

Appendix 2 provides a list of different types of species within each of the following 6 habitats (Urban, Freshwater, Woodland, Grassland, Farmland and Marine).

Yes

It's probably more useful if lists are shorter, all native, and species that are likely to be found most commonly, with room for schools to add in species that are found in their area, or the habitats they are studying.

Are the requirements, set out in Appendix 2, easy to understand, clear and unambiguous?

Yes

Appendix 3 – Habitat coverage requirements

Appendix 3 provides a list of illustrative options for focus of study for each habitat.

No

Urban should include wilder spaces such as city farms, nature reserves, streams, rivers, ponds, gardens. Residential rather than housing estate might be a broader term.

Woodland should include semi-natural, woodland pasture etc. i.e. previously cleared areas which now have woodland on them. NB Not all coniferous woodlands are plantations.

Farmland needs to include grazed land and wood pasture. And rivers, ponds etc as part of the farmed landscape.

General

Is there anything you would like to feed back that is not covered in the questions above?

Yes

This is an exciting and much-needed qualification with enormous potential to reconnect young people with the natural world, leading to both greater wellbeing through a sense of wonder, community and purpose. The inclusion of scientific knowledge, fieldwork and nature connectedness is good. The GCSE must be designed so that schools will want to, and be able to deliver.

We feel that nature connection is an important tool and outcome of this GCSE. In order to build nature connection, it is important how experiences in nature are mediated by educators. Students can be enthralled or put off nature depending on how they are introduced to it. Nature connection can come through direct observation and also through creative responses such as the use of art, photography, poetry, music and drama.

Teachers who are concerned about their depth of knowledge about natural history can still be successful by becoming learning coaches and learning alongside their students. The important skill they bring is how they model curiosity, and are careful with allowing students to build their confidence and connection in their own time and way.

Given the research findings that highlight the development of transferable skills such as relational skills, team work, communication, problem solving and resilience in young people

when working in outdoor environments, it may be useful to give guidance on how learning experiences can be mediated in order to maximise the development of these skills.

Evolution is mentioned only once in the entire proposed subject content document. Evolution should be discussed in more depth and in a manner that complements GCSE biology.

As well as guidance on what students should know to take the GCSE, there should be guidance of where the course will link at level 3 e.g. A-level or with courses that are more vocational elements afterwards. From a careers perspective, this would be really helpful for students and for staff advertising the course to get uptake.

Equalities

Do any of the proposals have the potential to have a disproportionate impact, positive or negative, on specific groups, in particular those who share a 'protected characteristic' (age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex and sexual orientation)?

These proposals are likely to have a strongly positive impact by engaging a wider range of learners through practical, outdoor, and experiential learning. Students with a variety of cultural backgrounds could bring a wonderful range of family knowledge to share.

Care should be taken to ensure fieldwork is fully accessible through reasonable adjustments and flexible approaches.

How could the proposed subject content of the GCSE be altered to better eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Equality Act 2010; better advance equality of opportunity between persons who share a protected characteristic and those who do not; better foster good relations between people who share a protected characteristic and those who do not?

Further promote inclusion by providing inclusive fieldwork guidance, highlighting diverse role models in natural history and ensuring reasonable adjustments are embedded throughout delivery. Local fieldwork will keep costs down and introduce young people to the local green spaces which they can enjoy in their own time with families and friends. Working together to understand, enjoy and protect local green spaces should help to foster mutual appreciation and understanding between students. Allowing students to study and undertake nature engagement activities in their own ways, rather than everyone doing the same thing, will allow for differences and similarities between individuals to be celebrated. Bringing in cultural aspects to nature engagement will allow students to become aware of the complexity and richness in each others' lives and backgrounds.

Environmental principles

Do any of the proposals have the potential to have an effect, positive or negative, on: the use or management of land in the UK; the atmosphere; any type of inland, coastal or marine water body; wildlife; the supply of raw materials from natural sources; opportunities for outdoor recreation?

Yes

The proposals are likely to have positive effects on biodiversity and human thriving by improving ecological literacy, increasing appreciation of biodiversity, encouraging responsible land management, supporting conservation and developing a strong connection with nature.

About us

The ongoing loss and degradation of nature is one of the greatest challenges of our time. In response, the Leverhulme Centre for Nature Recovery (LCNR) was created in 2022 as a hub for innovative research on nature recovery. It brings together experts from a broad range of disciplines across the University of Oxford. The team collaborates with partners in communities and organisations around the world.

What is nature recovery?

We define nature recovery as the activity of helping life on Earth to thrive by repairing human relationships with the rest of the natural world.

Our aims

- To understand the societal, biophysical, policy and systemic factors that enable or challenge nature recovery
- To collaborate with partners in case study landscapes to test and enhance frameworks, technologies, and tools for effective, inclusive, scalable, nature recovery delivery that also provides for society and its wellbeing
- To establish an inclusive nature recovery community at Oxford, leveraging its intellectual capital and interdisciplinary convening power to address key debates and challenges in the field.



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