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Solent nutrients issue – a nature-based solution

Thank you for contacting Hampshire & Isle of Wight Wildlife Trust to raise your concerns or ask a question about the nitrates mitigation scheme we have been developing as part of the wider effort to deal with the issue of nutrient pollution in the Solent.

This paper sets out the background and rationale for the scheme and answers the most common questions we have been asked. This is a novel concept – one which we believe is important as part of our strategy to create more space for wildlife and reduce the pressure on the natural environment. We hope it helps people to understand and support the concept of nature-based solutions as we seek to establish that investing in nature is central to our economy rather than an afterthought.

Background

Decades of pollution from wastewater, urban runoff and agricultural discharges have caused the Solent to reach crisis point. The high input levels of nitrogen and phosphorus to the Solent's water environment are causing eutrophication¹. The resulting dense mats of green algae are impacting negatively on the area's protected habitats and bird species. Algal mats covering the mudflats stop oxygen reaching the animals in the sediment and cause mass mortality, especially in hot weather. Algae also forms a barrier to many birds which rely on probing the mud or picking off tiny invertebrates from its surface. These mats can also smother some of our most threatened habitats: seagrass beds and saltmarshes, choking them to death and risking erosion.

These nutrient inputs are caused mostly by wastewater and diffuse sources from existing housing and agricultural runoff. The situation is so bad that it has led to a moratorium on development across our coastal region because new occupied homes would add to the pressures through the wastewater generated.

¹ Eutrophication is where a body of water has become overly enriched with excessive nutrients, which causes dense growth of algae, depleting oxygen levels and impacting other forms of wildlife.



The EU Habitats Directive is the reason that house building in the Solent area is currently on hold. Natural England has advised the planning authorities that further development will have a likely significant effect on the protected sites and species in the Solent because of this nutrient pollution, and therefore mitigation must be in place to ensure nutrient neutrality before it can be allowed.

This is very welcome, and the Trust is pleased that Natural England has stood firm on this advice. However, it is only causing a delay to development. There is a broad suite of mitigation measures being developed by various organisations including water companies and local authorities as well as private landowners. These include agricultural land being taken out of intensive use, improvements to wastewater treatment works and on-site wetland construction. Once these are in place, development will restart.

The Wildlife Trust's scheme

The Trust's scheme, in simple terms, will provide a means of offsetting and reducing the nitrate impact of planned housing as well as creating new habitats for wildlife.

This nature-based solution works by acquiring intensively managed farmland in certain locations which is currently releasing nutrients into the Solent, and rewilding it, returning it to natural habitats, such as traditionally grazed meadows, wetlands, or woodlands. This will reduce nitrogen inputs from farming to offset and reduce the additional inputs arising from new houses – and create new nature reserves to benefit wildlife.

There are a range of mitigation schemes coming forward and so the Wildlife Trust's scheme is not the only option that local authorities or developers have. Whether the Trust or another body provides the mitigation, the planned houses will be built.

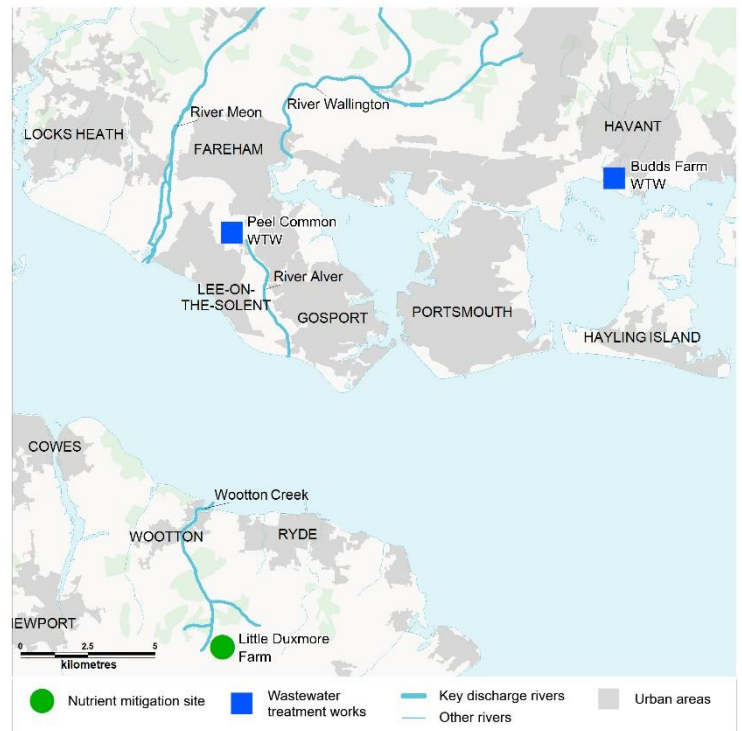
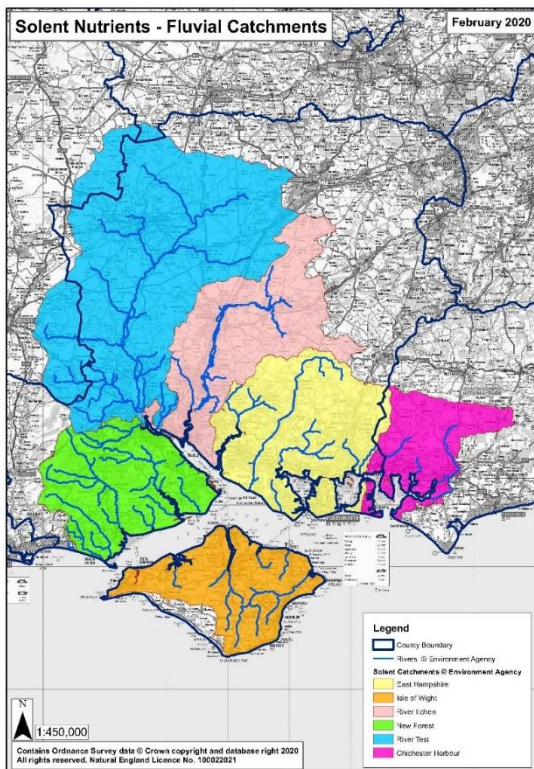
Our aim is to deliver a better mitigation option, one that delivers additional wildlife and pollution reduction benefits and transforms intensive agricultural land into nature reserves that are safeguarded for ever. There is more information in this paper, explaining exactly how it will work.

Locations of mitigation sites

The Trust has recently acquired Little Duxmore Farm on the Isle of Wight, which is acting as a pilot, allowing us to demonstrate proof of concept and to test out how the scheme might be rolled out more widely.

The site, a former arable farm, discharges into the Wootton Creek which in turn runs into the Solent. As the Trust restores it to natural wildlife habitats, this will directly reduce nitrate inputs into the Solent.

Little Duxmore Farm has been deemed suitable by Natural England as a mitigation site for new homes whose wastewater will discharge via the Peel Common or Budds Farm sewage treatment works on the Hampshire coast, as it discharges into the same part of the eastern Solent catchment.



There have been questions as to whether it is right for developments in south Hampshire to be mitigated elsewhere. It seems strange to some that a farm on the Isle of Wight can provide mitigation for houses on the south coast of Hampshire, and it seems unfair that some areas will benefit from new wildlife sites whilst others will not.

This is a fair criticism of the scheme which is designed to deal with nitrate pollution of the Solent only, and not other issues such as local biodiversity or provision of greenspace.

The suitability of mitigation sites is based on their ability to remove nitrates from the right part of the Solent ecosystem, in the timescale required. Nutrient budgets are based on hydrological modelling, taking into account nutrient loading from different land use types and the way in which runoff moves through catchments, recognising the variety of soil types and how water travels through surface water and groundwater and ultimately into the Solent. Because of this, it means that it is not always possible to secure appropriate farmland close to where new houses are being built.

Looking ahead, the Trust is aiming to acquire a number of similar nitrate mitigation sites across the Solent sub-region if possible. We would like to secure at least one strategic land acquisition in each sub-catchment area so that permanent environmental and wildlife benefits are delivered across the whole area.

Why is the Trust involved?

Some people are questioning why the Wildlife Trust is involved, as it may seem counterintuitive that we should work constructively with planners and developers on positive solutions rather than trying to stop development.

In fact, the Trust has worked with the planning system for decades, and we continue to invest a significant amount of time in influencing planning at a strategic level, both within our two counties and nationally. We continue to challenge the most damaging developments and over the years have won a few important campaigns.

We have made some good progress in changing policy too, for example, many of the planning policies and regulations that force developments to take wildlife into account, and for mitigation to be secured, have come about due to campaigning by ourselves and others. Indeed, many of today's well-loved nature reserves (such as Blashford Lakes, Fishlake Meadows, Swanwick Lakes, Testwood Lakes and Barton Meadows) were secured as forms of mitigation through the planning system.

However, it is also true that we have little or no influence on housing numbers or broad locations which are set by central government. Indeed, when we recently analysed our development control work over several years (i.e. objecting to planning applications) we found we were rarely successful as decisions had already been made.

While the nitrates issue has undoubtedly delayed house building in the area, solutions are now becoming available. The development of sites allocated within local plans will take place with or without the Wildlife Trust's involvement.

In choosing to be involved, we aim to provide a better mitigation option – demonstrating that protecting and improving the environment is essential to a strong economy and that solutions are not only possible but can deliver additional benefits for wildlife and people as well.

Ethical principles

We are clear that any mitigation we deliver must be in line with our ethical principles. The Trust will only provide nitrate mitigation for developments that have satisfied all other planning and legal requirements, particularly those relating to biodiversity. The planning process requires all developments to demonstrate that their proposals will not result in unacceptable impacts to existing important biodiversity. We have already refused to provide mitigation for developments which we have an objection to.

Where possible we will give preference to smaller developments, and to those who agree to incorporate wildlife gains into their plans, including contributing positively to the local nature recovery network.

We are committed to working positively with developers wherever possible to find ways of incorporating wildlife benefits into proposals. We feel it is important that we retain the ultimate decision whether to be involved in, or provide mitigation for, any particular project.

Failures in the planning system

The government sets housing targets using a formula (the so-called Objectively Assessed Need (OAN)) which ignores local environmental considerations, and once these are set the local planning authorities are duty bound to deliver them. Achieving housing targets dominates the deliberations of Planning Inspectors, and if local planning authorities fail to meet their housing targets, Inspectors will often allow development to go ahead even if the site is not allocated in the local plan, and sometimes they issue fines for non-delivery.

Environmental legislation such as the EU Habitats Directive provides important safeguards to ensure that any damage to the environment from the delivery of these housing targets is avoided, mitigated or compensated, but even these strictest of rules do not prevent the overall scale of development driven by central government.

In our view, this is a major failure of the planning system and is one reason we continue to campaign for better planning laws with other NGOs.

Risk of environmental protections being weakened

The delays to development in south Hampshire have become national news and have resulted in significant and growing political pressure against nature and environmental legislation which is being held up as a barrier to economic progress. There is no doubt the government is frustrated with the Solent nitrates 'issue'. In the local area, Natural England has been under immense pressure for at least a year to find a solution and this has led to the various mitigation schemes, some by commercial organisations, coming forward.

The demand for economic growth, especially post Covid-19, poses real risks to the environment. We saw a glimpse of the likely direction of travel in Prime Minister Boris Johnson's 'Build, Build, Build' speech on 30th June in which the prospect of diluting wildlife and environmental protections to accelerate house building was clearly stated. The EU Habitats Directive and many other important European laws have not yet been enshrined in domestic legislation for when the UK leaves the EU in January 2021. Post Brexit the government will be free to introduce legislation that will dilute or remove the protections currently in place.

If this happens, the impact of nitrates will be unmitigated and our most important wildlife sites will lose their protection. No further sites will be acquired for wildlife through this route. There

will be no requirement for any mitigation for the Solent and the developments currently held up will restart straight away with no investment in cleaning up pollution or helping wildlife. Further unrestrained development of our coastal landscape and damage to the environment will be even more likely.

The Environment Minister George Eustice has made it clear for some time that there will be a reform of planning and environmental protection rules. More details of proposed planning reforms have recently been announced by the Housing Minister Robert Jenrick:

<https://www.gov.uk/government/news/launch-of-planning-for-the-future-consultation-to-reform-the-planning-system>.

We, with other NGOs continue to campaign and lobby against any changes like these where they will be detrimental to the natural environment.

But we are also positioning nature-based solutions as a positive answer so that those driving economic growth can start to appreciate the vital role of investing in nature to support society and a sustainable economy.

Will mitigation mean that even more houses will be built?

Housing numbers are set by government targets and the local plan. House building has been held up whilst nitrate mitigation solutions are found, and the provision of mitigation will allow planning permissions to proceed that have been held up temporarily. This will not, in itself, lead to additional houses being built.

The effectiveness of mitigation and 'nutrient neutrality'

There have been some criticisms that achieving neutrality alone will not result in significant improvements to the Solent's important habitats. We agree.

There is a publicly available document which explains the methodology used by Natural England to calculate the nitrogen budget of different types of developments and the basis on which mitigation will work. The calculations are based on the concept of nitrate balancing to achieve nutrient neutrality as this is the legal requirement.

The concept of nitrate mitigation is complex and there are various options including the creation of interceptor wetlands and appropriate land being taken out of high nitrogen uses such as intensive farming. The calculations are based on the best available evidence on nutrient loading from different land use types and the way in which runoff moves through various parts of the different catchments, recognising the variety of soil types and how water travels through surface water and groundwater and ultimately into the Solent.

The figures include a precautionary buffer of approximately 20% to recognise that there is an element of risk in relation to the exact amount of nutrients coming from developments if the actual

occupancy rates and use of water by individuals differ from the assumptions used. The Trust is comfortable that the methodology and approach satisfy the required legal tests.

In addition, there are other initiatives in place, such as Catchment Sensitive Farming, which help to curb excessive nutrient loads from agriculture more broadly. The Trust is actively involved in influencing the new Agriculture Bill and we campaign with other NGOs for the continued reduction of chemicals and artificial fertilisers in farming. We also influence water policy and have campaigned for more investment from water companies in better wastewater treatment.

We continue to push for more to be done for nature, and we also aim to demonstrate what we mean by delivering high quality solutions and seeking to raising the bar overall. The Wildlife Trust's nutrient mitigation scheme is therefore designed to be rather different from the other mitigation measures being put forward.

Our scheme is the only one which will deliver significant additional benefits for wildlife as any mitigation sites delivered by us will be transformed into wildlife rich spaces and nature reserves which will be safeguarded in perpetuity. In addition, we aim to incorporate additional headroom into our calculations to provide more capacity for nutrient reduction where possible. Each mitigation site is considered on a case by case basis, and the nitrate reduction potential depends on several factors as described above. However, we will always strive to achieve more than neutrality as this is clearly needed to improve the quality of the Solent's habitats.

Details of the calculations and financing

It is Natural England's job to determine the final exact figure for the kilograms of nitrogen that each mitigation site will deliver, using the published methodology mentioned above. This requires precise mapping (to exclude any hedgerows or woodland for example) and 5 years of agricultural cropping records for each site acquired.

As an example, Natural England has determined that the Trust's plans for rewilding Little Duxmore Farm will remove 848 kgs of nitrogen per year from the Solent ecosystem. The Trust has agreed to take off a further amount to provide headroom and thus deliver not only the offset amount but a net reduction in pollution. Little Duxmore Farm will therefore provide 800 nitrate credits – providing mitigation for approximately 400 houses, contributing towards nitrate reductions and delivering additional wildlife benefits.

We have to balance the costs of acquiring and managing the site with the affordability of the credits, but on this site 5% headroom can be accommodated. Each site is considered on a case by case basis and the amount of mitigation and headroom will depend not only on affordability but also the hydrological monitoring and nitrate budget calculations for each situation.

The 800 credits from Little Duxmore Farm will be sold for £2,500 each, providing a fund of £2,000,000 which will cover legal fees, repay the loan for the purchase of the land itself, and provide a long-term management fund 'in perpetuity'. This is explained further below.

As a charity the Trust must show, and our auditors must be satisfied, that we have made provision to cover the costs and liabilities of our ongoing commitments, and so the money will be placed in a designated fund for this purpose. Drawing on this fund each year is overseen by the Board of Trustees.

The Trust is committed to Little Duxmore Farm as a nature reserve and the site is already recovering from decades of intensive farming after only a few months with wildlife bouncing back. We will undertake a programme of ecological monitoring to establish and communicate the wildlife gains as we rewild the site over the coming years. If the nitrates scheme collapses for any reason, we will seek alternative finance for this particular acquisition, but no more sites will be secured through this route.

What does 'in perpetuity' actually mean?

In planning terms 'in perpetuity' is considered to be between 80 years and 125 years, and this is normally set by the local planning authority. For Little Duxmore Farm the period has been set at 125 years. This figure is then used to establish the 'commuted sum' required to create an adequate long-term management fund. The sums are based on how much the land costs to buy, capital works required, and how much is needed each year to manage the site. The Trust is a non-profit organisation and so the sum is based on what is realistically needed to manage and protect the land.

As a charity the freehold land we own becomes a heritage asset and cannot be disposed of without a complex legal process. In our 60-year history we have never disposed of a heritage asset. The Trust is committed to managing Little Duxmore in line with our charitable objectives (for wildlife, education and science) beyond the 125-year period and this is also written into the legal agreement we will be entering into with the local authorities. So, our sites will effectively be safeguarded for ever.

Broader issues with the planning system

We agree with the concerns of some people that the provision of adequate green space for people is something that the planning system should address – it is not only there to deliver housing. There is a commitment in the Government's 25-year Environment Plan to ensure that new housing developments have access to greenspaces and that any areas with little or no greenspaces should be improved for the benefit of the community. We have campaigned on this issue for many years as the provision of accessible greenspace has not kept up with population growth – this has caused pressure on existing nature reserves and protected wildlife sites. We also support CPRE's campaign for a Green Belt in South Hampshire.

For decades we have championed better planning and have been instrumental in pushing for approaches to development that deliver more for wildlife, such as the Local Ecological Network <https://documents.hants.gov.uk/biodiversity/MappingtheHampshireEcologicalNetworkFinalReport.pdf> and more recently the Nature Recovery Network. We were also a founder partner in the

current strategic mitigation programmes such as the creation of SANGs (suitable accessible natural greenspace) to relieve pressure on the Thames Basin Heaths special protection area, the New Forest mitigation scheme and Bird Aware Solent.

With other NGOs, we are lobbying for Biodiversity Net Gain in development to become mandatory. If this becomes law this will mark a vital step change in the way that development is delivered. There are existing biodiversity requirements in the planning system – and developments need to comply with those to get planning permission. However, we recognise that the quality of ecological assessment is not always good – one reason we have set up our own ecological consultancy <http://arcadian.consulting>. We are also offering a new service, Building with Nature, which aims to demonstrate what good development looks like, and lead to better housing schemes that deliver a net gain for wildlife. This is at an early stage, but we are actively promoting this now.

We have recently launched our Wilder Communities programme which works with local people to create more space for wildlife in towns and cities and we plan to expand this as part of our Wilder 2030 strategy.

The nitrate mitigation scheme is not the only mechanism to deliver more space for nature, and the Trust continues to look for other opportunities to help wildlife recover across our two counties.

Strategic fit with the Wildlife Trust's mission

Some people have questioned if the Trust is acting in line with our charitable objectives and strategic plan. We have carefully considered whether offering a mitigation scheme to reduce nitrate pollution in the Solent is the right thing to be doing, and we have discussed and developed our approach over several months in consultation with the charity's Board of Trustees, legal advisors and auditors, senior staff and our in-house ecologists, as well as Natural England and the local authorities.

We are firmly of the view that delivering nitrate reduction together with the wider benefits described above as part of a range of nature-based solutions is entirely consistent with our mission to create a wilder Hampshire and Isle of Wight.

The Trust recognises the urgency of the ecological crisis and we have recently shaped a new strategy in response. This was developed over 18 months through a series of events and consultations with our staff, Trustees, members, supporters and partners – starting with the launch of our Wilder discussion document in 2018 and leading to the launch of our Wilder 2030 strategy in October 2019. For wildlife to recover, we are clear that at least 30% of our land and sea must be made wilder by 2030. The concept of a nature recovery network is key to achieving this vision.

To achieve this, we need to use all the mechanisms available to us, including working with farmers, private landowners, schools, community groups, businesses, public bodies, government agencies, planners and developers. The nature recovery network does not exclude anyone, and we have community engagement and education programmes in place to encourage people to make space for wildlife in their gardens, schools, parks and streets.

We know that intensive agriculture is by far the main cause of wildlife decline, and with farmland covering almost 80% of our land surface it is vital that we work proactively to change this. Our so-called 'green and pleasant land' is often devoid of wildlife and so working with farmers and landowners to incorporate wildlife into their businesses, influencing agriculture policy, and creating new large wild areas for nature in the countryside are all high priorities for us.

We also know that developments can, if designed well, result in an overall net gain for wildlife, and we are keen to demonstrate what good development looks like through our new Building with Nature service. Developed areas still represent less than 10% of the total area of Hampshire and Isle of Wight and whilst we appreciate the failings of the planning system to provide adequate green infrastructure for people, we are keen to influence the design of developments where we can so that they achieve positive outcomes.

And as part of our collective responsibility to tackle climate change and our journey to net zero greenhouse gas emissions, we will be offering ways in which carbon can be removed from the atmosphere through restoring natural habitats – another nature-based solution.

More about nature-based solutions

The concept of nature-based solutions is now firmly on the global agenda. The IUCN's recently published document – 'Global Standard for Nature-based Solutions' – starts with this powerful paragraph:

"For most of the 20th century, decision-makers treated the conservation of nature as peripheral to national and global agendas. At best, it was considered a worthy interest, at worst an obstacle to development. However, growing scientific consensus indicate that such views were misplaced and that "nature is essential for human existence and good quality of life". Failure to recognise this fact not only results in a model of economic growth that significantly contributes to the loss of biodiversity, it also misses the opportunity to effectively deploy nature in helping resolve major societal challenges such as climate change, food security and disaster risk reduction."

We believe that engaging with this agenda, and demonstrating the concept locally, will have a bigger, more transformative effect on wildlife than trying to pit nature against the economy because history shows us that nature always loses out.

We are clear though, that nature-based solutions are not an excuse to continue along the path of unsustainable and relentless economic growth that is damaging our planet – they need to be part of the shift to a circular, sustainable, regenerative economy that sustains human wellbeing and prosperity, restores nature and tackles the climate and ecological crises we are now in.

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