



Isle of Man
Government

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A strategy for the adoption of the 2006 Bathing Water Directive standards in the Isle of Man



Department of Environment, Food and Agriculture

Rheynn Chymmhtaght, Bee as Eirinys

Strategy Document

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Minister's Foreword

To The Hon Stephen Rodan OBE, MLC, President of Tynwald, and the Hon Council and Keys in Tynwald assembled



In 2016 Tynwald approved a motion which stated:-

“That Tynwald is of the opinion that the EU Bathing Water Standards of 2006 should be considered as an objective to bring the Island into parity with neighbouring countries for the protection of public health and in particular for those who wish to use the Island’s beaches and bathing waters for recreation.”

In 2018 the Environment and Infrastructure Policy Review Committee made a series of recommendations on future sewerage infrastructure options and how they might impact on Isle of Man bathing water quality.

Two recommendations within this report, subsequently agreed by Tynwald, were of direct relevance to DEFA:-

- Provision must be made to adopt the 2006 EU Bathing Water Directive as an objective as supported by Tynwald in 2016 and that necessary implementation work should be completed in accordance with a time bound plan;
- The MUA and DEFA work together to produce a scoping report of what is needed to comply with the 2006 EU Bathing Water Directive, and report back to Tynwald by November 2018.

The interim scoping report, which I presented to Tynwald in November 2018, outlined the work required to ensure the Isle of Man achieves compliance with the standards specified in the 2006 Directive and included a target to secure Tynwald approval to adopt bathing water quality standards based on the public health parameters contained in the 2006 Bathing Water Directive and on a strategy for delivering those standards.

The Department has worked with its consultants APEM Ltd and Manx Utilities to develop this Strategy which focuses on delivering the benefits associated with the 2006 Directive and achieving improved standards for the protection of public health.

It is proposed the following aspects of the 2006 Directive will be adopted:-

- the ‘**Good**’ standard for bathing water quality will be set as the minimum standard;
- beaches popular with bathers will be designated, with support from local authorities;
- bathing water profiles will be developed for all designated beaches;
- water samples will be collected on a weekly basis throughout the bathing season from all designated bathing beaches;
- clear beach signage will be provided to allow bathers to make informed decisions on where and when to bathe in our waters;
- information will be published on our website, including the bathing water profile and current bathing water classification;

It is recommended that this Strategy for the adoption of the 2006 Bathing Water Directive standards in the Isle of Man be endorsed and the Department progresses with Phase 2 of the project to commence in 2020, with the development of Manx specific Environmental Quality Standards for Isle of Man waters.

Hon Geoffrey Boot, MHK

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1. Executive summary

Within the strategy the consultants APEM Ltd have recommended the Isle of Man implements the following parts of the 2006 Bathing Water Directive. This will provide enhanced protection to the public and visitors from pollution by faecal indicator organisms (FIOs) discharged in or near bathing areas.

- 'Good Standard' is set as a minimum standard for bathing water quality.
- Amend the Directive to suit the needs and resources of the Isle of Man.
- Develop bathing water profiles for designated beaches.
- Continue to collect bathing water samples on a weekly basis and use a monitoring calendar to programme sampling.
- Define the length of the bathing water season as the start of May to mid-September.
- Monitor water quality for FIOs at all bathing waters.
- Produce beach signage to allow the public to make an informed decision on whether to bathe.
- Publish information on the webpage including the bathing water profile and current classification.
- Determine the authority who will undertake the duties of beach controller (local authorities).
- Determine the authority to undertake the duties of the appropriate agency (Department of Environment Food and Agriculture, 'DEFA').
- Establish a procedure for designating beaches as bathing waters.
- Classify the bathing water at the end of each season and investigate any non-compliance with the 'Good' standard of bathing water.

Section 15 provides a table with justifications for the inclusion and a table for the exclusion of some component parts of the 2006 Directive. This means that the 2006 Directive will be adopted in a Manx specific way.

It is recommended that the Strategy is adopted for the 2021 bathing season.

2. Introduction

In May 2018, Tynwald agreed:

- Recommendation 5 – “That Tynwald is of the opinion that the existing bathing water quality standards are inadequate. Provision must be made to adopt the standards included in the 2006 EU Bathing Water Directive as an objective as supported by Tynwald in March 2016 and that necessary implementation work should be completed in accordance with a time bound plan agreed upon consideration of the scoping paper referred to in Recommendation 6.”
- Recommendation 6 – “That the MU and DEFA work together to produce a scoping report of what is needed to comply with the EU 2006 Bathing Water Directive, and report back to Tynwald by November 2018.

This strategy document is a response by DEFA (supported by Manx Utilities) to Recommendations 5 and 6 on the adoption of the 2006 Directive. The Isle of Man has currently adopted the 1976 standards and is monitoring the microbiological quality of water at 19 beaches around the island. The weekly sampling results are displayed at the beaches with the data being compared to the 1976 standards. The results are also compared against the 2006 Directive standards and published on the Government website.

The importance of implementing the strategy for bathing water in the Isle of Man is clear as it provides protection to the public and visitors from pollution by FIOs discharged in or near bathing areas. The Bathing Water Directive (Directive 2006/7/EC; the '2006 Directive') only applies to beaches or inland bathing water sites that have been designated by Government. Implementation of the 2006 Directive in the Isle of Man will mean achieving consistency in the management of bathing waters with the rest of the UK.

2.1 Background

Pollution of bathing waters is caused by sewage effluent, livestock waste and some other types of animal waste and this can lead to a range of minor or more serious health problems for some bathers. This is due to the presence of infectious micro-organisms (FIOs). Also natural toxins derived from phytoplankton can pose a risk to bathers. To meet the water quality objective DEFA will need to investigate and identify the presence and source of pollution at each bathing water. This information will be used to identify if measures are needed to meet the water quality objective and it will also be used for writing bathing water profiles to inform bathers about any risks.

The quality of bathing waters in the rest of the UK has improved considerably since the introduction of the 1976 Directive and with the implementation of the 2006 Directive. Sewage effluent that was inadequately treated used to be the main cause of bathing waters pollution resulting in a failure to meet the standards. There has been significant investment in the public sewerage infrastructure along with work to control pollution from livestock waste. In the rest of the UK the main sources of pollution now are a combination of sewage spills, livestock waste runoff associated with heavy rainfall and urban runoff where pollution occurs due to sewer misconnections. Bathing water quality in the Isle of Man has also improved following the adoption of the 1976 Directive and investment by Manx Utilities (MU) to improve the island's sewerage infrastructure, starting with the IRIS (Integration and Recycling of the Island's Sewage) programme and now through the RSTS (Regional Sewage Treatment Scheme) programme.

The main changes from the implementation of the 2006 Directive has been a tightening but simplification of the standards, and an increase in the level of information made available to the public on bathing water quality. The public are now much more informed about bathing water quality, the risks and the work being carried out to monitor and assess water quality and tackle sources of pollution.

The strategy for the adoption of the 2006 Directive in the Isle of Man needs to avoid unnecessary administrative burdens while improving the level of public protection by adopting the better health standards, therefore a pragmatic approach is recommended.. The Isle of Man is not required to adopt the entire 2006 Directive and would require significant resources to do so. The standards of the Directive should be adopted in a Manx specific way ensuring that the much more stringent health related standards and provision of improved information for bathers will be adopted. The information we have shows that the island's beaches are quieter and there are a smaller numbers of bathers. Following adoption,

adequate standards will be in place for the protection of public health, resulting in the Isle of Man achieving consistency in the management of bathing waters with the rest of the UK.

The 2006 Directive includes the classification of bathing water quality that is based on standards for FIOs, namely intestinal enterococci and *Escherichia coli* (*E. coli*). There is a much bigger provision now required for public information, this is so bathers can make a more informed decision on where and when to swim. The latter provision will require clearly displayed descriptions at every designated bathing water, covering a general description of the water body, details of any abnormalities and their expected duration, and information to bathers on where they can go to find out more information.

The Government of the Isle of Man has a choice on whether to implement all of the requirements of the 2006 Directive or to adopt the most relevant parts of it, such as the water quality standards and to make the implementation Manx specific. The reason for not adopting the entire 2006 Directive in the Isle of Man is due to the quieter nature of beaches and the smaller number of bathers. We recommend that the following parts of the 2006 Directive should be adopted by the Isle of Man and be implemented by DEFA (the much more stringent health related standards and provision of improved information for bathers will be adopted):

- Define who will act as the 'beach controller', this should be the local authority who is responsible for the specific beach.
- Designate beaches that are popular with bathers and where they have been supported by local authorities as 'bathing waters'.
- Define the length of the bathing season, this should continue to be from start of May to mid-September.
- Monitor water quality at bathing waters for FIOs during the bathing season.
- Classify the bathing water at the end of every bathing season and ensure compliance with the FIO standards by investigating the reasons for non-compliance. We recommend that the Good standard is set as the minimum because of the likelihood that the lesser 'Sufficient' standard could soon be removed following a forthcoming planned review of the 2006 Directive.
- Publish information about the bathing water on a web page as a bathing water profile, allowing bathers to make informed choices about where to bathe.
- Use beach signage at bathing waters to make information available to the public. This should include the following pieces of information:
 - The current classification.
 - Any advice against bathing.
 - A general geographic and hydrographic description of the bathing water catchment.
 - Information on any potential abnormal situations and their likely duration (for example, if poorer water quality than normal would be expected following periods of heavy rainfall).
 - An indication of the sources of pollution and other risks at the bathing water.
 - Who to contact for further information.

3. Improved protection of public health in the Isle of Man

The adoption of the 2006 Directive will mean that much better standards are in place for the protection of public health. Implementation of the 2006 Directive in the Isle of Man will result in achieving consistency in the management of bathing waters with the rest of the UK.

The quality of bathing waters in the rest of the UK has improved considerably since the introduction of the 2006 Directive, and the 1976 Directive that preceded it. Since the implementation of the 2006 Directive the level of information available to the public on bathing water quality has grown. The public are now much more informed about bathing water quality, the risks and the work that's being carried out to monitor and assess water quality and tackle sources of pollution. The adoption of the 2006 Directive in the Isle of Man will mean that adequate standards are in place for the protection of public health.

DEFA will need to introduce a scheme to adopt bathing water standards from the 2006 Directive under the Water Pollution Act 1993. This means prescribing a classification scheme for the microbiological standards contained in the 2006 Directive. DEFA will need to monitor water quality according to the criteria specified in the scheme (continuing the programme of weekly sampling during the bathing season). The scheme must be approved by Tynwald in order for it to take effect in accordance with the Act and be consistent, but Manx specific, compared to the legislation applied in the rest of the UK.

3.1 Cost implications - high level assessment

A Defra consultation report in 2007 on the implementation of the 2006 Directive in England and Wales showed that the costs on the water industry, farmers and others were relatively low, but the benefits in terms of public health were much greater. The likely impact for the Isle of Man may be summarised as follows:

- Government – medium level of impact.

A scheme for river quality objectives should be introduced by seeking approval of the 2001 scheme (the General Quality Assessment scheme) by Tynwald. This is important because it will allow DEFA to better monitor and control pollution into rivers, including those that drain into or near bathing waters.

Although the current DEFA adopted river quality objectives scheme does not include microbiological parameters it does contain standards for ammonia, which is a useful indicator for pollution that contains FIOs. This is not the same as a Water Framework Directive scheme which would include a very large number of ecological and chemical monitoring requirements which are not relevant for bathing water quality or general river quality purposes. DEFA will need to monitor river quality if a bathing water result is elevated to trace the source of pollution. Routine river quality monitoring will help to identify pollution risks that may impact on bathing water quality.

The strategy will need to address permitting for discharges into controlled waters. DEFA will need to set standards for Manx Utilities sewage treatment works discharges (for continuous discharges) and will need to audit the results of sampling carried out by MU. DEFA should provide an annual report on MU compliance with permit conditions.

The standard for MU assets should be set to achieve the Good standard for bathing water quality under the 2006 Directive. The permits will require MU to provide information to DEFA to enable conditions to be set. The information that MU needs to supply is what impact the discharges will have on bathing water standards. The assessment involves calculating the FIO concentrations in crude sewage and the concentrations at the bathing water following dilution and dispersion. If the bathing water standards cannot be met through secondary treatment additional treatment will be required, for example by using disinfection such as ultraviolet light. MU discharges into freshwater should contain permit limits for biochemical oxygen demand, suspended solids and ammonia, and determined by simple modelling using a software tool such as the Environment Agency mass balance software (RQP tool).

DEFA will need to develop a process for designating bathing waters to make it straightforward for local authorities to apply to have their beaches designated as bathing waters. Local authorities will need to provide information to allow DEFA and MU to decide whether beaches can be designated, it is recommended that the approach currently in use for England is adopted by the Isle of Man. A key factor for deciding if a beach should be designated as a bathing water will be to establish whether the water quality objective (a minimum of Good status) can be met, if it can't be met it is unlikely that a beach will be designated.

- Community – low level of impact.

River quality monitoring will demonstrate if there is a need for further action to control the impact of private sewage discharges. If improvements are necessary this is likely to require action by DEFA to ensure that homeowners, and other owners of private discharges, take the appropriate action and maintain their treatment systems. This is likely to mean that such systems will require annual desludging in the case of high risk discharges. This should be carried out by MU and with a fee paid for the service by the home owner. Any lower risk discharges are likely to require desludging on a less frequent basis.

- Manx Utilities – medium level of impact.

The risks are that a small number of intermittent discharges will need to be investigated and improved (a table in Appendix 1 show the improvements that are likely to be required). In order to set appropriate discharge conditions to protect bathing water quality, MU may need to carry out further modelling studies, mostly for intermittent discharges. MU has provided a summary table showing their current understanding of the impact of their discharges on bathing waters. This indicates that a number of dispersion studies are now needed to assess what impact intermittent discharges have on bathing water standards. The list also shows that a small number of intermittent discharges as part of future schemes could require disinfection. DEFA will need to work with MU and ensure that dispersion studies provide information required to set appropriate conditions for discharge permits.

MU need to investigate the impact of intermittent sewage discharges on bathing water quality. The information will be used to develop permit conditions to be set by DEFA to control pollution risks associated with intermittent discharges. The remaining RSTS schemes are to be designed to meet the Good standard at bathing waters as a minimum and this should be sufficient.

- Farming – medium level of impact.

Rivers can become elevated in FIO's through the run off from agricultural land, poor guttering/yard drainage and allowing livestock access to rivers for their water supply. DEFA

released an updated good code of practice for farmers, growers and land managers in 2018 to protect the water and soil across the Isle of Man.

Run-off from agricultural land into nearby watercourses is a major contributor to FIO concentrations. By increasing the storage capacity for slurry on farm yards it will reduce the quantity that is required to be spread on land especially during adverse weather conditions. When the land is saturated and livestock waste spread it sits on the surface and can be easily mobilised into a nearby watercourse or collected in a drainage ditch.

Proper separation of rain water from farm yards is very important to reduce the contamination of nearby watercourses and ensure the volume of slurry produced by livestock is not increased by being mixed with rainwater. This may include improvements to guttering, drainage from yard areas and covering of livestock feed areas.

Safety fencing can be used to prevent livestock from entering a watercourse, which causes erosion issues and the direct pollution from livestock waste.

DEFA offer support to the agricultural industry through grants under the Agriculture and Fisheries Grant Scheme (AFGS). The AFGS provides a range of grants to eligible businesses to provide economic growth and diversification of the local economy. The highest grant support (up to 60%) is available for slurry control measures to encourage the farming community to reduce FIO concentrations in the environment. Grants are available for slurry storage facilities, safety fencing and improving rain water run off facilities such as guttering and roofs over feed areas plus a number of other areas.

- Industry – low level of impact.

It is unlikely that industry will be a major source of FIO pollution. Some food industry can be a source (for example, the vegetable processing industry for frozen food is recognised as a source of pollution in England).

4. Current legislative provisions

4.1 Background

The microbiological standards from the 1976 Bathing Water Directive have been adopted in the Isle of Man. Tynwald has previously adopted the 1976 Directive as an objective, however the legislation was not approved by Tynwald under the Water Pollution Act 1993 to make it enforceable. To be able to implement the 2006 Directive in the Isle of Man, DEFA will have to exercise its powers under section 2(6) of the Water Pollution Act 1993 and this will require Tynwald to approve schemes under section 2(5) that prescribe systems of classifying the quality of controlled waters.

The scheme will require approval by Tynwald in order for it to take legal effect under section 2(5). The scheme will be consistent, but Manx specific, compared to the legislation applied in the rest of the UK. This strategy sets out how the scheme will be tailored to the Isle of Man.

A scheme for river quality will also be needed. This is important because it will allow DEFA to monitor and control pollution levels in rivers, especially rivers that drain into or near bathing waters that could impact on bathing water quality. Although the river quality objectives scheme does not include microbiological parameters it does contain standards for ammonia, and this parameter is a useful indicator for the sort of pollution that contains FIOs.

The existing 2001 scheme (the General Quality Assessment scheme) is a suitable scheme for river quality, but the standards for biochemical oxygen demand, dissolved oxygen, ammoniacal nitrogen and metals will need to be compared to the Water Framework Directive standards that are applied in the rest of the UK. This is not the same as a Water Framework Directive (WFD) scheme, the WFD includes a large number of ecological and chemical monitoring requirements that are not relevant for bathing water quality.

We recommend that this strategy, and the scheme to implement the 2006 Directive under the Water Pollution Act 1993, does not include all of the 2006 Directive requirements. For example, there is a provision in the 2006 Directive to use a system for predicting short-term pollution events. This system allows some bathing water sampling data to be discounted when it is affected by pollution. However, significant resources would be needed to carry out the detailed investigations and modelling studies necessary to develop the model needed for making accurate predictions of bathing water quality. The Isle of Man has not applied data discounting provisions before from the 1976 Directive.

The Environment Agency in England is using a prediction system at some bathing waters and previously used abnormal weather waivers available under in the 1976 Directive. Northern Ireland does not yet use a prediction system, although a model is being trialled. However, the bathing water prediction system is not used by most Member States of the EU. It is recommended that the Isle of Man monitors how the rest of the UK and EU develop their use of prediction and discounting.

The majority of the benefits to public health in the Isle of Man will come from the adoption of the more stringent standards for FIOs in the 2006 Directive, in combination with better information through beach signage and bathing water profiles published on a web site rather than investing resource in the development of a prediction system.

Some bathing waters may meet the 'Excellent' Bathing Water status and have the potential to become Blue Flag beaches (assuming compatibility with Blue Flag criteria). The Blue Flag scheme works towards sustainable development at beaches through publicly awarding sites that meet strict criteria for water quality, environmental education and information, environmental management and safety, and other services. Strategically the Isle of Man is aiming to achieve 'Good' Bathing Water status but for areas which achieve 'Excellent' status there is nothing to prevent the local authorities from working towards Blue Flag status. This is something that could be achieved in collaboration with the most successful local charity, Beach Buddies.

4.2 Modifications to the licensing provisions

A legal issue may currently exist concerning how discharges into controlled waters are regulated by DEFA under section 5(6) and 5(7) of the Water Pollution Act 1993. This issue will be addressed as part of the strategy in phase 2. This will be required to ensure that the water quality objectives can be enforced if appropriate. DEFA will need to set specific discharge standards, especially for MU discharges from sewage treatment works. MU have committed to design all new sewage treatment works to meet the water quality objectives of the 2006 Directive and therefore this should be straightforward to address for them.

5. Designation of bathing waters

The purpose of the 2006 Directive is to protect public health and the environment from pollution at popular bathing areas. Following the identification of sites as bathing waters, water quality will be monitored throughout the bathing season and based on the data collected the bathing water will be classified at the end of every season. The classification will show if further measures are required to improve water quality, for example upgrades to sewerage infrastructure and/or improvements in livestock farming practices.

Adoption of the 2006 Directive provides an opportunity to improve bathing water management practices at popular bathing areas in the Isle of Man and to standardise practices with the UK. The 2006 Directive was implemented in the UK from 2012 and a large number of sites were designated as bathing waters. Many of the bathing waters that are designated in the UK are similar to the beaches in the Isle of Man, some are in resort towns with promenades and others are in quieter locations.

The 2006 Directive contains guidance on the type of sites to be designated as bathing waters. It applies 'to any element of surface water where the competent authority expects a large number of people to bathe and has not imposed a permanent bathing prohibition, or issued permanent advice against bathing'. The UK has not set a minimum number of bathers to define a 'large number'. Instead, the number of users is proportionate to the size and location of the bathing water. Setting a minimum number could risk excluding beaches that are popular for bathing, but are not used by many people. Also, in England and Wales, there is no requirement for facilities to be available, but their presence is used as supporting evidence that the site is an established bathing area. Facilities include lifeguarding, first aid, public toilets, car parking, shops, cafes and kiosks. Note: the term infrastructure in the 2006 Directive means the assets that have been designed for waste water treatment in order to meet the bathing water standards. We recommend that the Isle of Man follows the same approach as the UK, and identifies sites as bathing waters where the beaches are popular for bathing.

A draft procedure for designating bathing waters is shown in Appendix 2. The responsibility for designating and reviewing bathing waters should be given to DEFA. It is likely to be by a panel to be led by DEFA (Environmental Protection Unit and Agriculture) with MU. Local authorities should be encouraged to submit applications for designation and DEFA will need to ensure a process for local authorities to use for making applications is established.

A number of beaches have been identified for designation through consultation with local authorities. The beaches that are considered to be suitable for designation are:

- Douglas.
- Laxey.
- Port Erin.
- Port St Mary.
- Bay-ny-Carrickey (Ganse Bay).
- Ramsey.
- Peel.
- Fenella.

Designation of Peel and Fenella is only recommended further to the completion of the proposed new sewage treatment works for Peel. A key factor for deciding if a beach should be designated is whether the water quality objectives can be met.

A number of other sites have been identified as potential beaches for designation by DEFA and these are:

- Kirk Michael / Glen Wyllin.
- Castletown.
- Derbyhaven.

6. Length of the bathing season

The 2006 Directive will require that the length of the bathing season is defined each year before the start of the bathing season. The scheme to implement the 2006 Directive under section 2(6) of the Water Pollution Act 1993 should include the definition of the bathing season. The current bathing season is from the start of May to mid-September, this should be defined in the scheme. The information on the length of the bathing season should be included on the Government bathing water quality web page, it will also need to be included with information to be displayed at beaches using beach signage.

The bathing season is defined by the 2006 Directive as ‘the period during which large numbers of bathers can be expected’. For most of the UK, the definition for ‘a large number of bathers’ has not been set and instead the number of beach users is proportionate to the size and location of the bathing water. Setting a minimum number could risk excluding beaches that are popular for bathing, but which are not used by many people. Only about a third of the other Member States of the EU have specified the meaning of ‘large number’.

We recommend that the length of the bathing season remains the same in the Isle of Man, which is from the start of May to mid-September. Preliminary analysis shows that total rainfall and the number of wet days is higher during September therefore extending the season to the end of September will increase the risk of not meeting the 2006 Directive standards.

During 2020 sampling will be undertaken by DEFA from the start of May to the end of September, with the 20 weeks’ of data used for classification, and the additional data used to assess pollution risk but not used for classification. This is similar to what happens in the rest of the UK to provide useful data to understand pollution risks.

7. Ensuring compliance

The 2006 Directive will be reviewed in the EU in 2020. The review will be based on advances in the state of scientific knowledge concerning the risk of illness to bathers exposed to FIOs. The standards in the 2006 Directive at present reflect the state of knowledge pre-2003, when evidence on the risk of illness to bathers was last reviewed for the World Health Organisation. The patterns of bathing water usage have changed, with widespread use of exposure suits that allow people to stay longer in the water and to be fully immersed. It is important that the strategy for bathing water in the Isle of Man takes into account the review in 2020, and it is likely, although not certain at this stage, that the review will mean the ‘Sufficient’ standard is removed.

There are currently ambitious programmes of work being undertaken by water companies in England and Wales to improve bathing water quality. For those bathing waters that are not currently meeting Good status:

- Investigations are being undertaken to understand what action would be needed to achieve a robust classification of Good.
- Investigations are being undertaken to understand what action would be needed to achieve a robust classification of Excellent.

For those bathing waters that are currently meeting Good status:

- Complete investigations to understand what action would be needed to achieve a robust classification of Excellent.

The level of bathing water quality in the Isle of Man measured by the classification system from the 2006 Directive has been improving significantly. This has been achieved through MU programmes to improve the island's sewerage infrastructure. The number of sites that are now classified as Good or Excellent has improved from 1 in 2010 to 10 in 2019. This means that the Good standard is now achievable at many sites in the Isle of Man.

The programme of significant investment in sewerage infrastructure is nearing completion. The new sewage treatment works at Peel, Laxey and Baldrine are programmed to be constructed by September 2021 to ensure compliance with the standards. The investment in the sewerage infrastructure has eliminated many of the risks, but diffuse pollution from livestock waste, storm sewage and sewer misconnections will be the main risk to compliance. Programmes of investigation to tackle these sources of pollution will therefore be required to meet the standards.

8. Encouraging public participation

The 2006 Directive puts a much greater emphasis on public participation. A significant tightening of the standards and the ability of bathers to make informed choices means that very specific pieces of information need to be disseminated to the public. The 2006 Directive sets out information that should be actively and promptly made available. In the UK the public is now much more informed about bathing water quality, the risks at every site and the work that is being carried out to monitor and assess water quality and tackle sources of pollution.

The public participation provisions in the 2006 Directive will require the following actions to be implemented:

- Clearly display at every designated bathing water a general description of the water body, details of any abnormalities and their expected duration and information to bathers on where they can go to find out more information.
- The current classification, any advice against bathing and general description of the bathing water in non-technical language.
- Information on the nature and expected duration of any abnormal situations.
- An indication of the sources of more complete information.
- Information will need to be provided on a website.

- A requirement to make an assessment of bathing water compliance at the end of each bathing season and to classify bathing waters.

The responsibility for providing information should be given to DEFA as it is unlikely that local authorities will have sufficient resources to carry out the task. It is anticipated that the requirement in the 2006 Directive to make a contingency plan for short-term pollution to prevent bathers' exposure will also be a responsibility for DEFA in close partnership with MU.

The 2006 Directive includes a provision to make the information available in a variety of languages. There is also a provision to provide a notice at some sites with advice against bathing. A decision as to whether or not this may be appropriate in the Isle of Man will need to be made.

9. Bathing water profiles

The Isle of Man has a choice of whether to implement all of the requirements of the 2006 Directive or to adopt the most relevant parts and make them Manx specific. It is recommended that the requirement to develop bathing water profiles for designated beaches is adopted. This will allow DEFA to carry out work to understand what measures are needed to control pollution risks to meet the water quality objectives. Beach users will have a better understanding of the management measures being taken to safeguard water quality. The bathing water profiles should be updated every four years.

DEFA will need to collate and analyse river water quality to understand how it can affect bathing water quality. It will also need to obtain information from MU on the impact of its effluent discharges on bathing waters and on improvement plans concerning sewage discharges.

Bathing water profiles should include the following information based on an assessment by DEFA and they will be published on the Government webpage for the Isle of Man bathing water quality:

- A description of the physical, geographical and hydrological features of the bathing water, including information on the proximity of any surface waters in the catchment that could be a source of pollution.
- The standard that was met for the previous year.
- The exact bathing water monitoring point.
- An identification and assessment of causes of pollution that might affect bathing water quality.
- An overview of the potential for proliferation of cyanobacteria, macro-algae or phytoplankton.
- If the assessment shows that there is a risk of short-term pollution information should be included on the anticipated nature, frequency and duration of expected pollution.
- Details of any remaining causes of pollution, including management measures taken and the time schedule for the elimination of pollution.
- The identity and contact details for the body responsible for beach management.

The scheme under section 2(6) of the Water Pollution Act 1993 to adopt the 2006 Directive standards will place a duty on DEFA to ensure that bathing water profiles are completed, reviewed and updated as necessary.

10. Monitoring and compliance assessment

10.1 Monitoring

The scheme to adopt the 2006 Directive standards under section 2(6) of the Water Pollution Act 1993 should set out the monitoring criteria that DEFA will be responsible for implementing.

At present sampling is undertaken by DEFA every week at 20 beaches in the Isle of Man. The 2006 Directive does allow a reduction in the monitoring frequency for some bathing waters, at sites that have consistently met ‘Excellent’ status and where sources of pollution are well understood. This might offer some benefits in terms of cost savings compared to the existing weekly bathing water sampling programme. However, in the UK most bathing waters are being monitored weekly throughout the bathing season. Moving to a monthly sampling programme will mean the public will not be able to make informed decisions on whether it is safe to bathe as the data will be seen to be out of date. Weekly sampling for FIOs will allow DEFA to make a more confident assessment of the status of bathing water quality. Reducing the sampling frequency should only be done where it will not jeopardise the confidence in the compliance assessment. In the longer term it may be possible to reduce the sampling frequency at those sites already meeting ‘Excellent’ status over several years.

To reduce the monitoring frequency the pollution risks should be well understood and the bathing water data for FIOs should be fairly consistent with low variability. Reducing the sampling frequency should not be considered at sites where the results for FIOs are highly variable or if the risk of pollution is not well understood. MU will be undertaking studies to assess the impact for discharges and this work will provide more information on pollution risks. Also, DEFA will be undertaking further river quality monitoring near bathing waters.

Until the investigations have finished it is recommended that weekly sampling should continue. Monthly sampling may lead to more bathing beaches meeting the highest standard under the 2006 Directive, but the level of confidence in the assessment will be less robust and classification is likely to fluctuate year on year.

Most bathing waters in the UK are sampled every week. The following table shows the sampling frequency at some of the principal beach resort towns in England, Wales and Scotland for the 2019 bathing season (Table 1). It shows that at most of these bathing waters the sampling frequency was weekly.

Table 1 2019 sampling frequency for principal resort Bathing Waters

Bathing Waters	2018 Status	Sampling frequency during the bathing season
Margate (The Bay)	Excellent	Weekly
Brighton (Central)	Excellent	Weekly
Bournemouth (Bournemouth Pier)	Good	Weekly
Sidmouth	Excellent	Weekly
Torquay (Torre Abbey)	Excellent	Weekly
St Ives (Porthminster)	Good	Weekly
Newquay (Towan)	Good	Weekly

Weston super Mare (Main)	Poor	Weekly
Aberystwyth (North)	Excellent	8 samples
Rhyl	Sufficient	15 samples
Blackpool (Central)	Good	Weekly
Aberdeen	Sufficient	Weekly
Portobello (West)	Sufficient	Weekly

There will be cost savings by adopting the 2006 Directive compared to the 1976 Directive, as the number of parameters in the 2006 Directive is less. The number of beaches that DEFA monitors may also be reduced as a result of implementing the 2006 Directive if the local authority indicates that it does not want the site to be considered for designation now or in the future.

10.2 Compliance assessment

The assessment of compliance against the 2006 Directive standards will be based on data collected over a four year period. This may act to smooth out occasional high results that might have led to failures under the 1976 Directive. It is possible to use less than four years' data for assessing compliance, for example if a major infrastructure scheme by MU means there has been a step change in water quality at the site data less than four years can be used. The Isle of Man Government Laboratory analyses bathing water samples collected by DEFA and is responsible for calculating compliance. We recommend that the laboratory continues to calculate compliance at the end of each bathing season for DEFA.

A monitoring calendar for bathing water sampling should be established before the start of each bathing season, and for the first time before the start of the 2021 bathing season. This will help ensure that sampling is undertaken evenly throughout the bathing season. It is important to sample bathing waters at the designated sampling point at various states of the tide so that the variability in FIO concentrations is better understood. The use of a monitoring calendar should help ensure this happens and we recommend that the Isle of Man establishes a monitoring calendar. It may be suspended for up to four days during situations such as abnormal weather if the sea conditions are too dangerous to take a sample. We also recommend that bathing water sampling should be carried out by two people to reduce the risk of accidents to staff. There is a link in the 2006 Directive between the monitoring calendar and the predicting system for short-term pollution. In Section 4.1 we recommended that the prediction system is not used, but this should not preclude the use of the monitoring calendar.

DEFA will need to monitor river quality if a bathing water result is elevated and trace the source of pollution. Routine river quality monitoring will help to identify pollution risks that may impact on bathing water quality, this information will be needed for developing bathing water profiles and beach signage.

11. Influencing factors affecting bathing water quality

The 2006 Directive contains two microbiological parameters: intestinal enterococci and *E. coli*. The two parameters are indicators of infectious micro-organisms and are known as FIOs. Bathing water quality is influenced by a large range of factors including conditions that preceded sampling, for example the amount of rainfall, the wind direction, tidal state, currents or the level of ultraviolet light. The sources of FIO pollution which enter controlled waters include:

- Sewage effluent from sewage treatment works discharges (continuous final treated effluent and intermittent storm or emergency untreated or partially treated effluent), from privately operated sewage treatment plants and septic tanks discharging directly into controlled waters and from sewer misconnections into the storm water sewerage system.
- Livestock waste from farm yards, as runoff land spreading or directly into controlled waters from livestock standing in rivers.
- Industrial waste such as food processing waste.
- Animals, including dogs and wild birds (especially large numbers of sea gulls, pigeons and starlings near to bathing waters).

Although the 2006 Directive contains no specific standards for natural toxins derived from phytoplankton, DEFA will need to record the presence of the likely proliferation of marine micro-organisms at bathing waters. This information will need to be included in bathing water profile to warn bathers of the potential risk.

In the rest of the UK sewage is no longer exclusively the major risk to compliance and diffuse livestock waste has become a major factor. The Isle of Man has a number of sewage discharges into coastal waters and those that discharge near to or into bathing waters may require a higher level of treatment. MU provide and operate infrastructure to deal with a significant proportion of the sewage effluent in the Isle of Man. MU is currently undertaking work to identify, in more detail, the equipment and infrastructure that will be required to treat or manage this to levels compliant with the Good standards in the 2006 Directive. This will involve carrying out modelling studies, upgrades for some existing equipment and to install some new plant; this includes three new sewage treatment works at Peel, Laxey and Baldrine.

Not all human sewage is treated by MU through the existing or planned sewerage infrastructure, some is released directly into controlled waters with the authority of DEFA through the licensing of discharges into controlled waters as outlined in the Water Pollution Act 1993. The discharge licensing scheme was implemented in 2005 and regulates the release of effluent entering the island's watercourses. In 2005 all of the existing discharges were licensed and therefore discharges from septic tanks may still be discharging into watercourses however new licences require the installation of a sewage treatment works with a higher quality effluent being discharged. There are approximately 230 private discharge licences issued by DEFA for private sewage treatment works and existing septic tanks. Surface water sewers should only be used to convey rainwater from roofs, yards and road surfaces into controlled waters, but sewer misconnections can mean that the water in the drains becomes contaminated and this is another source of FIOs.

Waste water from businesses is largely processed via the MU infrastructure, but there are a small number of relatively large industrial undertakings which still pump or release pollutants into rivers or the marine environment.

Farms, particularly dairy and beef undertakings, produce waste that if not properly managed, can enter controlled waters. This source of pollution is likely to have a negative impact on bathing water quality. DEFA are investigating how significant this source of pollution is and how best to tackle it. It is likely that diffuse pollution from livestock farms will affect bathing water via rivers and stream at or near bathing waters. The river quality scheme and monitoring of river quality should help to identify farm pollution in rivers via the ammonia standard. Measures to reduce livestock waste pollution that were found to be successful in the rest of the UK include methods of keeping cattle from having direct access to rivers and streams. They include careful targeting of fencing, bridged crossings and also roofed steadings preventing clean water from mixing with dirty water containing livestock waste.

12. Work currently being carried out to meet the standards

We understand that the Isle of Man Regional Sewage Treatment Strategy (RSTS) is aligned with plans to adopt the 2006 Directive. MU infrastructure has been designed to meet bathing water standards. The MU decision to construct three new sewage treatment works, at Peel, Laxey and Baldrine means that water quality in those locations will be improved. MU sewage treatment works are designed to also allow retro-fitting of additional treatment if required. MU is investigating the impact of storm sewer overflows and further modelling investigations are planned. MU is also continuously identifying and rectifying foul to surface water cross connections. This work is likely to be ongoing for the foreseeable future.

DEFA has been undertaking a programme of bathing water monitoring and classification at a number of the island's beaches. The data that has been collated over many years will help DEFA to develop bathing water profiles. River quality monitoring is also undertaken by DEFA and this data set will also be very useful to help identify the sources of pollution.

DEFA released an updated good code of practice for farmers, growers and land managers in 2018 to protect the water and soil across the Isle of Man this is available on the Government website, all applicants of the Agricultural Development Scheme have been notified of the update. The Department will be working with the farming community to achieve compliance with the updated code of practice. Non-compliance with the code of practice can be considered in relation to a potential water pollution offence under the Water Pollution Act 1993. There are also penalties for non-compliance under the Agricultural Development Scheme.

13. Beach signage

Information needs to be provided to the public to enable them to make choices on where and when to bathe. Beach signage will be required at designated bathing waters and the signs need to be located in a prominent location, usually at the entry point to the beach. The information displayed should include the most recent classification, a general description of the site and the catchment. Signs will also need to provide information, where relevant, about any advice currently applicable against bathing. Although not providing 'real time' water quality information, as would be available if a prediction system has been adopted, it will be beneficial by indicating when there is the greatest potential for issues to occur such as short-term pollution related to heavy rainfall events.

14. Timetable

It is recommended that the 2006 Directive is implemented in the Isle of Man for the 2021 bathing season. This will allow sufficient time for DEFA and MU to complete a number of necessary administrative preparations and investigations designed to reduce pollution risks.

14.1 Timetable for implementation of the 2006 Directive

The following table sets out the timetable (2019 and 2020) for the implementation of the 2006 Directive (Table 2).

Table 2 A timetable for implementation of the 2006 Directive

Year	Actions	Dates	Comments
Phase 1 2019	Meeting to confirm scope of report and presentation for Nov 2019 targets.	19 and 20 Aug	Meeting between DEFA and APEM.
	Report by APEM & DEFA EPU update on progress .	18 Sep	For DEFA Policy & Strategy Committee 25/09/19.
	DEFA Pink Paper.	30 Sep	Paper with draft strategy, to be signed by Minister.
	Report submitted to E&I Officer Group .	04 Oct	Meeting date 7/10/2019 for officer consideration of draft strategy.
	E&I Committee.	11 Oct	Paper submission by 11 Oct. Political meeting 21 Oct.
	Report submitted to COMIN for Tynwald reporting, strategy, policy, explanatory & speaking notes.	31 Oct	Council meeting 07/11/2019 submission of final strategy.
	Presentation to Tynwald Members by APEM & EPU.	27 Nov	Date confirmed as 27 th November 2019.
	Tynwald	10 - 12 Dec	Approval of strategy .
Phase 2 2020	Meeting following Tynwald debate of report for 2019 targets, to confirm scope of report and presentation for December 2020 targets.	Jan 2020	
	Design a monitoring programme to determine current water quality of Manx controlled waters in respect of proposed Environmental Quality Standards (EQS).	Feb 2020	
	Water quality monitoring to be carried out by DEFA and / or		Water Quality Monitoring will be required to assist in development of EQS.

	contracted out.		
	Report recommending appropriate Environmental Quality Standards (EQS) for Isle of Man controlled waters.	March 2020	
	Consultation of stakeholders for proposed Manx Water Quality Objectives.	April 2020	Government Consultation Hub to be utilised.
	Report by APEM & EPU for DEFA Policy & Strategy Committee.	June 2020	
	P&S deadline.	July 2020	
	P&S Committee.	July 2020	
	Report submitted to E&I Committee.	August 2020	
	E&I Committee.	Sept 2020	
	Report submitted to COMIN for Tynwald reporting, strategy, policy, explanatory & speaking notes.	Oct 2020	
	Presentation to Tynwald Members by APEM & DEFA EPU.	Oct / Nov 2020	
	Tynwald.	Dec 2020	
	Approval of Manx Water Quality Objectives.	Dec 2020	

Definitions:

Tynwald - The Isle of Man Government.

COMIN - The Council of Ministers.

DEFA - Department of Environment, Food & Agriculture.

E&I - Environment and Infrastructure Committee.

14.2 Next steps

Following approval of the strategy by Tynwald in December 2019, further work will be carried out during 2020 to develop the procedures and collate evidence for the adoption of the 2006 Directive standards and there is a further deadline of December 2020 before the programme of work is scheduled to finish.

15. Summary

15.1 What this means to the Isle of Man

The following table is a summary of the commitments required for implementing the 2006 Directive standards in the Isle of Man (Table 3).

Table 3 The commitments for the implementation of the 2006 Directive standards

Commitment	Justification
<p>It is suggested that the Good standard for bathing water quality is set as the minimum standard for the water quality objective.</p>	<p>It is likely, although not certain, that the lower standard 'Sufficient' will be removed as part of an update of the 2006 Directive. Also, in England significant work is currently being undertaken to investigate what measures are needed to improve bathing waters from Sufficient to Good, and where possible to make improvements to meet the Excellent standard. The Excellent standard should not be adopted in the Isle of Man as the minimum objective as there is insufficient data available at present to assess whether this can always be achieved.</p>
<p>Adoption of the 2006 Directive in a Manx specific way.</p>	<p>The adoption of the 2006 Directive will mean that adequate standards are in place for the protection of public health, resulting in the Isle of Man achieving consistency in the management of bathing waters with the UK. The Isle of Man is not required to adopt the entire 2006 Directive and should adopt it in a Manx specific way; the much more stringent health related standards and provision of improved information for bathers will be adopted.</p>
<p>We recommend that the following parts of the 2006 Directive should be adopted by the Isle of Man:</p> <p>Define who will act as the 'beach controller', this should be the local authority that is responsible for the specific beach.</p> <p>Designate beaches that are popular with bathers and where they have been supported by local authorities as 'bathing waters'.</p> <p>Define the length of the bathing season as the start of May to mid-September. This is a continuation of the</p>	<p>These requirements will help ensure that the Isle of Man achieves consistency in the management of bathing waters with the UK and without adding any undue administrative burdens.</p>

<p>existing bathing season in the Isle of Man.</p> <p>Monitor water quality at bathing waters for FIOs during the bathing season according to a monitoring calendar. React to incidents of algal blooms by monitoring if required.</p> <p>Classify the bathing water at the end of every bathing season and ensure compliance with the FIO standards by investigating the reasons for non-compliance.</p> <p>Publish information about the bathing water on a web page as a bathing water profile, allowing bathers to make informed choices about where to bathe.</p> <p>Use beach signage at bathing waters to make information available to the public. To include any advice against bathing when potential abnormal situations might occur and who to contact for further information.</p>	
<p>DEFA to develop an application and guidance procedure for local authorities to make applications for beaches to be designated as bathing waters.</p> <p>Assessment of applications for bathing waters from local authorities to be managed by DEFA (to include agriculture) with MU.</p> <p>Procedures will be developed by DEFA for investigating non-compliance with the bathing water standards.</p>	<p>The following measures should also be adopted as part of the strategy for improving bathing water management.</p>

<p>Bathing water monitoring should continue to be undertaken on a weekly basis.</p>	<p>Table 1 in Section 10 shows that bathing waters in the main resort towns in the UK are monitored mostly on a weekly basis during the bathing season. The 2006 Directive allows the monitoring frequency to be reduced. However monthly sampling will mean that the public will not be able to make informed decisions on whether to bathe as the data will be considered out of date. If bathing waters have consistently met the Excellent standard over several years, and the pollution risks in the catchment are well understood, it may be possible to reduce the frequency from weekly to monthly sampling in the future.</p>
<p>It is recommended that the requirement to develop bathing water profiles for designated beaches is adopted.</p>	<p>This will allow DEFA to carry out work to understand what measures are needed to control pollution risks to meet the water quality objectives. Beach users will have a better understanding of the management measures being taken to safeguard water quality. The bathing water profiles should be updated every four years.</p>
<p>Approval by Tynwald of water quality objectives for bathing waters.</p>	<p>This is in line with the recommendation as supported by Tynwald in March 2016.</p>
<p>Approval by Tynwald of 2001 river quality objectives and the General Quality Assessment Scheme.</p>	<p>This will allow DEFA to enforce compliance with the standards and protect the environment because rivers could be a significant source of FIOs.</p>
<p>DEFA is to set discharge licence standards for MU, and all other, discharges to controlled waters, under the WPA 1993 and ensure through setting appropriate standards that waters comply with the water quality objectives.</p> <p>DEFA to work with MU to ensure studies provide information to set appropriate conditions for discharge permits to ensure the water quality objective is met.</p> <p>MU need to investigate the impact of intermittent sewage discharges.</p> <p>MU need to investigate the impact of sewer misconnections.</p>	<p>Relevant MU sewage discharges are a source of FIOs. The discharge licensing process will allow DEFA and MU to assess the level of treatment necessary to meet the water quality objectives leading to the setting of specific discharge standards.</p> <p>The table presented in Appendix 1 outlines the current bathing water classification, treatment provided by MU and further studies that are needed to meet the water quality objective.</p>

Table 4 shows the parts of the 2006 Directive that will not be implemented in the Isle of Man, meaning that the 2006 Directive is being adopted in a Manx specific way.

Table 4 The parts of the 2006 Directive not being implemented

Commitment	Justification
The prediction system for short-term pollution events should not be adopted.	<p>A system for making 'real-time' predictions for short-term pollution events and notifying the public will require a lot of data to be collected to develop a model. This work will delay adoption of the better standards for public health in the 2006 Directive. Most Member States of the EU do not use a system for predicting short-term events.</p> <p>The public will be informed of short-term pollution risks through improved beach signage and the bathing water profiles to be published on a DEFA web site. Therefore the risk of short-term pollution will be disseminated to the public through other management measures.</p>
The designation of some beaches, for example at Peel and Fenella should only take place after the construction of the new sewage treatment works or other key infrastructure.	The completion of the proposed new sewage treatment works at Peel by MU will mean that the 2006 Directive standards can be met at these two beaches. Without the sewerage improvements they are likely to fail attracting adverse publicity. Improvements at Douglas Promenade may be required before designating part of the beach as a bathing water.

To summarise, adoption of the 2006 Directive provides an opportunity to improve management practices at bathing waters and standardise them with the UK. Adoption should be Manx specific to reflect the circumstances in the Isle of Man, where bathing is practised by small number of people at beaches that are often quieter than beaches in the rest of the UK.

The 2006 Directive will be reviewed by the EU in 2020. The review will be based on advances in the state of scientific knowledge concerning the risk of illness to bathers exposed to FIOs. The standards in the 2006 Directive at present reflect the state of knowledge pre 2003, when evidence on the risk of illness to bathers was last reviewed for the World Health Organisation. It is important that the strategy for bathing water in the Isle of Man takes into account the review in 2020, and it's likely, although not certain at this stage, that the Sufficient standard is removed.

There are currently ambitious programmes of work being undertaken by water companies in England and Wales to improve bathing water quality. For those bathing waters that are not currently meeting Good status:

- Investigations are being undertaken to understand what action would be needed to achieve a robust classification of Good.
- Investigations are being undertaken to understand what action would be needed to achieve a robust classification of Excellent.

For those bathing waters that are currently meeting Good status:

- Complete investigations to understand what action would be needed to achieve a robust classification of Excellent.

This indicates that in England at least the minimum standard to be achieved will become 'Good' status. The level of bathing water quality in the Isle of Man measured by the classification system from the 2006 Directive has been improving significantly. The number of sites that are now classified as Good or Excellent has improved from 1 in 2010 to 10 in 2019. This means that the Good standard is achievable at many sites in the Isle of Man.

As discussed in Section 5, Defra has not to set a minimum number of bathers to define a 'large number' in England (this approach also applies to Wales and Scotland). Instead, the number of users is proportionate to the size and location of the bathing water. Setting a minimum number could risk excluding beaches that are popular for bathing, but are not used by many people. Also, in England and Wales, there is no requirement for facilities to be available, but their presence is used as supporting evidence that the site is an established bathing area. Facilities include lifeguarding, first aid, public toilets, car parking, shops, cafes and kiosks. Note: the term infrastructure in the 2006 Directive means the assets that have been designed for waste water treatment in order to meet the bathing water standards. We recommend that the Isle of Man follows the same approach as the UK, and identifies sites as bathing waters where the beaches are popular for bathing.

We understand that the Isle of Man regional sewage treatment strategy (RSTS) is aligned with plans to adopt the 2006 Directive. MU infrastructure has been designed to achieve Good or even Excellent bathing water standards. The MU decision to construct two new sewage treatment works, at Peel and Laxey, will mean that the current water quality issues in those locations will be addressed. MU sewage treatment works are designed to also allow retro-fitting of additional treatment if required. Therefore, the RSTS strategy supports our recommendation that the strategy should be designed to meet the Good standard as a minimum.

15.2 What the benefits will be

The adoption of the 2006 Directive will mean that adequate standards are in place for the protection of public health, resulting in the Isle of Man achieving consistency in the management of its bathing waters with the UK.

The construction of new sewage treatment works at Laxey and Peel will significantly improve the Isle of Man's ability to meet bathing water standards at beaches in these locations.

The Water Pollution Act 1993 should be used to introduce a new classification scheme for bathing waters. The scheme will need to be approved by Tynwald. The benefit of the scheme will be that the problem that currently exists for controlling existing consented discharges should be addressed. A classification scheme should be introduced as a priority in order to set discharge standards for the new sewage treatment works at Laxey and Peel.

The 2006 Directive allows the monitoring frequency to be reduced. This offers possible benefits in terms of cost savings compared to the existing weekly monitoring programme and allowing staff efficiencies. However, in the UK the bathing waters in the main resort towns are mostly sampled on a weekly basis. Moving to monthly sampling will mean the public will not be able to make informed decisions on whether it is safe to bathe as the data will be seen to be out of date. If bathing waters consistently meet the Excellent standard it may be sensible to reduce the frequency of sampling to monthly in the future. Our recommendation is that the bathing water sampling in the Isle of Man should continue to be based on a weekly sampling programme.

There will be cost savings by adopting the standards of the 2006 Directive compared to the 1976 Directive, as there are fewer parameters to measure in the 2006 Directive. The 2006 Directive is based on data collected over a four year period, which will act to smooth out occasional high values that lead to failures under the 1976 Directive.

15.3 What it involves

The 2006 Directive includes the classification of bathing water quality that is based on standards for FIOs, namely intestinal enterococci and *E. coli*. There is a much bigger provision now required for public information, this is so bathers can make a more informed decision on where and when to swim. The latter provision will require clearly displayed descriptions at every designated bathing water, covering a general description of the water body, details of any abnormalities and their expected duration, and information to bathers on where they can go to find out more information.

The Isle of Man has a choice on whether to implement all of the requirements of the 2006 Directive or to adopt the most relevant parts of it, such as the standards and to make the implementation Manx specific. The reason for not adopting the entire 2006 Directive in the Isle of Man is due to the quieter nature of beaches and the smaller number of bathers. We recommend that the following parts of the 2006 Directive be adopted by the Isle of Man and be implemented by DEFA:

- Define who will act as the 'beach controller', this should be the local authority who is responsible for the specific beach to be designated.
- Designate beaches that are popular with bathers and where they have been supported by local authorities as 'bathing waters'.
- Define the length of the bathing season, this should continue to be from the start of May to mid-September.
- Monitor water quality at bathing waters for FIOs during the bathing season.
- Classify the bathing water at the end of every bathing season and ensure compliance with the FIO standards by investigating the reasons for non-compliance. We recommend that the 'Good' standard is set as the minimum because of the likelihood that the lesser 'Sufficient' standard could soon be removed following a forthcoming planned review of the 2006 Directive.
- Publish information about the bathing water on a web page as a bathing water profile, allowing bathers to make informed choices about where to bathe.
- Use beach signage at bathing waters to make information available to the public. This should include the following pieces of information:
 - The current classification.
 - Any advice against bathing.
 - A general geographic and hydrographic description of the bathing water catchment.
 - Information on any potential abnormal situations and their likely duration (for example, if poorer water quality than normal would be expected following periods of heavy rainfall).
 - An indication of the sources of pollution and other risks at the bathing water.
 - Who to contact for further information.

A scheme for river quality objectives should be introduced by seeking approval of the 2001 scheme (the General Quality Assessment scheme) by Tynwald. This is important because it will allow DEFA to monitor and control pollution into rivers that drain into or near bathing waters. Although the river quality objectives scheme does not include microbiological parameters it does contain standards for ammonia, this is a useful indicator for pollution that

contains FIOs. This is not the same as a Water Framework Directive scheme that would include a large number of ecological and chemical monitoring requirements and which are not relevant for bathing water quality. DEFA will need to monitor river quality if a bathing water result is elevated to trace the source of pollution. Routine river quality monitoring (monthly sampling) will help to identify pollution risks that may impact on bathing water quality.

We recommend that the strategy does not include implementing a bathing water quality prediction system as this will require a lot of data (from detailed modelling studies) and time in terms of staff resources, to post notices daily to advise bathers.

The implementation of an award scheme such as the Blue Flag awards may be considered by the Isle of Man in the future. However, the scheme requires strict adherence to a specific list of criteria and includes the need to ban dogs from all designated bathing waters during the bathing season.

Appendix 1 MU programme for infrastructure investigation

Designation	Bathing Water	2019 Classification under the 2006 EU Bathing Water Directive	Treatment Type	For sites with no treatment; expected classification	Comments
DEFA/MU beaches proposed for designation.	Douglas – Summerhill	Good	Connected to IRIS		Foul to surface water cross connections identified for remediation. Storm spills from Queens Prom and Loch Prom pumping stations impact on bathing water. Pumping regime being optimised to reduce spills.
	Douglas – Central	Good	Connected to IRIS		
	Douglas – Broadway	Sufficient	Connected to IRIS		
	Laxey	Sufficient	None	Excellent	IRBC sewage treatment works to be installed including UV treatment of storm spills.
	Port Erin	Excellent	Connected to IRIS		Impact of storm spills to be investigated.
	Port St Mary	Excellent	Connected to IRIS		
	Bay-ny-Carrickey	Excellent	Connected to IRIS		
	Ramsey	Sufficient	Full – IRBC		Should increase to a minimum of ‘Good’ once sufficient data is collected following the construction of the new STW.
	Peel	Poor	None	Good	IRBC sewage treatment works to be installed including UV on the outfall.
	Fenella	Poor	None	Good	
DEFA/MU identified as beaches which may be designated in the future.	Glen Wyllin	Excellent	Connected to IRBC at Kirk Michael		Impact of storm spills to be investigated.
	Castletown	Good	Connected to IRIS		
	Derbyhaven	Excellent	Connected to IRIS		
Beaches proposed	Kirk Michael	Good	Full - IRBC		Impact of storm and continues

not to be designated.					discharge to be investigated if beach is designated.
	Port Grenaugh	Sufficient	No public sewer network		Impact of Meary Veg discharge to be investigated if beach designated.
	Port Soderick	Excellent	No public sewer network		
	Garwick	Sufficient	None	Good	Sewage treatment works to be installed.
	Jurby	Excellent	Full – IRBC		Impact of storm spills to be investigated if beach designated.
	Port Lewaigue	Excellent	Full - IRBC		

Appendix 2 Procedure for bathing water designation (example)

Introduction

Local authorities must support the application and should apply for designation. There's no limit for how many bathers are needed for a beach to be identified as a bathing water. It could be a beach in a large resort or a smaller beach in a rural location, but there should be evidence of some bathing activity.

If local authorities are considering applying, the Environmental Protection Unit at DEFA should be contacted at an early stage to discuss the process.

The local authority application should include user surveys, information about facilities at the site, and evidence of a consultation. The procedure includes information on how to submit an application.

User surveys

Applications need to provide results from user surveys which have been carried out during the bathing season (start of May to mid-September) at peak usage times (weekends, bank holidays and school holiday periods).

Surveys should be carried out when high numbers of users are expected. This could be during the warmest part of the day. Or it may be dependent on tidal conditions, for example, if the beach is covered at high tide or the sea is too far away at low tide.

The application needs to show a breakdown of the number of swimmers, paddlers and other beach users expected over a season.

Facilities

Provide information about any facilities at the beach that support and promote bathing, such as:

- Public toilets.
- Changing facilities and showers.
- Car parking.
- Lifeguards.

-
- First aid service.
 - Cafes, shop or kiosks.

Local consultation

Provide evidence of consultation during the bathing season with local groups that may be affected by designation, for example:

- Bathers and other beach users.
- Owners and operators of beach facilities.
- Owners and operators of on-beach and beachside businesses, in particular cafes and shops.
- Residents of the closest town or village.
- Local environmental, civic groups and the chamber of commerce.
- Neighbourhood and community representative groups.
- Tourist office.

Submitting an application

Please contact DEFA with any queries on the application process.

Send designation applications by 31 October for consideration for the following year's bathing season (the bathing season is the start of May to mid-September). Applications may be emailed to DEFA (xxxxxxx@gov.im) or posted to:

Department of Environment, Food and Agriculture
Thie Slieau Whallian
Foxdale Road
St John's
Isle of Man
IM4 3AS.