



The Rt Hon Dr Thérèse Coffey MP
Secretary of State for Environment
Food and Rural Affairs
Nobel House
17 Smith Square
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BY RECORDED DELIVERY &

EMAIL SENT TO secretary.state@defra.gsi.gov.uk

FROM: Dave Parham
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1 March 2023

Dear Secretary of State

A STATEMENT ON THE FLOOD PROTECTION CONCERNS FOR HAYLING ISLAND, HAMPSHIRE

1 BACKGROUND

1.1

We are writing to you to call for a major revision of the Defra Rules and EA Rules and Guidance relating to the current Flood Protection Legislation. The existing rules and processes are out of date, and no longer cover or address the risks and requirements that vulnerable coastal communities are facing in the UK today. We are not suggesting that Hayling Island stands alone, but it does serve as a classic example of the flood risk threats to vulnerable island communities, as well as identifying the burning need of a new protection-funding model.

1.2

Hayling Island is a small (5x5km) T-shaped island in the East Solent with approximately 17,000 permanent residents. The economy of the Island is primarily based on leisure/ tourism activities. Havant Borough Council estimate this generates over £110m revenue each year. The facilities include:

- 3 Sailing Clubs
- 3 Marinas
- 3 Golf Courses
- 2 Holiday Hotel Centres
- 2,300 mobile holiday homes
- A Beachside Funfair
- A narrow-gauge Light Railway running along the Seafront
- Hotels & B&Bs
- Horse Riding
- A centre for Wind and Kite Surfing
- A Skateboard Park

Hayling Island Sailing Club is internationally important, hosting world championships and Olympic training. West Beach is a national centre for windsports. Hayling Golf Club is rated in the top 50 courses in England, and is one of only three links courses on the South Coast.

The Island is also an important ecological resource with five nature reserves, and it is a loop of the South Coast Nature Trail. It is a major core site for over-wintering Brent Geese, and a key producer of high-quality vegetable and dairy products. 3km of the beachfront is designated as SSSI.

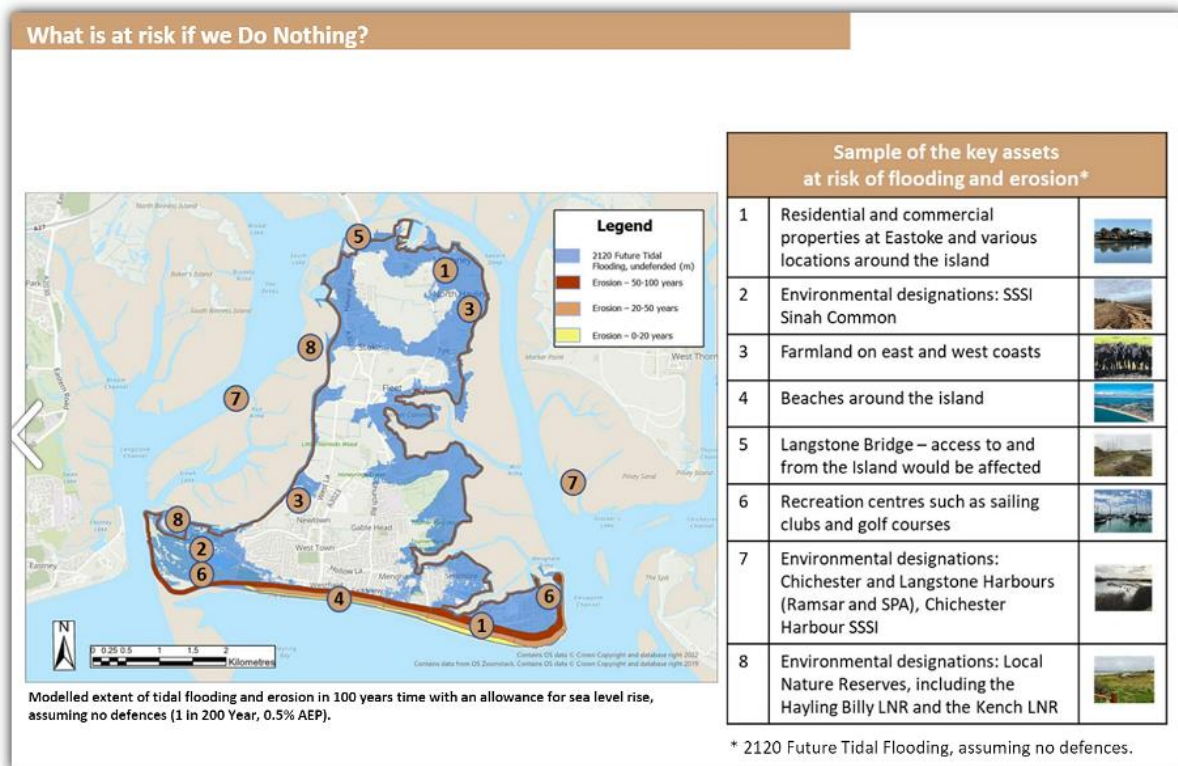
Overall, the Island’s contribution belies its size.

2 THE FLOOD RISK

2.1

The risks to the sustainability of this community are infrastructure-related, with Climate Change being the most serious.

The harbour-facing coasts consist mainly of poorly maintained earth banks between 2&4m Above Ordnance Datum (AOD) high. The southern shingle beachfront is higher, at 5-5.5m AOD, but is subject to a more severe and unusual flood risk, which we will show.



This current EA Flood Risk Map shows that 50% of the landmass is Category 3 (high flood risk) meaning that the risk is 0.5% or greater, and that without intervention, the entire coast will flood with increasing frequency.

The EA also state that the 2020 extreme flood risk level in the harbours is 3.8m AOD, and sea flooding is not uncommon in low-lying areas today. The pictures below demonstrate the recent and regular harbour flood events.



North Harbour November 2019



Northney 27 November 2019

This extreme flood height prediction out to 2100 rises to 4.7m AOD. All these forecasts are based on the World achieving and maintaining the 1.5°C global warming target, which we now know from the COP27 results is unachievable.

The single-access road/bridge has no alternative, and is routed through four high flood risk areas. As a consequence, it is equally vulnerable to flooding, which effectively severs all transport links with the mainland, including emergency services.

2.2

Hayling Island is very low-lying, between 0&5m AOD, and surface water drainage is an important infrastructure component.

The land drainage is based on an historic deep ditch network (1.5-2m deep.) These were dug over centuries by the farming community to protect crops and cattle. These ditches drain through 66 'one-way' valves around the Island into Chichester and Langstone Harbours. The one-way valves are the responsibility of the EA and Southern Water, and the maintenance standard is poor to non-existent. With the passage of time, many of these ditches have been filled in and left unmaintained as a result of development covering them with hard surfaces. This has resulted in the ownership of and the need for these ditches becoming increasingly unclear, even though they are the only surface water drainage systems in place. The impact of Global Warming has already resulted in many areas of the Island experiencing a water table at ground level, leaving these flooded throughout the winter months and during heavy rainfall at any time. This is now also causing pluvial runoff flooding of the low-lying roads. There is no organisation or body that is responsible for the strategy and maintenance of surface water drainage. Climate Change is predicted to increase this pluvial flooding at an increasing rate, and it is clear that a strategy is required for threatened areas like Hayling Island. The Environment Department has announced a public consultation late in 2023 to shape new regulations on drainage of permeable surfaces and wetlands to prevent flooding. This cannot come soon enough.

2.3

The south-facing Beachfront of Hayling Island presents a different set of problems. This area is subject to fairly unusual bi-modal wave forms (swell waves AND wind waves.) The most important of these is the swell wave component. These waves are generated by storms way out in the Atlantic, which roll up the English Channel, swing round the back of the Isle of Wight, and hit Hayling Island from the south. These waves are prominently seen at Chesil Beach and Hayling Island, and regularly overtop the 5.5m beach crest at Hayling.



Bi-modal waves off West Beach Hayling Island 1 February 2021

Windspeed: Zero

Sea State: Calm

These waves are very high energy, and become dangerous when periodicity reaches 20 seconds or more. They also have the power to erode the shingle protection barrier at Eastoke by 10m or more with a single storm event. This shingle barrier at the east end of the Beachfront is replenished each year, and until now has attracted Central Funding. The height of these swell waves will increase if a wind wave component is also present. See below.



West Beach Hayling Island 11 February 2020

These conditions were present on 24 November 2022 when the entire Beachfront was overtopped, flooding a wide area and eroding significantly the Eastoke shingle barrier just reconstructed with an annual replenishment grant. The erosion damage required emergency repairs before the next high tide. Relying solely on emergency reconstructions is clearly not a sustainable long-term solution.



Eastoke Barrier before the event



Eastoke Barrier after the event

Havant Borough Council's Coastal Partners have a proposal (which is included in the Hayling Island Coastal Strategy) to complete the analysis of the bi-modal impacts and understand the long-term risks. This analysis awaits funding.

2.4

We in the Solent are fortunate to have the services of SCOPAC (Standing Conference on Problems Associated with the Coastline) and Coastal Partners, whose collective work is invaluable in understanding the risks and implications of sea flooding and in designing and implementing funded protection solutions.

Coastal Partners have published a draft of their Hayling Island Coastal Strategy, and have identified possible solutions. However, under the existing legislation, it is unlikely that any of them will attract sufficient funding as the cost/benefit ratios for each area in the Plan (see below) are less than 3 to 1.

Coastal Partners have expressed thanks for the ongoing support represented by this appeal to the Secretary of State.

Strategy Leading Option Costs and Benefits

This report outlined the process by which the overall leading options have been developed through a multi-criteria appraisal. The appraisal process considered the technical, economic, environmental and social aspects of each option. The table below presents a summary of the economic costs and benefits for each of the overall leading options for each ODU.

| ODU | Present Value cost | Present Value Benefits | Benefit Cost Ratio |
|-----|------------------------------------------------------|------------------------|--------------------|
| 1 | £5,353,000 | £6,749,000 | 1.26 |
| 2 | To be funded privately based on individual decisions | | |
| 3 | £2,287,000 | £6,140,000 | 2.68 |
| 4 | To be funded privately based on individual decisions | | |
| 5 | £4,671,000 | £7,116,000 | 1.52 |
| 6 | £986,000 | £2,299,000 | 2.33 |
| 7 | £4,001,000 | £12,878,000 | 3.22 |
| 8 | £76,843,000 | £250,085,000 | 3.25 |
| 9 | £10,324,000 | £10,543,000 | 1.02 |
| 10 | £1,280,000 | £3,634,000 | 2.84 |
| 11 | £2,508,000 | £2,942,000 | 1.17 |
| 12 | 0 | 0 | - |
| 13 | £342,000 | £3,298,000 | 9.65 |
| 14 | 0 | 0 | - |
| 15 | £6,270,000 | £11,600,000 | 1.85 |
| 16 | £410,000 | £683,000 | 1.66 |

Cash value: undiscounted costs or damages (presented in today's cash terms)

Present Value: costs or damages which include discounting through time.

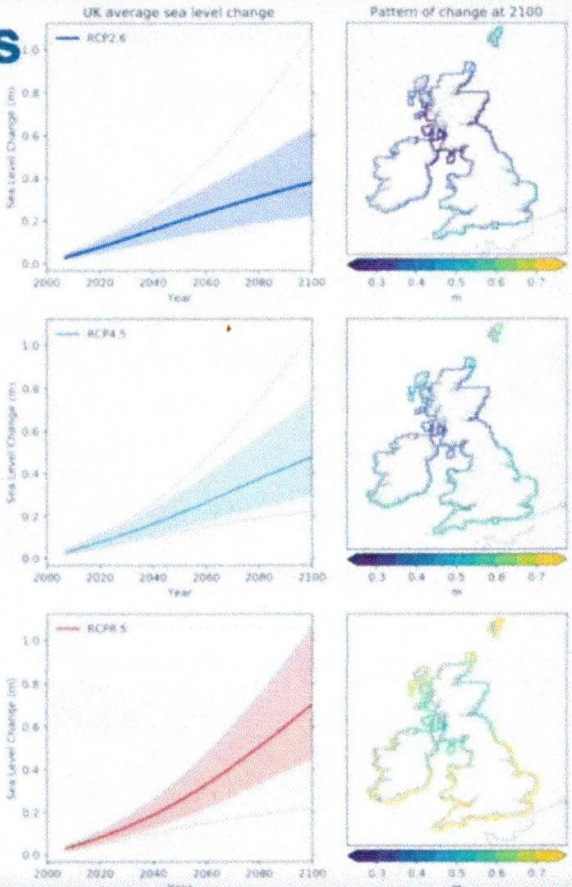
Hayling Island Coastal Management Strategy

A discussion on the funding issues is made in Section 3 CHANGES REQUIRED IN THE FLOOD RISK STRATEGY AND MANAGEMENT

SCOPAC in their 2022 report on their flood risk study published their recommendations:

9. Recommendations

- Coastal flooding and erosion remains one of the **most significant risks** that the UK and SCOPAC region faces and these risks are growing with climate change and other changes.
- There is high confidence that the **dominant cause** of global MSL rise since 1970 is **anthropogenic forcing**.
- There is **high certainty** that **relative MSL will continue to rise**, and likely **accelerate** and as a result, **high sea levels will be exceeded more frequently** in the future with climate change, increasing the likelihood of coastal flooding and erosion.
- **Without appropriate ongoing adaptation measures**, such as defence upgrades and managed retreat, this will have **significant impacts on the UK's and SCOPACs coastal population, economy and infrastructure**.



The figure consists of six sub-charts arranged in a 3x2 grid. The left column, titled 'UK average sea level change', shows three line graphs for RCP2.6 (blue), RCP4.5 (light blue), and RCP8.5 (red) scenarios. Each graph plots 'Sea Level Change (m)' on the y-axis (0.0 to 1.0) against 'Year' on the x-axis (2000 to 2100). Shaded areas represent uncertainty ranges. The right column, titled 'Pattern of change at 2100', shows three maps of the UK with color-coded sea level rise. A color scale at the bottom of each map ranges from 0.3m (blue) to 0.7m (red).

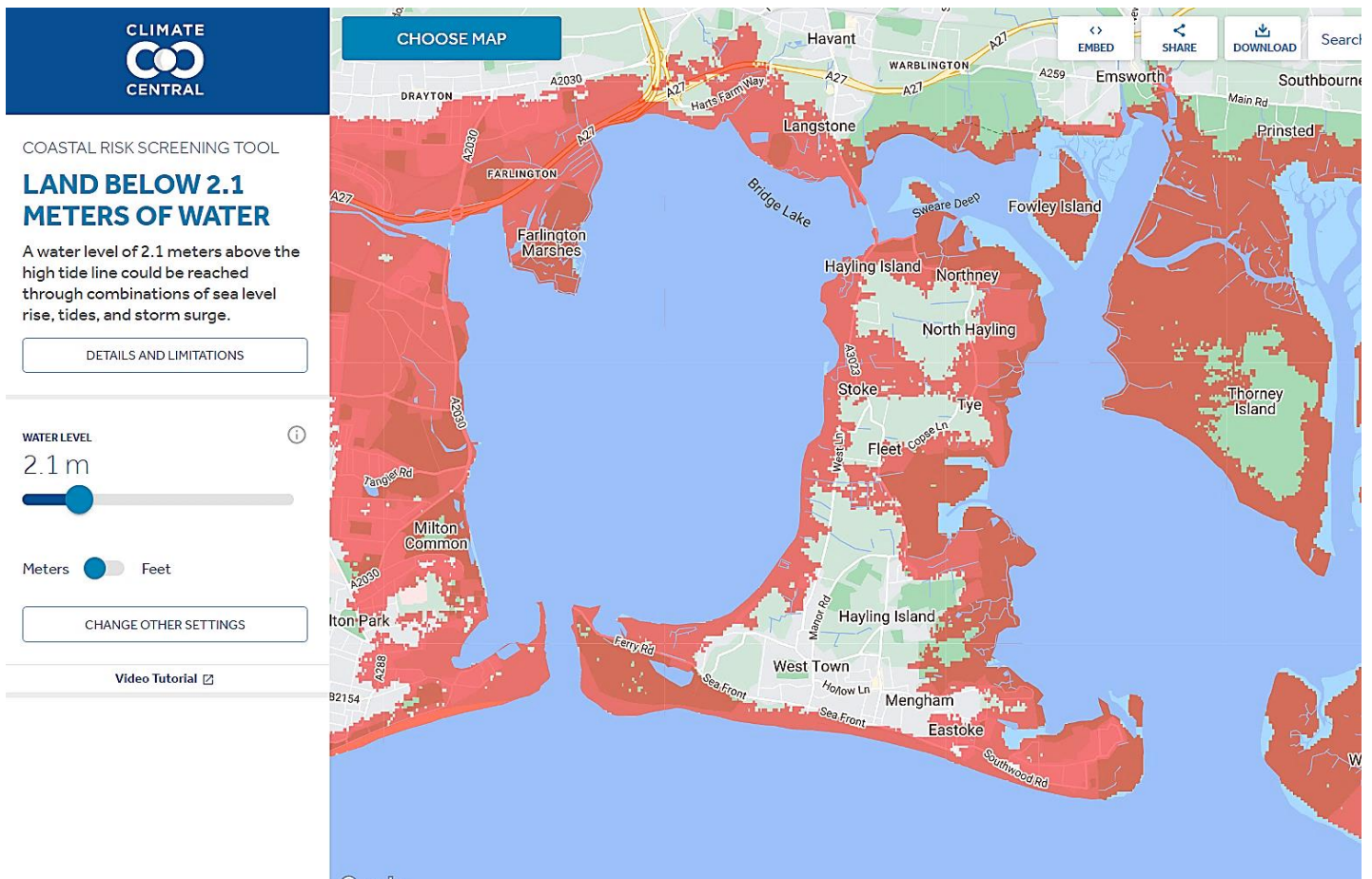
The UN IPCC now predict that 1.5°C Global Warming Paris Accord Target will be achieved at least once in the next five years, and that the result over the next 100 years is likely to be much higher (2-3°C) out to 2100. This will of course result in a consequential increase in the tide height above the current 1.08m documented in the EA prediction established in 2018. It seems that given these rapid changes, the EA should be charged with providing updates to the flood risk maps and to report on a more frequent basis.

The Chart below shows the UN IPCC Flood Risk projection for Hayling Island out to 2100. This is based on the IPCC Working Group III. 2022 findings are now reinforced by the failure of COP27 to achieve agreements on Zero Carbon Targets, and reflect the constant warnings by the General Secretary to COP27 and the 2023 Davos Economic Forum that we are heading for a 2.8°C warming level. Also, Exxon have reported in January 2023 that they estimate Global Warming to increase at a rate of 0.2°C every decade.

The chart below assumes no protection measures in place.

Please note:


2.1 metres equate to the UN anticipated 2.8°C climate warming forecast



This UN projection is based on the following:

Emissions Gap

UN Environment Programme



Global warming implications: we are far from the Paris Agreement goal

A continuation of current policies is projected to limit global warming to 2.8 °C with a 66% probability over the course of the twenty-first century with a range of 2.3–3.3 °C, inter alia due to uncertainties about how emissions would continue after 2030.

A continuation of the new or updated unconditional NDCs and other pledges is estimated to limit warming to 2.7 °C (range: 2.2–3.1 °C) by the end of the century with a 66% probability. If conditional pledges are also fully implemented, these estimates are lowered to 2.5 °C (range: 2.1–3.0 °C). As noted earlier, currently the implementation gap in 2030 is 3.5 GtCO₂e for unconditional NDCs and 7 GtCO₂e for conditional NDCs.

Only when the full implementation of all net-zero pledges and announcements to date are taken into account, in addition to the updated unconditional and conditional NDCs, do warming projections get closer to the Paris Agreement goal. Under this scenario, warming over the twenty-first century is projected to be limited to 2.1 °C (range: 1.9–2.3 °C) and 1.9 °C (range: 1.9–2.2 °C) with a 66% probability.

However, there are several caveats. Given the lack of transparency of net-zero pledges, the absence of a reporting and verification system, and the fact that few 2030 pledges put countries on a clear path to net-zero emissions, it remains uncertain if net-zero pledges will be achievable.

IPCC headline statements

- Projected global GHG emissions from NDCs announced prior to the 26th Conference of Parties (COP26) of the UN Framework Convention on Climate Change (UNFCCC) would make it likely that warming will exceed 1.5 °C and also make it harder after 2030 to limit warming to below 2 °C (IPCC Working Group III, 2022)
- Global GHG emissions are projected to peak between 2020 and at the latest before 2025 in global modelled pathways that limit warming to 1.5 °C (>50%) with no or limited overshoot and in those that limit warming to 2 °C (>67%) and assume immediate action. In both types of modelled pathways, rapid and deep GHG emissions reductions follow throughout 2030, 2040 and 2050 (*high confidence*) (IPCC Working Group III, 2022)
- Without a strengthening of policies beyond those that are implemented by the end of 2020, GHG emissions are projected to rise beyond 2025, leading to a median global warming of 3.2 [2.2 to 3.5] °C by 2100 (*medium confidence*) (IPCC Working Group III, 2022).

The next island to the west of Hayling – Portsmouth – has the benefit of a very high cost/benefit ratio, and Coastal Partners are engaged on a major multi- project flood protection programme passing £300m to date.

3 CHANGES REQUIRED IN THE FLOOD RISK STRATEGY AND MANAGEMENT

3.1

It is clear that the flood risk to low-lying coastal communities like Hayling Island is severe through sea and pluvial inundation, and without changes in the evaluation and funding processes they are not going to survive as the sustainable communities we see today.

3.2

At present, Defra rules have resulted in the EA administering an almost unbelievably complex set of cost/benefit algorithms against which all flood protection proposals are measured. This results in the proposals being only partially-funded by the EA. Then the proposers, through this partnership-funding process, is required to fill this funding gap. This requires the proposer to then generate new and multiple business plans to attract partial funding from numerous independent agencies. These agencies do not share a common

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planning cycle, and this can result in the process being restarted from the beginning as a result of timing issues, and of course the funding for any proposal is not assured until this cycle is completed.

This situation results in unnecessary delays in the implementation process, and is a poor use of scarce solution-focused people having to spend their time rewriting business plans to attract funding for organisations whose objectives are poles apart.

To understand this complexity, Coastal Partners, as a department of Havant Borough Council, are required to look for funding from a combination of the following authorities, agencies and companies:

- Havant Borough Council and Hampshire County Council
- Highways England
- Regional Flood and Coastal Committees
- EA
- Levelling Up Authorities
- Utilities
- Education Authorities
- Natural England
- Commercial Stakeholders
- Private Landowners

This complexity has inadvertently resulted – from the perspective of the consumer i.e. the residents – in a methodology which is an unnecessarily bureaucratic process which just energises the process rather than clearing the path for urgent and efficient implementation of flood protection solutions – which was probably the original intent.

This process could and should have been kept current using standard industrial processes, including peer reviews and continuous process audits to maintain viability.

3.3

There is also a dire need to update the strategy and processes to handle the key area of adaptation. This will become an increasingly important issue, not only for the more obvious flood mitigation measures of managed retreat and creation of wetlands, but more significantly, there will be a need to maintain continuity of emergency services and utilities, and the identification of land to be used for the relocation of houses and businesses, and infrastructure for locations where there are no economic protection options.

As one example, Hayling Island – being a low-lying area – is served by an integrated pumped sewage system consisting of some 18 interconnected pumping stations. The loss of any one component results in the failure of the continuity of the whole system, requiring a tanker-based backup, which in turn is dependent upon the Bridge being open and the road network of the Island being usable in order to transport the sewage from the affected pumping stations to the treatment works on the mainland.

This major sewage treatment works at Budds Farm serves a wide area, including all of Portsmouth. It is also within this flood risk area, as are portions of the A27 and M27.

Overall, adaptation will become an increasingly critical planning component, and should be included in the Defra Rules and the EA Directives to Local Government Planners, including control of the short-term use of land, which may prevent the requirement for adaptation (relocation) at a later date. As the Government is the arbiter of flood protection funding, they must accept the responsibility of advising those authorities and residents at risk what adaptation should be considered, and how the funding process is to be used.

The revised HBC Local Plan (now in process) should ensure that the impact of effectively looking to build additional housing on a flood plain is clear, and becomes a contributing factor in any future decisions regarding all development applications.

3.4

It is also vital that the cost/benefit algorithms relate to their contribution to a sustainable community. The existing benefit factors focus on protection of housing and industry, and undervalue the contribution of communities which provide broader services essential for the wellbeing of us all. The examples below are assigned disproportionately low values, which skews the overall contribution and resulting funding decisions. Government must place a realistic value on all elements of the environment and infrastructure which are essential to maintain economic viability, and sustainable and safe communities.

| | |
|--------------------|------------------------|
| Road networks | Ecological provisions: |
| Emergency services | • Parks |
| Tourism revenues | • Reserves |
| Leisure facilities | • SSSIs etc |
| Utilities | Adaptation needs |

Only in this way can the real value of any community's contribution be understood, and provide the Central Authority with sufficient information to determine the correct economic level of protection funding which should be provided.

The EA should be empowered under revised Defra rules to manage the local agencies' flood protection project applications, which should include the responsibility to interface with the various Government departments and fund-holder agencies for concurrence etc, to ensure that the priorities are managed at a strategic level. This would simplify and speed up the funding process, improve Government visibility over the nationwide initiatives, and allow Local Authorities to focus on the correct/possible solutions which would release them from the 'fund chase rat race'.

Final accountability for protecting a coastal property resides with the landowner, who may choose to defend it – or not. In the case of Hayling Island, the major coastal landowners are Havant Borough Council and Hampshire County Council. Neither of these Authorities have the funding to undertake projects on the scale required.

4 A SUMMARY OF RECOMMENDATIONS

4.1

Revise the Defra Rules and EA Rules and Guidance to enable the EA to evaluate, approve and provide a 'one shop' 100% funding for flood protection projects at a local level. The responsibility to co-ordinate the monetary contributions from fund-carrying agencies should reside with the EA.

4.2

Ensure that the maintenance costs for each approved project are made available and ring-fenced at the local level.

4.3

The Defra Rules and EA Rules and Guidance, must be revised to include the management, application and implementation of adaptation solutions for areas subject to unavoidable sea, fluvial or pluvial flood risks.

4.4

The flood risk cost/benefit algorithm factors must be re-evaluated and revised to reflect the realistic risks, benefits and values of any community's overall contribution to the common good.

4.5

The Defra Rules and EA Rules and Guidance must be expanded to include the management, application and implementation of ADAPTATION solutions covering the drainage and flood protection of permeable land areas subject to inundation through location or development.

AND FINALLY ...

Residents of vulnerable communities are increasingly frightened by the prospect of uncontrolled and unmanaged tidal and pluvial flood threats. They look to the Government for solutions and advice on the steps we all need to take to mitigate the impact on their own and their children's futures.

We will, of course, be available for clarification and discussion at any time.

Please acknowledge receipt of this statement to daveparham6@gmail.com

Yours faithfully

Dave Parham
Save Our Island Group (Hayling Island)

Anne Skennerton
Hayling Island Residents' Association