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DEFRA's Call for Evidence on Flooding and Coastal Erosion

The NFU represents 55,000 members in England and Wales, involved in 46,000 farming businesses. In addition, we have 55,000 countryside members with an interest in farming and the countryside. The NFU welcomes the opportunity to respond to Defra's Call for Evidence on Flooding and Coastal Erosion.

Overview

Following on from the publication of the Environment Agency's Draft National Strategy on Flooding and Coastal Erosion Risk Management, Defra have launched a call for evidence on Flooding and Coastal Erosion.

Defra has stated that, flood and coastal erosion risks will increase mainly as a result of population growth and climate change. Climate change predictions expect altered rainfall patterns to alter which could lead to extreme weather events and sea level rise.

Defra has requested evidence into flooding and coastal erosion so that the government can ensure that they can manage the associated risks effectively. By the end of 2019, the government is expected to set out its policy direction which aims to better prepare the country for future flooding and coastal erosion. These are expected to include emphasis on wider economic opportunities, social and environmental benefits in rural and urban areas. The government will set out its aims in a **policy statement on flooding and coastal erosion**, a **national infrastructure strategy** and the decisions made in a **spending review**.

The NFU is responding to this call for evidence as we believe it provides an opportunity to present evidence which will go towards informing government policy on flooding and coastal erosion, and therein influence the development of the government policy statement on flooding and coastal erosion.

This call for evidence focuses on specific flood and coastal erosion policy questions that the government would like additional evidence on. They are:

- **What we understand by the term "resilience"** – asking how the term resilience is currently used, and whether the different aspects of resilience could usefully be brought together into one overall concept.
- **Describing outcomes, driving action and monitoring progress** – seeking examples of cases where metrics have been used effectively to achieve an overarching outcome, and information on the advantages and disadvantages of using composite metrics to describe, drive and monitor flood and coast outcomes.
- **Adapting to coastal change** – seeking information about what coast protection authorities have done to join up decisions about managing the coastline with wider plans and decisions for the area, and examples of whether councils have used, or tried to use, powers to fund specific coastal erosion works or to create Coastal Change Management Areas.

- **Corporation tax relief for business contributions** – asking how businesses have used the provision for businesses to receive corporation tax relief on their contributions to government funded flood and coast projects.
- **Local funding initiatives for flood risk management** – seeking examples of local initiatives funded from sources other than the public sector and what could be done to help these types of initiatives succeed.
- **Developer contributions** – asking about the barriers and enablers to the use of developer contributions to ensure developments are safe for their lifetime, and what arrangements are in place for maintaining flood assets in new developments.
- **Managing financial risks from flooding** – asking about how organisations manage the financial risks associated with flooding, in the context of climate change.

Additionally, Annex A attached provides key points from the NFU's response to the Environment Agency's strategy that relate to flooding and coastal erosion.

Executive Summary

This consultation response highlights the impacts of flooding and coastal erosion on the farming community and outlines what the NFU would like the government to do at the national level to help the agriculture sector improve its resilience to flood and coastal erosion risks, whilst safeguarding the country's food production heritage.

Call for Evidence on Flooding and Coastal Erosion Questions & Draft Responses

The questions to the call for evidence are listed below along with the NFU's draft response.

5. How is the concept of resilience applied in relation to flooding and/or coastal erosion? For example, how do you use it in your own work? How is it used internationally?

As the NFU is a member organisation that supports 55,000 farmer and growers across England and Wales that are susceptible to the impacts of a changing global climate, we recognise the importance of resilience especially with regards to flooding and coastal erosion.

We agree with the call for evidence in that there is no single definition of resilience. Often within the agricultural sector it is used in the sense of the time and energy required after an event to return to normal production. With that in mind it would come under the concept of 'resilience as bounce-back' within the call for evidence document. However, our members would agree to the overall approach of resilience as 'maintaining the current situation' and 'resilience as resistance' as farmers are susceptible to volatile weather, rising sea levels and coastal erosion therefore they are passionate to protect their land, livelihoods and rural communities from flood hazards and coastal change. This would include the maintenance of flood and coastal erosion defences and the building of new/improved ones. However, farmers are resilient in the bounce-back sense of the word in that after a flood event it is important for our members to be able to get rid of water from the land, clear up, carry out repairs (mainly to soil structure, fencing and farm infrastructure) as quickly as possible.

One of the most damaging factors of flooding is not the event itself but the amount of time that the water remains on the land. For example, the recent flooding in Wainfleet, Lincolnshire saw thousands of acres of high value agricultural land flooded due to a breach in an earthen flood embankment. Active measures were taken by the local Internal Drainage Boards (IDBs) and the EA to pump the floodwater off the land however, flood water remained above crops in some places for more than 10 days. This is where the main issues arise when it comes to the flooding of agricultural land as the longer the flood water remains on land, the greater the amount of time required for soil recovery and, incidentally, the longer the land will remain out of production. These impacts can last up to 2 years if the flood water is relatively unpolluted and not saline. Where there is coastal flooding the recovery time of the soil is

upwards of 6 years. As has been experienced in Humberside after the tidal surge in 2013 where some farmers are still experiencing a reduced level of productivity due to the saline intrusion of the soil. In some extreme cases, there has had to be a complete change to the land use and farm management practices due to the impacts of coastal flooding.

After the winter storms of 2015-16 it was reported that there was an estimated £20 million worth of damage to agricultural land in England. However, this figure fails to capture the numerous impacts to farming family homes and business units. There is still a need for protection from flood and coastal hazards. The recent draft of the Environment Agency's (EA) national Flood and Coastal Erosion Risk Management (FCERM) strategy indicated the most recent consideration of the EA that resilience is key and protection is just a 'tool' within the 'resilience toolbox'. However, this does not provide any reassurance to farmers and members of rural communities who are forced to live with the fact that either their land is falling into the sea (in some areas up to 4m per annum), those who are susceptible to fluvial, ground water or surface water flooding or in some cases both of these issues. Not only are lives, livelihoods and hundreds of years' worth of local knowledge and heritage at risk but to simply put a case forward that suggests walking away from land is nonsensical, particularly as a nation that has a wealth of potential engineering ambition. It seems unjust, unfair and would not even be considered in other countries where the importance of agricultural land and food production has been properly recognised e.g. The Netherlands.

In our consultation response we highlighted that the EA's Strategy frequently mentions the need for innovation but we would have liked it to have gone further in its thinking. After a recent visit to the Netherlands the Dutch have exemplified ambition and drive when it comes to flood and coastal erosion risk management: for example, the Ooijen-Wanssum 'Room for Rivers' project where agricultural land has literally been raised to protect it from flooding. Yet the draft strategy lacks such ambition and instead focuses more on education rather than utilising the wealth of engineering and scientific skills this country has to offer to overcome flooding and coastal change issues.

To reiterate, farmers are at the mercy of the weather in a world that is experiencing climatic change. Farmers prepare and plan and hope for the best each year for a successful harvest and kind weather. However, they need support when it comes to improving the resilience of our landscape, environment and food security. The NFU would therefore ask the government to remember the NFU's key policy asks which were highlighted within our Flooding Manifesto¹.

6. How can the different aspects of resilience be brought together into one "overall resilience" concept?

Overall resilience is only possible if all aspects are considered to be of equal importance. Catchment or place-based context is essential when considering resilience. In some places resilience may be to improve flood defences, as not to do so would create an area at risk from extreme and frequent coastal and fluvial flood risk. However, the EA appear to be determined to withdraw support from many of the flood defence assets across the nation as they deem them economically inviable. These flood defence features provide protection for towns, key infrastructure and rural communities where everyday lives and livelihoods would be directly impacted by either their failure or inexistence.

7. Please provide examples from other contexts of the effective use of metrics to achieve an overarching outcome (e.g. sustainability or wellbeing) and of frameworks which are successful in supporting this.

With regards to the effective use of metrics the NFU believe that reliable, robust and relevant data are key to help farmers meet global challenges such as producing food and making environmental improvements. Data are critical for measuring, monitoring trends and in the development of indicators – we need to know where we are starting from, in terms of baseline data, but also how well we are

¹ <https://www.nfuonline.com/flooding-manifesto-jan-17-final-online/>

progressing towards meeting objectives or targets. These are also important to assess whether policies are achieving their outcomes or if changes are needed.

Surveys such as the Farm Practices Survey have been used extensively by the industry to assess the environmental performance of the agriculture sector in areas such as nutrient and manure management planning. These are particularly relevant in instances where new practices are quickly adopted within the industry and therefore require more frequent monitoring to chart progress.

The Countryside Survey has been important in recording the quantity and quality of change in our landscapes and detecting changes that occur in the UK's countryside and natural resources over time. Unfortunately, it was last published in 2007, but there is still a real need for the industry to have access to up-to-date data on a wide range of relevant environmental conditions.

As we identified in our recently published report, 'United by our environment, our food, our future'², there are still significant gaps in our knowledge about current farm practices and how these contribute to environmental improvement, but we also need better data on wider biodiversity delivery, like farm-scale flood alleviation measures, and more data about the quality of our soils for potential flood water storage. There are some real practical challenges about how we can collect data in a representative and cost-efficient way. In our view, government needs to continue to invest in regular surveys to enable open, transparent and available countryside and environmental data.

8. What would be the advantages and disadvantages of using composite metrics to describe, drive and monitor flood and coastal erosion outcomes (nationally and locally)?

If you identified disadvantages, how may these be overcome?

No comment.

9. Please provide evidence about approaches which coastal protection authorities and coastal groups can use to make a robust assessment of the long-term affordability and ongoing sustainability of coastal management policies, including any barriers to implementation.

The Wrangle Sea Bank Project is an excellent example of an adaptive measure which has been taken to overcome the coastal flood risk threat to areas around the Wash in Lincolnshire. The project aimed to raise and improve the existing sea wall after a severe breach in 2013. The project was convened by the Witham Forth IDB and the EA, and stakeholders which included Natural England, Local Enterprise Partnership, landowners and members of the public. The EA and EU funding helped fund the £1.5 million project along with the material for the wall and the land which was given in kind by the landowners. The new bank is now providing increased levels of protection for 3,500 hectares of prime agricultural land and 460 properties. The true partnership nature of the project demonstrated that a scheme can be delivered within the funding constraints imposed by the UK Government and it has established an important precedent for raising the height of other sea banks along the East Coast of England. However, the significant public good provided by the farmers and landowners who sacrificed their land and soil should be sufficiently recognised.

The Wash Frontage Group is actively campaigning for the importance of the sea banks to be recognised and essential maintenance and design improvements to be carried out which should be paid for with government funding due to the wide scale protection these embankments provide, in some cases for miles inland. The economic and social impacts of a failure or overtopping of these embankments if design improvements or maintenance is not carried out would impact some of the largest food growers and suppliers in England. This would include the Fens, which is hugely important in producing the nation's horticultural requirements and where on 4% of the land they produce 7% of the nation's food³.

² <https://www.nfuonline.com/news/latest-news/new-nfu-report-united-by-our-environment-our-food-our-future/>

³ <https://www.nfuonline.com/news/latest-news/fens-farming-delivers-for-britain/>

Furthermore, the Climate Change Adaptation Sub-Committee's 2017 progress report highlighted that Shoreline Management Plans will have significant implications for some stretches of coastline⁴. However, at the time of the report, affected communities had not been seriously engaged in adaptation planning. The report recommended that stronger action is needed to help people prepare for coastal change.

10. Please provide information about how coast authorities have successfully combined decisions about managing the coastline (Shoreline Management Plans) with wider plans and decisions for the area (including land use, economic development, social and environmental objectives) and the challenges of achieving this.

Recent reports by various organisations have investigated the need for adaptation to climate change along the English coast. A recent report by the National Trust called for “a bold and imaginative approach to coastline management, involving an understanding of how nature works, and away from maintaining engineered defences, where appropriate, while being sensitive to community needs”. However, tidal surges raise the unpredictability of coastal flooding which, if there is a breach of a sea defence can lead to the areas that are impacted spreading much farther than expected.

Engineered defences play a crucial role in protecting vulnerable areas from coastal erosion and flooding, therefore they cannot simply be neglected. With increasing financial pressures on the EA there is a distinct increase in the reaches of coastal flood defences which are sub-standard. These features are costly to install and to maintain, but farmers voluntarily help to maintain these defences in a cost effective way e.g. the voluntary sacrifice of 50 acres of agricultural land and soil for the raising of the Wrangle Sea Bank⁵. Regular maintenance is crucial to the coastal flood defences across the country as this will help sustain these structures and increase their lifespan, therefore reducing the costs of complete replacement through neglect and the economic impacts from a flood event.

Increasingly, there are approvals for coastal adaptation works which claim to be able to ‘re-naturalise’ or ‘re-wet’ coastal areas. However this is often with the required expectation that farmland must be sacrificed. Farmland and rural areas are treated as the lowest priority in managing adaptation to climate change and coastal flood risk. Agriculture is one of the foundation industries in a strong and robust economy with food production playing a key role in the growth and wealth of a nation. Agriculture is the bedrock of the British food and drink industry, which is the largest manufacturing sector in the country, worth £122 billion⁶ and employing 4 million people in 2019. Agriculture has a much wider influence within rural areas. For example in 2014, there were 340 million day trips to the British countryside, worth £8.4 billion to the rural economy. Agriculture is a major industry and rural employer; to simply sacrifice agricultural land puts far more at risk than just the food that ends up in shopping baskets and on plates across the country.

The use of managed realignment should be viewed as just one of many tools for managing coastal defences. In order to tackle future coastal risks, more resources need to be put towards developing innovative options in addition to the traditional coastal defence approaches.

By way of ensuring the success of future coastal erosion and flooding mitigation measures, there is an opportunity to look towards the work that is being carried out overseas. For example, the Dutch⁷ are pushing for new and innovative approaches to flood management and have invested huge sums of money in not only protecting their current coastline but advancing their coastline protection and offsetting habitat on the seaward side of defences.

⁴ <https://www.theccc.org.uk/wp-content/uploads/2017/06/2017-Report-to-Parliament-Progress-in-preparing-for-climate-change.pdf>

⁵ <https://www.lincolnshirelive.co.uk/news/local-news/18-million-sea-defence-project-2161345>

⁶ <https://www.nfuonline.com/news/latest-news/agri-food-sector-worth-pound:122-billion-to-uk-economy-new-figures-reveal/>

⁷ <https://www.dutchwatersector.com/solutions/projects/283-room-for-the-river-programme.html>

Utilising these innovative techniques will be critical to defending the highly vulnerable farmland of many coastal areas. It is expected that using innovative methods could be far more economical than the existing annual coastal management schemes.

Additionally, transparency and communication with key stakeholders and landowners will help to ensure the successful deliverance of an approved process for coastal erosion and flooding.

NFU members find that the EA Flood Risk Activity Permit (FRAP) is not a timely or easy process. It can delay cost effective maintenance from one season to the next. Our members feel that an improved consideration and permissions pathway is required especially for the beneficial use of recycled clays rather than allowing the Waste Directive to treat them as a waste product for landfill.

11. Please provide examples where an authority has sought, successfully or unsuccessfully, to use its Coast Protection Act 1949 powers to a) make a coast protection scheme to carry out coast protection works and b) levy coast protection charges in respect of such a scheme.

No comment.

12. Please provide examples of cases where a coast protection authority has sought to create a Coastal Change Management Area including any barriers the authority faced, and how the area is helping local communities to adapt.

No comment.

13. Please provide evidence on how and where businesses have used the provision for them to receive corporation tax relief on their contributions to government funded flood and coast projects.

The NFU has no examples to provide on this question but would like to make Defra aware that only 10% of farming business are registered as limited companies and would be able to receive corporation tax relief.

14. Please provide examples of initiatives delivering flood and coastal erosion outcomes which have been funded from sources other than the public sector, and explain how they were funded.

The Medway Estuary Swale Strategy consultation published in 2018 encouraged the EA and other risk management authorities to set out a more formal pathway for those underserved by public spending decisions (i.e. help them help themselves). The NFU response highlighted the Essex Coast Organisation which has adopted a collaborative approach to provide funding for small scale maintenance and repair work. The Alde Ore Estuary Trust is an example of a successful project where community stakeholders are using various mechanisms, including the uplift in land value from development, to fund sea wall maintenance and repair.

These examples fit within the types of approach we've encouraged through the NFU Water Maintenance Solutions guidance pack⁸ e.g. creating partnerships or companies with capacity to generate funding for local priorities as government funding is lacking.

15. What determines the success of flood and coastal erosion initiatives which have private and community contributions?

The success of flood and coastal erosion initiatives often involve a grassroots approach to the set-up of a group of like-minded individuals who have spare time to dedicate to the cause and have a personal

⁸ <https://www.nfuonline.com/news/latest-news/water-maintenance-solutions-pack/>

interest e.g. property at risk. One example of this would be the Haltwhistle flood action group approach to alleviating flood risk in the town by using a citizen science approach⁹¹⁰.

16. What could be done to encourage private and community funded initiatives and help them succeed?

Accessibility to relevant guidance and helpful information. As it currently stands gov.uk is not a user-friendly website.

17. Please provide evidence on the extent to which contributions being made by developers (through section 106, Community Infrastructure Levy and other means) are being used to fund works to manage the flood risks.

With the pressures on planners and the EA associated with the government's housing targets we accept that there is a distinct need to ensure that future developmental planning will consider flood and coastal protection for that area. Furthermore, it is important to protect the agricultural land, homes and infrastructure that is required to produce the food that will feed the population. Developer contributions may help to achieve this but there seems to be a distinct lack of long-term thinking of the maintenance of a scheme or feature. After its design and implementation, developers simply walk away from flood defence assets/structures and land owners are left with the maintenance and liability of the structure. Therefore, the NFU is calling for greater clarity in relation to the maintenance and liability of structures, e.g. SUDs.

18. What are the barriers to securing and using developer contributions to ensure that new developments are safe for their lifetime, taking account of climate change? How can these barriers be overcome?

The main issue is that there is no longevity when it comes to the maintenance of a developer contributed scheme e.g. sustainable drainage systems. There is an urgent requirement to move away from the idea that agricultural land is something that can be sacrificed at the expense of a farmer/landowner for the protection of urban areas without the provision of reasonable compensation. Agricultural land is an irreplaceable national asset, not just for the provision of food but the other public goods it provides. The NFU recognises that the flood risk mitigation that can be provided by the temporary storage of flood water on land which can protect urban areas from flooding. However, in doing so the landowner/farmer is delivering a public good and this should therefore be adequately recognised in financial terms – in other words providing such temporary storage should be by design not default.

As it currently stands, if there is a requirement for a Sustainable Drainage System (SuDs) or a natural flood management scheme to be implemented on a farmer's land, provisions should be made to ensure that the farmer/landowner is reimbursed for loss of income for the duration of the lifespan of the flood mitigation feature and provided with clear guidance as to who is responsible for the maintenance and liability of the feature, before planning approval is granted.

19. Please provide examples of cases where authorities have sought (successfully or unsuccessfully) to pool contributions to build larger pieces of flood or coast infrastructure that benefit more than one local authority area?

⁹ <https://catchmentbasedapproach.org/learn/haltwhistle-burn-citizen-science/>

¹⁰

[http://scholar.google.co.uk/scholar_url?url=https%3A%2F%2Fwww.sciencedirect.com%2Fscience%2Farticle%2Fpii%2FS0022169417301646&hl=en&sa=T&oi=gpg&ct=res&cd=0&d=7941012390670418288&ei=0yIVXdDGK4eTmgHNu6XwAQ&scisig=AAGBfm1YmPh6rIBhpuh91B0hl6DMBV-Qmw&nossI=1&ws=1680x932&at=Demonstrating%20the%20value%20of%20community-based%20\(citizen%20science\)%20observations%20for%20catchment%20modelling%20and%20characterisation](http://scholar.google.co.uk/scholar_url?url=https%3A%2F%2Fwww.sciencedirect.com%2Fscience%2Farticle%2Fpii%2FS0022169417301646&hl=en&sa=T&oi=gpg&ct=res&cd=0&d=7941012390670418288&ei=0yIVXdDGK4eTmgHNu6XwAQ&scisig=AAGBfm1YmPh6rIBhpuh91B0hl6DMBV-Qmw&nossI=1&ws=1680x932&at=Demonstrating%20the%20value%20of%20community-based%20(citizen%20science)%20observations%20for%20catchment%20modelling%20and%20characterisation)

As outlined in relation to question 9, the Wrangle Sea Bank Project is an excellent example of an adaptive measure where an IDB, Risk Management Authority (RMA) has pooled contributions to build-up and improve a larger piece of FCRM infrastructure. The raising of the Wrangle Sea Bank has been undertaken to overcome the coastal flood risk threat to areas around the Wash in Lincolnshire. The project aimed to raise and improve the existing sea wall after a severe breach in 2013. The project was convened by the Witham Forth IDB and the EA, and stakeholders which included Natural England, Local Enterprise Partnership, landowners and members of the public. The EA and EU funding helped fund the £1.5 million project along with the material for the wall and the land which was given in kind by the landowners. The new bank is now providing increased levels of protection for 3,500 hectares of prime agricultural land and 460 properties. The true partnership nature of the project demonstrated that a scheme can be delivered within the funding constraints imposed by the UK Government and it has established an important precedent for raising the height of other sea banks along the East Coast of England. However, the significant public good provided by the farmers and landowners who sacrificed their land and soil should be properly recognised.

Flood embankments across the country do not conform to modern flood bank design specifications. The majority of the >600km of embankments around the Wash frontage and fluvial channels across the Fens would also not conform to modern flood bank design specifications; with the exception of the 5.4km at Wrangle, improved in 2018.

20. Where flood alleviation measures have been put in place as part of a new development, have the ongoing maintenance costs been provided for under these arrangements?

Agriculture is often at the mercy of extreme and changeable weather. Whilst current funding prioritises concentrations of people and property, farmers experience a lack of maintenance of watercourses and coastal channels and reduced maintenance of banks and flood defence assets. The result is more frequent, more extensive and longer duration flooding events. This is an unsustainable and inequitable outcome, which causes damage to farming businesses and rural communities.

Currently, adequate funding is not available. Flooding and water management in river and coastal areas must be properly funded to protect urban and rural businesses, infrastructure and communities. Government spending must be transparent, and the artificial distinction between capital and maintenance expenditure removed.

The NFU would like to highlight the downstream impacts of flood alleviation measures on our members land. In many cases the implementation of slow-the-flow style actions provides a crucial flood mitigation service to downstream communities and other stakeholders within the catchment. This must be recognised by government as a public service as often its urbanised areas who benefit from these schemes but it is the land owner/farmer who is paying for it with either a reduction in farmable land or reduced productivity.

Recent reports by various organisations have investigated the need for adaptation to climate change along the English coast. A recent report by the National Trust called for “a bold and imaginative approach to coastline management, involving an understanding of how nature works, and away from maintaining engineered defences, where appropriate, while being sensitive to community needs”. However, tidal surges raise the unpredictability of coastal flooding which, if there is a breach of a sea defence, can lead to the areas that are impacted spreading much farther than expected.

As aforementioned, engineered defences play a crucial role in protecting vulnerable areas from coastal erosion and flooding, therefore they cannot simply be neglected. With increasing financial pressures on the EA there is a distinct increase in the reaches of coastal flood defences which are sub-standard. These features are costly to install and to maintain, but farmers voluntarily help to maintain these defences in a cost effective way e.g. the voluntary sacrifice of 50 acres of agricultural land and soil for the raising of the Wrangle Sea Bank. Regular maintenance is crucial to the coastal flood defences

across the country as this will help sustain these structures and increase their lifespan, therefore reducing the costs of complete replacement through neglect and the economic impacts from a flood event.

Increasingly, there are approvals for coastal adaptation works which claim to be able to 're-naturalise' or 're-wet' coastal areas. However this is often with the required expectation that farmland must be sacrificed. Farmland and rural areas are treated as the lowest priority in managing adaptation to climate change and coastal flood risk. Agriculture is one of the foundation industries in a strong and robust economy with food production playing a key role in the growth and wealth of a nation. Agriculture is the bedrock of the British food and drink industry, which is the largest manufacturing sector in the country, worth £122 billion and employing 4 million people in 2019. Despite the comparatively low contribution to the national accounts, agriculture has a much wider influence within rural areas. For example in 2014, there were 340 million day trips to the British countryside, worth £8.4 billion to the rural economy. Agriculture is a major industry and rural employer; to simply sacrifice agricultural land puts far more at risk than just the food that ends up in shopping baskets and on plates across the country.

The use of managed realignment should be viewed as just one of many tools for managing coastal defences. In order to tackle future coastal risks, more resources need to be put towards developing innovative options in addition to the traditional coastal defence approaches.

By way of ensuring the success of future coastal erosion and flooding mitigation measures, there is an opportunity to look towards the work that is being carried out overseas. For example, the Dutch are pushing for new and innovative approaches to flood management and have invested huge sums of money in not only protecting their current coastline but advancing their coastline protection and offsetting habitat on the seaward side of defences.

Utilising these innovative techniques will be critical to defending the highly vulnerable farmland of many coastal areas. It is expected that using innovative methods could be far more economical than the existing annual coastal management schemes.

Additionally, transparency and communication with key stakeholders and landowners will help to ensure the successful deliverance of an approved process for coastal erosion and flooding.

NFU members find that the Flood Risk Activity Permit (FRAP) is not a timely or easy process. It can delay cost effective maintenance from one season to the next. Our members feel that an improved consideration and permissions pathway is required especially for the beneficial use of recycled clays rather than allowing the Waste Directive to treat them as a waste product for landfill.

Appendix 1 of the EA's protocol for asset maintenance outlines its procedure for withdrawing from river maintenance. The Flood and Water Management Act 2010 states the procedure which should be followed for decision-making with regards to withdrawal of maintenance. This includes presenting and discussing the asset where the maintenance will be withdrawn at Regional Flood and Coast Committees.

The EA does not have to inform landowners or farmers in every circumstance of their decision to withdraw, but if they do they should follow the following three stages:

- Stage One
 - A consultation period lasting at least three months. The EA will seek views from people, including landowners and tenants, who may be affected by the withdrawal. Discussions include reasons for withdrawal and length of notice period.
- Stage Two

- A written notice letter will be sent to affected stakeholders. This will state when maintenance will cease and contain details of a contact at your local EA office. The EA anticipate that most notice periods will be between six months and two years.
- Stage Three
 - EA stops maintaining at the date specified within stage two, unless there are subsequent agreements to delay withdrawal.

The NFU has been increasingly aware that the procedure is not being adhered to. In some cases there has been a distinct lack of transparency associated with the EA's withdrawal of maintenance of flood defence assets. There have also been inconsistencies with terminology used (e.g. instead of 'withdrawal of maintenance' it is being referred to as 'effectiveness initiatives') which has led to confusion across the board at both regional and local levels.

The NFU recognises that the total amount of funding available for flood risk management has increased, with budgets confirmed until 2021. Between 2016 and 2019 there was an increase of more than £100m in the annual funding available for the installation of new flood defences and the importance of maintaining existing defences must stay at the forefront of the Government's flood risk management strategy.

Public confidence will be strengthened if the procedure is adhered to in full and the reason for the withdrawal of maintenance is clearly conveyed. The protocol will only be successful if the EA informs and works with landowners/farmers from the outset. Consistent and open discussions about the potential withdrawal of maintenance will help to instil confidence in farmers, landowners and members of the public.

21. Please provide examples of public and private organisations which are already disclosing their financial exposure to flood or other climate risks and how they go about it.

No comment.

22. What are the barriers to identifying and disclosing financial exposure to flood risks and how could they be overcome?

Disclosing financial exposure to the impacts of flood or climate risks highlights the level of risk to the nation's food supply.

The NFU would like to take this opportunity to urge Defra to work with HM Treasury and key stakeholders to help to explore new options for funding and financing flooding and coastal change that deliver more private funding in the future. There are increasing demands upon private funding from many areas, so any request must demonstrate clear and achievable outcomes. Furthermore, private funding from beneficiaries must be the primary focus.

Annex A

This Annex has been attached to the NFU's response to this call for evidence as it provides key points from our response to the Environment Agency's strategy that relate to flooding and coastal erosion and therefore, think should also be considered within the call for evidence.

With regards to the Environment Agency's draft national strategy on flooding and coastal erosion risk management and the agricultural sector the following points outline the NFU's key areas of interest:

1. The main overarching point that the NFU would like to make in response to the EA's strategy is that we are interested in how the aims of this Strategy will be achieved. We understand that this will be set out in the Action Plan, rather than this high level Strategy. Clarity is needed from the EA as to how it intends to work with others in developing the Action Plan. Early engagement on this would be welcomed by the NFU.
2. The NFU has ambitions to meet Net Zero by 2040¹¹. This Strategy and our Roadmap can complement each other e.g. improved soil management and increased soil organic matter content could help with our ambition to meet Net Zero but could also contribute to the EA's Flood Strategy. Net Zero will be a key focal point for much of our work over the next few years this is a positive area where we can contribute to the Strategy and help achieve our own goals.
3. It is clear that the Strategy lacks innovation and ambition. The Strategy frequently mentions the need for innovation but the NFU would have liked it to have gone further in its thinking. After a recent visit to the Netherlands the Dutch have exemplified ambition and drive when it comes to flood and coastal erosion risk management. For example, the Ooijen-Wanssum 'Room for Rivers' project¹² where agricultural land has literally been raised to protect it from flooding, yet this strategy lacks such ambition and instead focuses more on education rather than utilising the wealth of engineering and scientific skills this country has to offer to overcome flooding and coastal change issues.
4. The NFU believes that rural communities and agricultural land can be protected from flooding and coastal erosion if the strategy clearly promotes collaboration, transparency, early engagement and support¹³.
5. We do feel there is still a need for protection, and the consideration of the EA that resilience is key and protection is just a 'tool' within the 'resilience toolbox' does not provide any reassurance to farmers and members of rural communities.
6. 'Building back better' and 'in better places'
 - a. Whilst that strategy considers communities and homeowners there remains a distinct lack of acknowledgement as to the impact this measure would have on farmers and growers.
7. Natural Flood Management (NFM)
 - a. We acknowledge that farming does have a role and is keen to play its part when it comes to NFM but there remains a lack of clarity and support to landowners and farmers who agree to the implementation of natural flood management (NFM) features/schemes after either the short-term funding for the scheme ends or interest fades.
 - b. Whilst the NFU recognises that there are benefits to NFM, it must also be recognised that it cannot be considered singularly the solution to flood risk or flood storage within a

¹¹ <https://www.nfuonline.com/news/latest-news/nfu-reiterates-its-net-zero-aims-for-agriculture/>

¹² <https://www.ooijen-wanssum.nl/>

¹³ <https://www.nfuonline.com/flooding-manifesto-jan-17-final-online/>

'place' and catchment context must remain at the forefront of the agency's mind when considering potential flood management options.

8. Future ELMs

- a. The NFU acknowledges that farming does have a role and is keen to play its part but further evidence and guidance is required as to how a new ELM scheme will contribute to farmers and landowners who are at risk from flooding and coastal erosion

9. Future Fens

- a. The NFU was delighted to see reference to our 'Why farming matters in the Fens report' because it acknowledges the importance of agricultural land. We would like to draw the Environment Agency's attention to the revised report 'Delivering for Britain: Food and Farming in the Fens'¹⁴.

10. Withdrawal of Maintenance

- a. The NFU would like to encourage the EA to follow their own protocol 'Protocol for the maintenance of flood and coastal risk management assets'¹⁵ when it comes to the withdrawal, or in some cases, abandonment of flood defence assets. It is essential that early and open discussions are held with those that may be affected and that the EA is clear from the outset of their intentions.

11. Sustainable Drainage Systems

- a. The NFU understands the need to manage flood events and that SuDS can help to manage surface water flooding. However, adequate funding and clear guidance associated with the maintenance and liability of a scheme are required. Transparent discussions with farmers and landowners who will be impacted are essential prior to a decision being made.

12. The strategy comes across as an 'EA Strategy' rather than the national strategy that others could support and as such, it is difficult for the NFU as an organisation to support or sign up to what the EA has drafted so far. There may be individual actions that we could support in the Action Plan. However, the EA haven't started to draft this yet and we have expressed our interest to be included in the development of the framework.

¹⁴ <https://www.nfuonline.com/news/latest-news/fens-farming-delivers-for-britain/>

¹⁵ <http://eastdonylandpc.co.uk/wp-content/uploads/2016/07/EA-Maintenance-protocol.pdf>