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Isle of Man
Government

Reiltys Ellan Vannin

**National Strategy on Sea Defences, Flooding and Coastal
Erosion**

2016

July 2016

Foreword

To the Hon. Clare Christian MLC, President of Tynwald, and the Hon. Council and Keys in Tynwald assembled

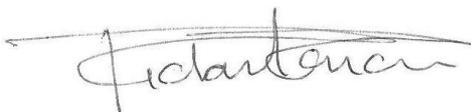
This strategy lays out how government, with all key stakeholders, should adapt to current and future flood and coastal risks, in response to recent damaging events and a growing awareness of probable increased future risks.

The strategy objectives are to raise community awareness and engage them in effective and appropriate adaptations which manage and reduce the impacts through a programme of prioritised investments.

The evidence which underpins this strategy is provided in a report by JBA, an internationally recognised specialist. The report identifies the highest risk areas, alongside the indicative timescales when those risks are likely to become events.

The strategy introduces a single national framework to ensure consistent and proportionate approach to all flood and coastal damage risks, which is underpinned by a robust impact value assessment model for the sites and properties at risk. This is intended to balance the urgency of the required action against the scale of likely future damage and the predicted timescale to those future impacts. Active interventions are not just about building defences or increasing drain capacity, as management approaches to river catchment can provide a cost effective solution to rainfall related flood risks.

Government and the MUA have already established a relevant investment programme worth over £50m, however, this strategy will enable property owners, Government Departments and local communities to work together to accommodate the implications of this consistent approach.



Hon. Richard Ronan MHK

Minister of the Department of Environment, Food and Agriculture

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National Strategy on Sea Defences, Flooding and Coastal Erosion

The Government’s strategy is to deliver the following objectives:

1. **Raise community awareness** to flood and coastal erosion risks and engage relevant stakeholders in **effective and appropriate adaptation** to these events and risks.
2. **Manage and reduce the impacts** of flooding and coastal erosion on communities, infrastructure and the environment.
3. **Prioritise investment** to balance the urgency and impact of the risks identified.

To achieve these objectives, all the relevant authorities, communities and property owners will need to work together.

Background

The current position on Coastal defence was established in 2000, when Tynwald received a report by the Department of Transport which recommended:

“that Tynwald approves the Government undertaking appropriate and effective measures to manage and safeguard the Island’s coastal lands where there is a justifiable and sustainable case”

In recent years we have experienced several high profile and costly tidal, storm and rainfall related flooding events, which combined with increasing awareness of our future climate change have raised public and government concern about resilience to these threats.

The Minister for Environment, Food and Agriculture committed in October Tynwald to bring forwards this Strategy and subsequently committed in November Tynwald to ensure Wrights Pit East was explicitly considered.

What we have done since

JBA Consulting, an internationally experienced environmental engineering consultancy were appointed to provide a prioritised list of locations at risk from flood and coastal processes, advise on methods for assessing the value of property and infrastructure under threat and recommend processes for deciding when Government intervention would be appropriate.

The work of the JBA team is contained in an Evidence Report. This Report was submitted in May 2016 and provides the core information for this Strategy. It can be viewed via the following link: www.gov.im/seadefences

The Isle of Man Government has produced this Strategy in order to contribute to the economic, environmental and social resilience of the Isle of Man to current and future climate risks. The Strategy assesses three sources of flooding – from rivers, the sea and surface water together with coastal erosion - and identifies those areas at risk now, and in the future. The analysis has been carried out at a 1km grid scale with a consistent, scientific approach across the whole island. The grid squares with the most properties, community and public service assets, road and rail infrastructure and sites with environmental designations at risk of flooding and/or coastal erosion have then been prioritised. The final task was to help identify potential adaptation responses and provide indicative costs for developing and implementing these solutions.

Who is responsible

Department of Environment Food and Agriculture – Coastal erosion, catchment & landscape management

Manx Utilities – General supervisory oversight of serious flooding, consenting of activities affecting flood risk, management of impounding reservoirs and reservoir catchments, management of designated rivers, provision of effective drainage, managing and extending public sewerage systems, flood resilience and drainage of critical infrastructure

Department of Infrastructure – Highway drainage and associated cross-drainage structures (e.g. bridges and culverts), Properties, Critical Infrastructure and associated drainage

Property owners – Management of private drainage and flood resilience of privately owned land, domestic and commercial properties

Local Authorities – Property owners and community representation

How should we assess priority

Appendix A in the JBA Evidence Report contains the methodology used to assess and prioritise locations that are at risk from flooding and coastal processes.

Prioritisation is based on the level of exposure to risk and the value of property, infrastructure or amenity in a defined location. A weighting process has been adopted (for example the loss of property through coastal erosion is given an enhanced weighting over a property which might suffer partial damage through flooding).

A wide range of values have been considered including cultural, economic and environmental. Three examples of application of the Risk Assessment Tool are summarised below:

- The Wrights Pit North landfill facility is subject to a monitoring regime as any erosion related breaches of the bund wall could result in significant short term environmental damage. The facility is not currently however in a zone of high erosion activity and is not thought to be under immediate threat, so it is not marked as a Priority Risk Area within the JBA summary report.
- The Kirk Michael area is likely to sustain significant damage in the long term but, with the exception of a small number of properties, is unlikely to be affected within the next few decades if historic erosion rates persist. The economic and social impact of damage to the main village would be very high and high cost action will be justified and required in the future to avoid that impact. As a consequence of the timescale, it is not currently marked as a Priority Risk Area. However, the importance of comparing historic erosion rates with those associated with recent weather related events is emphasised in the report and it is acknowledged that the time taken to achieve high risk status could be significantly different if the frequency and impact of recent events persist, meaning action would be required sooner than rather later and so it is assessed as a medium risk.
- The Ayres Area of Special Scientific Interest (ASSI) has been assessed from the point of view that coastal processes could result in early and significant loss of internationally important wildlife habitats. Therefore whilst the financial loss implications are low, the environmental impact is high and it is likely that some relatively low cost actions should be undertaken in the mid to near future, so it is marked as a Priority Risk Area. Those responsible for managing the ASSI are monitoring the situation closely as natural processes are believed to contribute to the scientific interest of the location.

How should priorities be funded

The JBA report confirms that the UK return on investment model is based on a ratio of 5:1 (five pounds of benefit for every pound invested).

It is recommended that Treasury and MUA, with guidance from all partners including the public, should consider the most appropriate ratio for the Isle of Man.

It is also recommended that, only in exceptional circumstances, should ratios of less than 1:1 be considered

Relevant Departments in the Isle of Man Government currently have over £50m allocated to infrastructure projects within their remits. These investments are due to be initiated over the next 30 years.

How will we deliver the Strategy

The Strategy is of relevance to various departments in the Isle of Man Government and Manx Utilities as well as interested economic, environmental and social stakeholders and it should be used to inform future investment and planning decisions at all scales. Recommendations are provided for planning policy in relation to requiring sustainable drainage measures in all developments over a certain size, ensuring that flood risk is not increased elsewhere as a result of drainage and ensuring that areas subject to coastal erosion are not developed.

We will:

1. Take forward the analysis of prioritised risk locations (Action Areas and Outliers) and develop an Action Plan for public consultation. The key actions proposed are:
 - a. ongoing monitoring,
 - b. community resilience and awareness-raising,
 - c. further studies and investigations, and
 - d. potential schemes
2. Set up a working group with representation from various Government departments and Manx Utilities to manage the Action Plan development and Strategy and Action Plan implementation ensuring that this is undertaken in an integrated and holistic manner aiming to achieve economic, environmental and social objectives.
3. Due to the significant challenge of surface water flood risk in many locations across the Island, Manx Utilities should take account of this new evidence base in discharging its drainage authority duties and implementing the Regional Sewage Treatment Strategy.

4. The Action Plan and responses developed to manage the evident risks should be undertaken through a catchment management approach avoiding piecemeal intervention and ensuring that the management of risk in one location does not increase risk elsewhere.
5. Low cost solutions working with nature through natural flood management measures should be adopted wherever possible as these have the potential to reduce flood risk elsewhere and can achieve biodiversity and carbon benefits as well as helping to adapt to climate change.
6. The potential schemes that could be developed following this analysis are likely to exceed the resources available to Government and therefore further prioritisation is required. An Investment Planning Tool has been developed to assist Government and Manx Utilities in deciding where public money is best invested. DEFA, DoI and Manx Utilities, working with the Cabinet Office and Treasury, should develop policy guidance and funding criteria including a required Return on Investment; break-even (i.e. 1:1) is generally considered as the absolute minimum.
7. Once the analysis of Action Areas and Outliers has been completed and an Action Plan is developed, it is recommended that a programme of community awareness raising and resilience is developed and implemented to assist communities in understanding the actual risk of flooding and coastal erosion to their properties and putting in place measures themselves to increase their resilience to this risk, now and in the future.
8. The Risk Assessment that underpins this Strategy should be sustained as a dynamic database and updated on a regular basis bringing in more robust datasets as these are generated. A number of detailed recommendations concerning the updating of datasets are set out in the full report.
9. As the costs required to manage the Island's flood and coastal erosion challenges, now and in the future, are likely to exceed the resources available to the Isle of Man Government and Manx Utilities, it would be beneficial to consider developing an approach in which Government investment for flood and coastal erosion risk management can be supplemented by contributions from other partners. The Flood and Coastal Erosion Resilience Partnership Funding Policy in England provides an example of this type of initiative.

Response to Wright's Pit East Motion

The JBA Report and evidence base identifies that there is no material likelihood of coastal erosion impacting on the function or integrity of the facility at Wright's Pit East and it is expected to continue to function as designed for the next hundred years.

Responsible Officer name and job title: Bernard Warden, Director of Environment, Safety and Health (DEFA) Contact details: Tel: 686247 Email: bernard.warden@gov.im.

Appendix 1 – Existing relevant Government Policies

March 1999 - Tynwald voted in favour of the following motion:

"That Tynwald is of the opinion that -

(i) the coastline between Glen Wyllin access and Balleira Road access, Kirk Michael, be protected from erosion

(ii) a geophysical survey of the north west coast be commissioned by the Department of Transport, with a requirement that the report of the survey be submitted to the department within six months, together with recommendations for the most appropriate programme of remedial works;

(iii) the department report on the recommendations no later than the January 2000 sitting; and

(iv) if the department support the recommended programme, the programme be implemented not later than April 2000."

As a result, a report entitled 'Coastal Erosion Study at Kirk Michael, An Interim Report to Tynwald' was produced. The preferred option contained in this report was a rock revetment with a crest level of +6.75m. A comprehensive environmental scoping study for the proposed works was also undertaken. The report recommended that:

"Tynwald supports the Department of Transport undertaking further investigations, research and appropriate consultations".

February 2000 – Tynwald voted in favour of the following motion:

"That Tynwald –

(a) approves the interim report of the Department of Transport into coastal erosion at Kirk Michael, and the department undertaking appropriate consultation;

(b) approves the department incurring expenditure not exceeding £75,000 for research and to enable the department to continue its investigations;

(c) authorises the Treasury to apply from general revenue during the year ending 31st March 2000 a sum not exceeding £75,000 being the additional amount required for such research and continued investigations; and

(d) requests the department to report with recommendations to Tynwald no later than the October 2000 sitting."

October 2000 - A further report entitled 'Department of Transport's Report into Coastal Erosion on the Northern Coasts of the Isle of Man' containing the recommendation:

"that Tynwald approves the Government undertaking appropriate and effective measures to manage and safeguard the Island's coastal lands where there is a justifiable and sustainable case"

was approved by Tynwald.

January 2013 - Tynwald approved Agenda for Change. The following is stated amongst the nine priorities identified for Government under the heading of Environment and Infrastructure:

We will:

- Address the issues posed by the effects of climate change
- Encourage sustainable economic activity in harmony with our natural resources

May 2013 - Tynwald received the Council of Ministers' Report on Environment and Infrastructure Policy and agreed that the key objectives detailed in the report be the general framework for the development of Environment and Infrastructure policy. The key objectives include the following which relate specifically to climate challenge adaptation and sustainable development:

- Government will develop policies and strategies to ensure that it understands the risks of climate change to the Isle of Man and adapts to these risks.
- Government will formulate a long term strategy for sustainable development which meets the needs of the present generation without compromising the ability of future generations to meet their needs.

November 2014 - The Mid-Term Report from the Council of Ministers on the Agenda for Change acknowledges that climate change is a key challenge that we must tackle over the next decade to secure a sustainable future.

May 2015 - The following policies on sustainability and climate challenges were approved by Tynwald:

- Sustainability will be central to Government's policy and decision making to ensure we balance the long term needs of society with the needs of the economy and the environment.
- To reduce risks and maximise benefits Government will both promote and undertake appropriate proactive adaptation to the current and projected climate.

July 2015 – 'An update to the Agenda for Change' identifies climate change adaptation as one of the 8 major challenges we face as an Island nation in the next decade which we must tackle to secure a sustainable future.

A new 'National Performance Framework' identifies major challenges, strategic objectives, national outcomes and performance indicators which include the following:

Strategic objective	National outcome	Performance indicator
We will have a built and natural environment which is enjoyed and nurtured by all for the future	We have adapted our natural and built environment to cope with the threats of climate change	Improve public awareness of the threats of climate change
		Increase capital spend on flood risk management

July 2015 - The Council of Ministers Environment and Infrastructure Sub-Committee agreed to the terms of reference of a national Strategy on Sea Defences, Flooding and Coastal Erosion.

October 2015 – Tynwald voted in favour of the following motion:

"That Tynwald acknowledges the continued erosion of the coastline of the Island; and supports the introduction of a national coastline policy; and that the Department of the Environment, Food and Agriculture report to Tynwald at the July 2016 sitting on proposals for potential defence and repair where, appropriate and cost-effective, for the protection of property, infrastructure and valuable natural habitats and biodiversity."

November 2015 – Tynwald voted in favour of the following motion:

"That Tynwald views with concern the continuing coastal erosion which may turn Wright's Pit East into a potential source of marine pollution; calls on the Department for Environment, Food and Agriculture to report on the likelihood of waste or residue being released into the marine environment, whether any such release would breach any European Union directive, what measures are in place to prevent such release, the feasibility of transferring waste from Wright's Pit East to the Energy from Waste Plant; and to report to the July 2016 sitting of Tynwald as part of the previously supported proposal for the development of a national strategy concerning Sea Defences, Flooding and Coastal Erosion."