Cyfoeth Naturiol Cymru
Natural Resources Wales

Ynys Môn Management Catchment Summary

Contents

1. Background to the management catchment summary

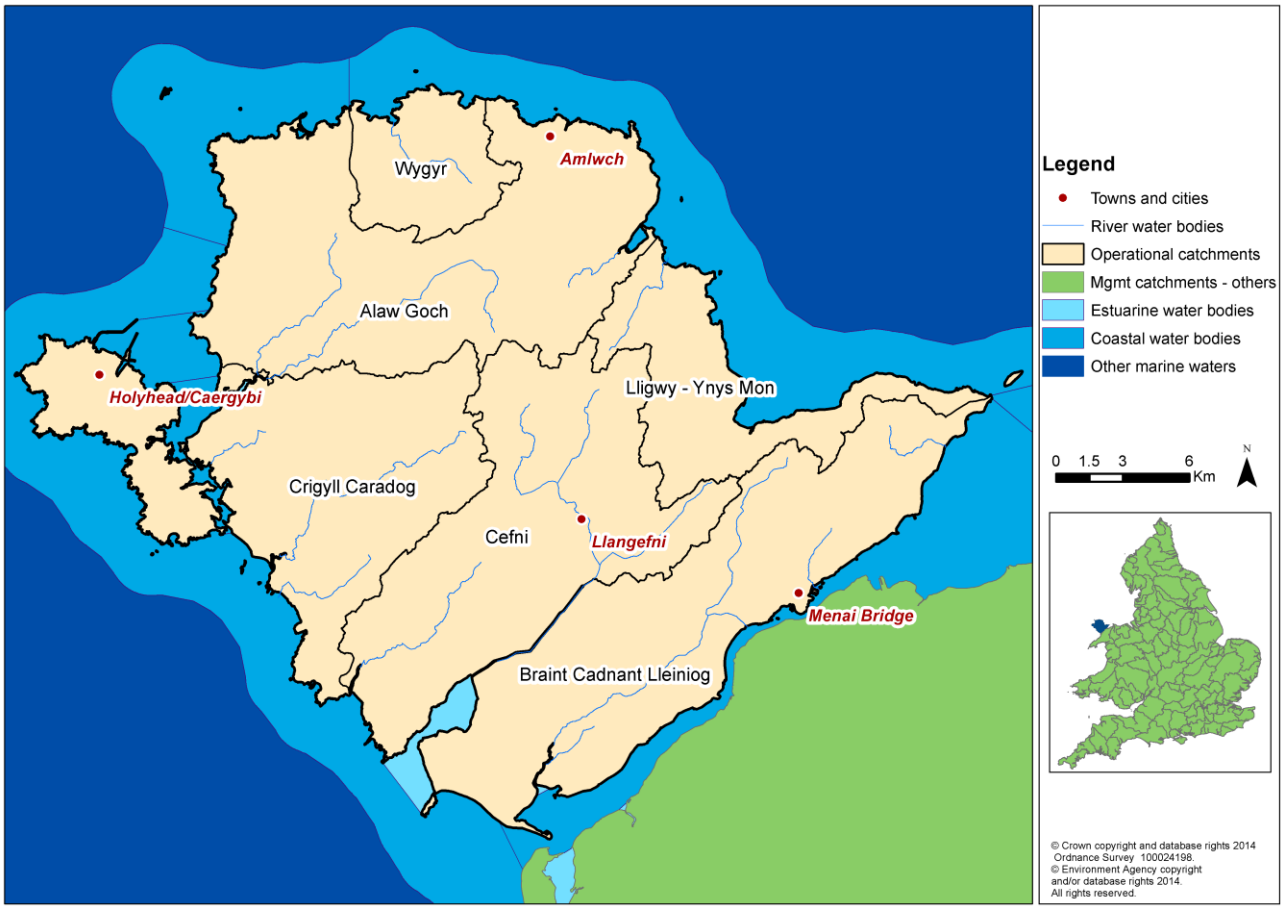
This management catchment summary supports the 2015 updated **Western Wales River Basin Management Plan** (RBMP)Along with detailed information on the **Water Watch Wales** (**WWW**) website, this summary will help to inform and support delivery of local environmental improvements to our groundwater, rivers, lakes, estuaries and coasts. Information on **WWW** can be found in Section 6.

Natural Resources Wales has adopted the ecosystem approach from catchment to coast. This means being more joined up in how we manage the environment and its natural resources to deliver economic, social and environmental benefits for a healthier, more resilient Wales. It means considering the environment as a whole, so that all those with an interest in the catchment weigh up the evidence and set priorities for the many competing demands on our natural resources in a more integrated way and achieve our shared ambition for the place.

The Water Framework Directive (WFD) provides a major overarching framework for river basin management. The Floods Directive sets out a strategic approach to flood risk management planning. An updated Flood Risk Management Plan (FRMP) has been produced in parallel to the 2015 updated **Western Wales RBMP Summary**. The FRMP details how we propose to manage flood risk across the river basin district by prioritising those communities that are most at risk of flooding and detailing the measures we intend to take to manage their risk.
The FRMP and the RBMP together will shape important decisions, direct investment and action, and deliver significant benefits to society and the environment.

2. The Ynys Môn Management Catchment

Figure 1. Ynys Môn Management Catchment



The landscape of Anglesey is dominated by agriculture. Tourism is of great economic importance to the island, and maintaining the quality of the general environment, bathing waters and associated water-based recreation is a high priority. The island has many sites designated for conservation and biodiversity purposes. The coastline of cliffs and sandy beaches has 13 EU designated bathing waters, as well as designated shellfish beds. There are several small industrial estates located near the main population centres such as Llangefni, and Holyhead with its ferry terminal. The west of the island is a nitrate vulnerable zone. A number of lakes on Anglesey have been modified for public water supply.

In February 2014 an Ynys Môn management catchment workshop was held at Beaumaris. During this event the benefits of the catchment were captured. These included;

- Biodiversity – coast and wetlands. Malltraeth marsh, Anglesey Fens, marine aquaculture – mussels in the Menai Strait, Biodiversity Action Plan species e.g. otter and water voles
- Food production.
- Recreation & Tourism – beaches, fisheries, walking Lon Las Cefni and Wales Coastal Path,
- Energy production – Wylfa
- Water as a resource for drinking, irrigation and navigation
- Woodlands - both as a resource and for their own ecological importance, Pentraeth woodlands, Newborough Forest

- Archaeology, pre-history

Natural Resources Wales continues to work in partnership with a range of partners and sectors in innovative ways so that we can achieve even more together. An example of one of the projects delivered within this management catchment over the last 3 years is presented as a case study on page 12.

For further information on projects please refer to WWW.

2.1 Key facts[1]

We use the term water bodies to help understand and manage the water environment. A water body is part, or the whole, of a river, lake, ground water or coastal water. The number and type of water bodies in the management catchment is shown in the table below

Table 1. Number and type of water bodies

Number of water bodies	Natural	Artificial	Heavily Modified	Total
River*	**17**	**0**	**3**	**20**
Lake	**3**	**0**	**2**	**5**
Coastal	**4**	0	**2**	**6**
Estuarine	**3**	0	**1**	**4**
Groundwater	**4**	0	0	**4**
Total	**31**	**0**	**8**	**39**

There are areas in the catchment where the water environment is recognised as being of particular importance, including rare wildlife habitats, bathing waters or areas around drinking water sources. These areas are known collectively as protected areas and are detailed in the table below.

Table 2. Protected areas in the management catchment

Protected Area	Number
Bathing Waters	**13**
Drinking Water Protected Areas	**6**
Natura 2000 and Ramsar sites	**9**
Nitrate Vulnerable Zones	**1996ha**
Shellfish Waters	**4**
Urban Waste Water Treatment Directive - Sensitive areas	**0**

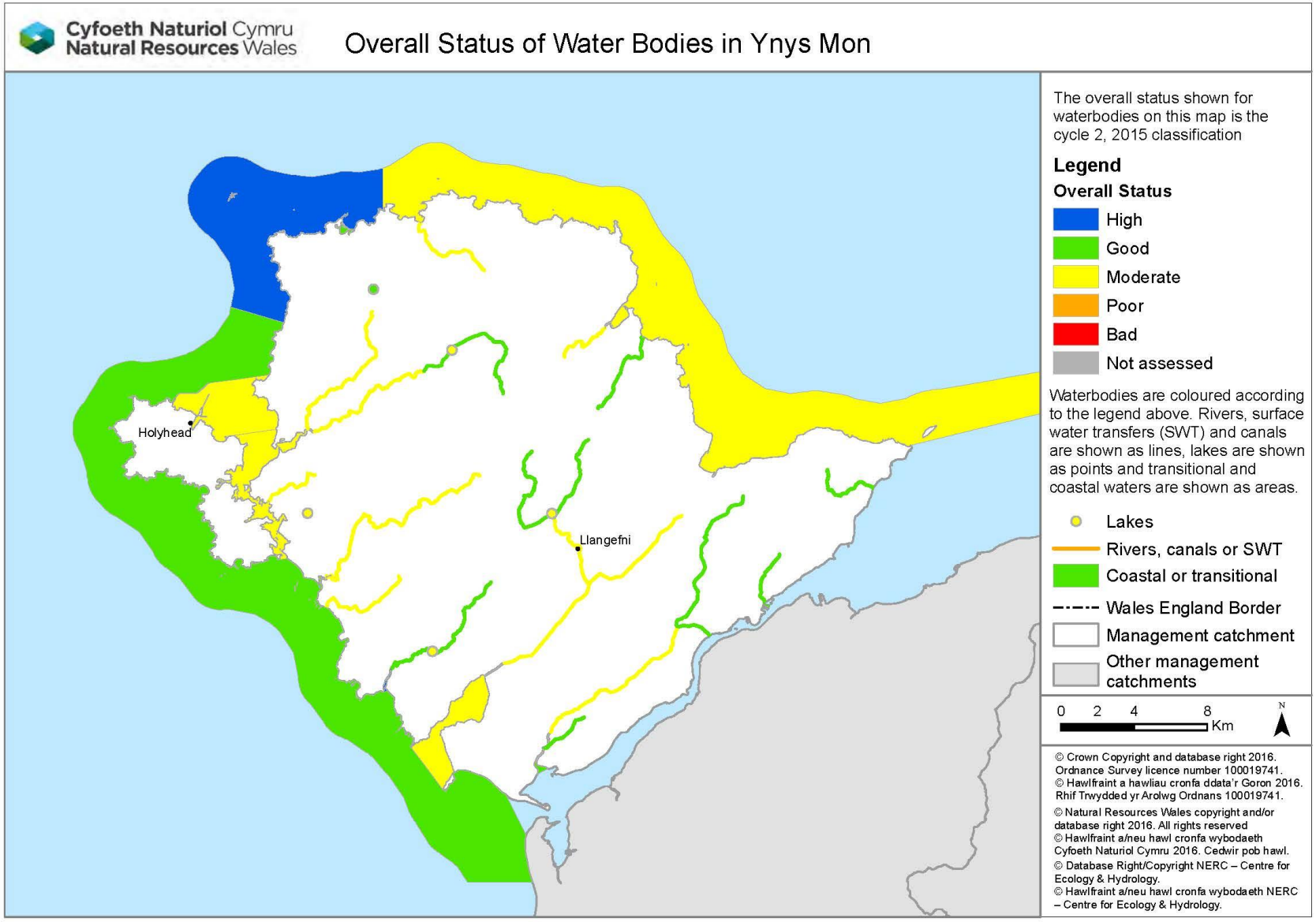
[1] There are differences in water bodies and protected area numbers compared to the first cycle plans and draft second cycle plans. This is due to changes in the water body network as well as refinement of the mapping methodologies and rules between water bodies, management catchments and protected areas.

3. Current Status of the water environment

We assess the condition of water bodies through monitoring which produces an annual classification. The current status for each water body is shown in figure 2. Note, since 2009, we have updated some of the systems we use to classify water bodies, including changes to some standards and water body boundaries.

Within this management catchment 6%of surface water bodies are at high overall classification status, 37% at good, and 57% at moderate overall status. There are no water bodies at poor or bad overall status.

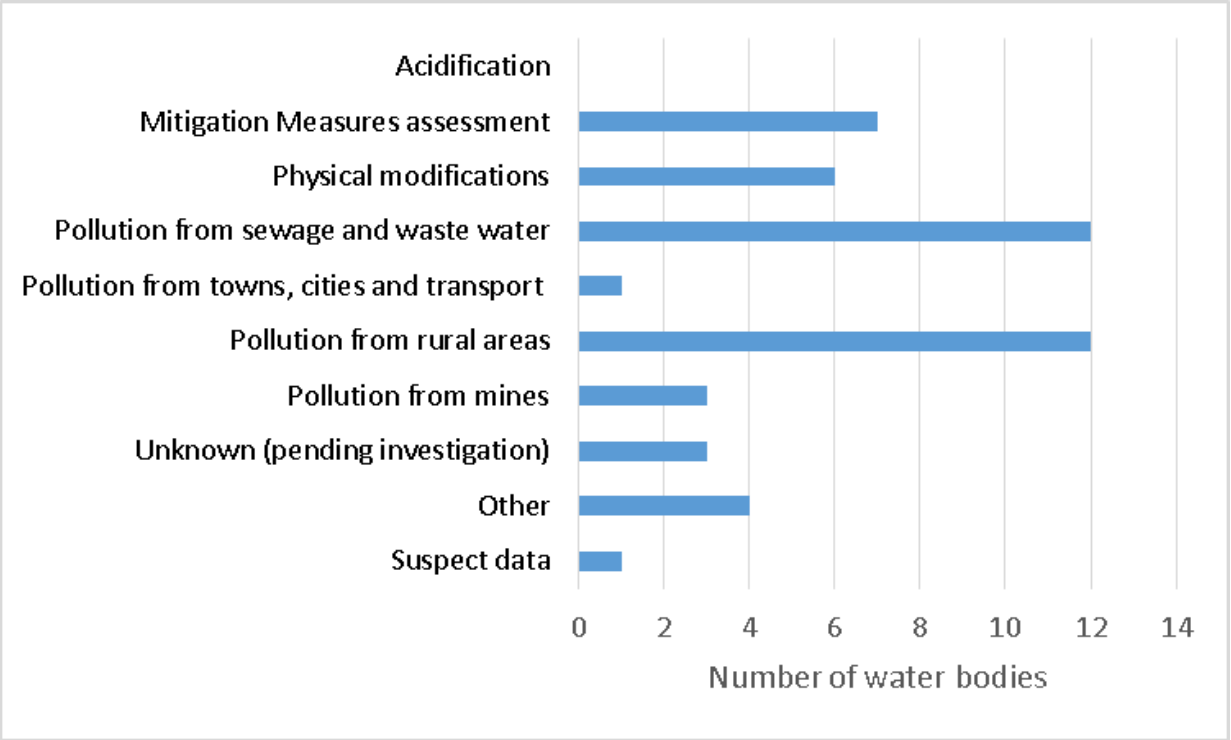
Figure 2. Current status of the Ynys Môn Management Catchment (2015 classification)



4. The main challenges

We have carried out a programme of investigations to better understand the causes as to why water bodies are failing to meet the required standards. The results of our findings are summarised in Figure 3. The reasons for not achieving good status are listed under the Surface Water Management Issues (SWMI) in line with the updated RBMP. The graph below shows the number of water bodies listed under each SWMI to give an indication of the main issues in the management catchment, each water body may have more than one reason for not achieving good status. Acidification – the percentage of water bodies have been included with other SWMI categories.

Figure 3. Reason for not achieving good status in the Ynys Môn Management Catchment



Reasons for not achieving Good Status

Nutrient enrichment, particularly by phosphorus, affects some of the lakes and one river on the island, including Llyn Dinam, Llyn Coron and the Afon Goch Dulas. This can cause excessive algal growth, affecting other water uses including drinking water abstraction, angling, wildlife conservation and livestock watering. Agricultural land management, and discharges from wastewater treatment and septic tanks are contributory sources. Land spreading of waste can also be a factor, and there are several large scale intensive agricultural units on the island which routinely dispose of waste in this way. Discharges of acidic metal rich mine water from the abandoned metal mine at Parys Mountain have a significant impact on the Afon Goch Amlwch. Bacteria from waste water treatment and agricultural land present a risk to shellfish and bathing water quality around the coastline.

4.1 Feedback on challenges

We need to work together to ensure the overall aims of the Water Framework Directive are met and to agree on the priority issues and solutions. The following is a list of some of the challenges that were raised as part of the workshop and the RBMP consultation; however it is not a full list.

- Invasive species control e.g. mink, spread of invasive plants along river corridors
- Potential impact on designated sites and landscape from Energy Island associated development
- Pollution from septic tanks & private drainage not on public sewerage system, impacts on surface and groundwater
- Diffuse pollution from agriculture, impacts on surface and groundwater
- Increasing water demand on Anglesey e.g. Wylfa Newydd, wood chip power stations
- Decline in aquatic habitats and species

Case study – Anglesey and Llyn Fens LIFE project

The once extensive fens on Anglesey have become the focus for restoration and repair; the now fragmented remains are in poor condition due to a number of factors. Some of the factors affecting the fens occur off-site, such as aerial pollution, water abstraction and agricultural run-off. Therefore, the Natural Resources Wales is working in partnership with North Wales Wildlife Trust (NWWT), Dwr Cymru and Anglesey Local Grazing Partnership to create a holistic management approach. This Living Landscape aims to create strong partnerships with local communities, developing opportunities for local businesses and the local economy to thrive.
The main aim is to restore or improve 751 hectares of very rare fen habitats, which depend on a delicate water balance and limestone springs that flow into the peat.
The **Anglesey and Llyn Fens LIFE project**, funded by the EU, has already had a major impact. It has tackled factors affecting the sites condition and hydrology. Measures are also being put in place to reduce and remove pollutants leaching into drinking water reservoir downstream and so meeting Water Framework Directive targets.

NWWT is working with partners to enhance and connect key sites. This will be achieved by ensuring appropriate management, creation of buffer zones and reducing pollution in the catchment. This will achieve **Water Framework Directive** objectives. NWWT will promote Glastir as means of establishing a programme of habitat improvement to create wildlife corridors including riparian habitats, ditches and ponds. The Trust is also working with stakeholders to eradicate invasive **non-native species** such as Himalayan Balsam from the Living Landscape area and across Anglesey.
Key Partners: Isle of Anglesey County Council, Natural Resources Wales, Visit Wales, PONT and Dwr Cymru.

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5. Objectives and measures

This section outlines what we are aiming to achieve and the measures that need to be put in place. We aim to develop a single integrated programme of measures by 2021 that meets Water Framework Directive objectives, including:

- **Prevent deterioration in status**

Water body status will not be allowed to deteriorate from the current reported status.

- **Achieve the objectives for protected areas**

Achieve the standards set by the relevant directive under which they were designated. For water dependent Natura 2000 sites we will aim to achieve conservation objectives, achieving good status by 2021 is a milestone towards this objective.

- **Aim to achieve good overall status for surface and ground waters**

Implement measures to achieve good overall status where they are technically feasible and not disproportionately costly.

5.1 Measures

We have reviewed the reasons why water bodies are failing to achieve objectives and identified required measures. Measures are divided into two groups:

National measures apply to the whole of Wales, or the United Kingdom. In general these set the legislative, policy or strategic approach. Examples include a national ban on using a particular chemical or a national strategy for prioritising and funding the remediation of abandoned mines. A list of planned national measures is available in the updated RBMP and Water Watch Wales,

Local measures are specific to the river basin district or a part of it. For example, the removal of invasive plants along a length of designated river or a local campaign targeting misconnections across an industrial estate. Many of the actions listed will also have multiple benefits. For example, sustainable urban drainage (SuDs) schemes help to reduce urban pollution, sewage pollution and changes to water levels. The table below summarises the types of local measures required for the management catchment, based on RNAG and protected area requirements. It includes actions from the N2K Actions database that will help the SAC/SPA/Ramsar to achieve favourable conservation status for water dependant features; for example: implementation of appropriate coastal management.

The high level categories describe the types of action required and broadly the options that are available, including voluntary and regulatory measures. At the local scale some of the options described might not be considered appropriate. There is overlap between some categories. The table also shows the number of water bodies that require the measure type, the water body numbers in this table should be used as a guide to show the significance of the issue in the catchment, and these numbers will change through the course of the 6 year programme. Up to date Reasons for Not Achieving Good (RNAGs) data is available on WWW and should be referred to before scoping local measures.

Table 3. Summary of required local measures in the management catchment.

Measure	Description	No. of water bodies
Address air pollution	Emissions controls to reduce nitrogen and acidic deposition.	7
Address point source pollution	Investigate and regulate pollution from point sources. Overlaps with "reduce pollution from sewage discharges" and "other waste water discharges".	5
Appropriate coastal process and sediment management	Measures to protect and restore integrity of dune systems	7
Complete first cycle investigation	All ongoing WFD investigations from first cycle programme.	16
Drainage and water level management	Investigate and implement changes to land drainage regimes and structures to restore water levels.	11
Dredging and silt management	Includes reducing siltation at source through land management, and implementing sustainable dredging and silt disposal regimes.	4
Improve fish passage and habitat	Remove or modify barriers to fish passage	4
Improve flows and water levels	Reduce impacts of regulated flows and abstractions, restore more natural flow regimes, implement options to improve water levels, such as water efficiency and recycling measures, alternative sources and supplies.	4
Manage invasive non-native species	Eradication and/or management of invasive non-native species in line with current national invasive species Action Plans. Includes biosecurity good practice, such as "CHECK-CLEAN-DRY" and Be Plant Wise.	14
Mine water and contaminated land remediation	Coal and metal mine, and contaminated land	2

Measure	Description	No. of water bodies
	remediation - including passive and active mine water treatment, capping of spoil, removal of wastes to landfill, and channel diversion	
Mitigate impacts of flood and coastal defences	Reduce impacts of flood defence structures and operations - improve connectivity, habitat, and morphology by implementing options through capital and maintenance programmes, such as soft engineering, opening culverts, upgrading tidal flaps, changing dredging and vegetation management. Includes the national habitat creation programme to address coastal squeeze.	7
Mitigate impacts of shipping, navigation and dredging	Assess and implement options for adapting dredging regimes and reducing the impacts of physical modifications.	3
Mitigate impacts of water resource impoundments	Assess and implement options for improving fish passage and habitat.	2
New Investigation	Includes investigations for all new failures, deterioration, and drinking water protected areas.	17
Other sustainable land and marine management practices	Includes measures to mitigate impacts from construction and maintenance of infrastructure, including within military training sites.	5
Reduce impacts from other physical modifications	Improve connectivity, habitat and morphology through soft engineering and restoration techniques.	1
Reduce pollution from septic tanks	Target actions to ensure septic tanks are maintained correctly. Where necessary issue formal works notices to owners to relocate or replace tanks and soakaways.	7

Measure	Description	No. of water bodies
Reduce pollution from sewage discharges	Reducing pollution from continuous and intermittent discharges, includes additional treatment at sewage treatment works (e.g. phosphate stripping), investigating and tackling sewer blockages, and implementing sustainable drainage to reduce surface water drainage to sewers.	3
Specific habitat and feature works	Restoration and/or conservation of specific habitat and features, including natural (e.g. caves, geological outcrops) and human structures (e.g. bridges, ruins).	11
Sustainable access and recreation management	Reduce the impacts of erosion, disturbance and damage from both water-based and terrestrial access, including tackling illegal off-roading.	7
Sustainable aggregate extraction	Reduce and mitigate impacts of extraction industries	4
Sustainable agricultural practices	Implement basic and additional measures such as correct management of slurry, silage, fuel oil, and agricultural chemicals; clean and dirty water separation; nutrient management planning; buffer strips and riparian fencing; cover crops and soil management. In N2k sites changes to grazing regimes may be required, includes scrub management. Within NVZs comply with storage and spreading regulations.	18
Sustainable fisheries management	Includes measures for both freshwater and marine fisheries to reduce and mitigate impacts	7
Sustainable marine development	Includes off-shore energy developments, such as oil	3

Measure	Description	No. of water bodies
	and gas exploration and tidal energy.	
Sustainable woodland and forestry management	Restore the riparian zone, disconnect forest drains, monitor the effectiveness of the 5 principle risks associated with forestry and use forestry and woodland to reduce diffuse pollution.	9
Tackle misconnections and urban diffuse pollution	Investigate and solve misconnections to surface water drains (at residential and commercial properties) and implement sustainable drainage schemes (SuDs) to reduce diffuse pollution.	1
Waste management	Includes appropriate management of spoil and sludge, illegal fly-tipping and litter	4

Details for specific local measures can be found on **WWW**, some examples of actions that are already under way include:

- Land owners are working to minimise the impact of agricultural diffuse pollution by controlling runoff, avoiding bank side erosion and encouraging best practice
- Private sewage dischargers and Welsh Water are working to prevent or improve inappropriate point source sewage discharges, and consequently control excessive solids, bacteria and nutrients entering the river system.
- NRW is working with partners towards a solution, and funding, to treat the minewater at Parys Mountain Copper Mine.
- NRW is conducting pollution prevention campaigns in specific sub catchments, such as the Afon Wygyr to tackle diffuse pollution impacting Cemaes Bay beach.
- Mawndir Môn project – partners including Isle of Anglesey CC and North Wales Wildlife Trust. Work to restore wetlands and adjoining land of high biodiversity within the Anglesey Fens SAC catchment.

5.2 Feedback on priorities and solutions

Concerns on current status raised as part of the consultation and at the workshop have been highlighted in Section 4, solutions and priorities were also discussed. Of the issues raised the following were flagged as priorities:

- **Pollution from septic tanks & private drainage not on public sewerage system**. Impacts surface and groundwater
  Proposed solutions include - more river walks in winter, report issues in smaller rivers and streams, education, community engagement, publicity about maintenance & number to report incidents, enforcement final option.

- **Diffuse pollution from agriculture,** impacts on surface and groundwater
  Proposed solutions include - large scale fen creation, less intensive land management, improved agri-environment schemes, promote good practice, build incentives, fencing, tree planting, soil testing and nutrient management planning.
- **Increasing water demand on Anglesey** for example Wylfa Newydd, wood chip power stations
  Proposed solutions include - address leaks, look at supply options from the mainland, change location of industry, improve water collection e.g. consider on-farm reservoirs (reduces demand from elsewhere), sustainable urban drainage schemes
- **Decline in aquatic habitats and species**
  Proposed solutions included: restoration of peat bogs and ditch blocking to hold back the water, riparian habitat restoration to act as buffer strip from land runoff and help prevent erosion.

5.3 Target areas for 2015-21

We have worked across Natural Resources Wales to develop an affordable programme of local and national measures, based upon our current understanding of existing resources. Our focus is:

- Preventing deterioration in all water bodies
- Within the Western Wales RBD - improving compliance with good overall status in 21 water bodies that are currently moderate/poor, and also improving 4 poor water bodies to moderate.
- Targeting measures locally in an integrated way to deliver environmental improvements in WFD water bodies and Protected Areas, including areas protected for water habitats and species.
- Identifying where element level improvements will be achieved during the second cycle, but where further measures will be required to deliver an overall ecological status change.
- Developing our approach to natural resource management by working at a local catchment level and capturing the wider benefits delivered through WFD.

Table 4. Water bodies in the Ynys Môn management catchment that NRW will target to achieve an improvement in status by 2021

Water body ID	Name	Target status	Details
GB110102059100	Tan R'Allt	Good by 20121	For further information on the target water bodies please refer to WWW
GB110102059170	Wygyr		
GB41001G204200	Ynys Mon Central Carboniferous Limestone		

Investigations programme

All water bodies for which the cause of adverse impact is as yet unknown require investigation. This applies in the case of both failing water bodies and those that have deteriorated over the first cycle.

Natura 2000 programme – actions underway/planned
The RBMP programme of measures must include any measures necessary to achieve compliance with standards and objectives for Natura 2000 (N2K) sites listed in the register of protected areas.

The list below is a summary of sites where Prioritised Improvement Plan (PIP) measures are planned /underway. It does not summarise all the required actions. (Further information can be obtained by contacting NRW: enquiries@naturalresourceswales.gov.uk)
The number of planned actions is low partly because it is difficult to assess what might be funded beyond 2015/16. Our ambition for the second cycle will develop as opportunities/resources become available. We have identified a further 53 priority actions in the Ynys Mon Management Catchment which can be taken forward when opportunities arise.

We have also worked with stakeholders to develop and plan a number of strategic actions to support delivery of N2K objectives. These are included within the updated Programme of Measures

The table below shows the Natura 2000 sites that have actions that are planned or underway, further information on the actions can be found on the **WWW** website.

Table 5. List of N2K sites with measure planned or underway

N2k site	Planned	Underway
Corsydd Mon / Anglesey Fens		1
Y Fenai a Bae Conwy / Menai Strait and Conwy Bay	2	
Y Twyni o Abermenai i Aberffraw / Abermenai to Aberffraw Dunes		2

Flood Risk Management Plan Actions
Further information on local measures is available in the catchment summary section of the updated FRMP.

Know Your River – Salmon and Sea Trout Catchment Plans
NRW collects a range of specific salmonid data for management purposes and this is presented in the local Salmon and Sea Trout Catchment Summaries. Salmonid specific tools, measures and data acquisition such as electrofishing results, declared catches and annual salmon egg deposition estimates are used to guide ongoing investment in fish passage and habitat restoration schemes. The summaries are updated annually and ensure that there is effective prioritisation in waterbodies to improve salmonid fisheries. The planned actions are always delivered in association with partners and contribute to enhancement and protection of this valuable resource in Wales. Further information can be obtained by contacting NRW: enquiries@naturalresourceswales.gov.uk)

Water company programme
Within the 2015 RBMP; there are a number of measures required of Water Companies. A funding allocation for these measures was included in company business plans submitted to Ofwat for the 2015-20 period. Natural Resources Wales and the Environment Agency will publish a revised National Environment Plan detailing all water company measures in early 2016. The National Environment Programme details improvements required to comply with all water quality legislation.
An outline of the measures included within this management catchment can be found in the table below, further information can be found on the WWW website.

Table 6. Water company investigation and improvement schemes

Water body ID	Name	Outcome
GB110102059000	Goch Dulas	Investigation to be carried out, where water company assets contribute to reason for not achieving good status
GB110102058980	Anglesey	Investigations into risks to drinking water quality
Multiple	CEFNI	
GB681010450000	Holyhead Strait	Coastal and network modelling to enable planning of how to meet WFD shellfish requirements.
GB521010207500	CEFNI	
GB641010620000	Anglesey North	
GB641010620000	Anglesey North	Investigations into impact from assets on designated bathing beaches.

5.4 Alternative objectives
We have identified 10% of water bodies where because of the nature of the problem or the required measures we have an extended deadline or less stringent objective (less than good). In each case we have provided a justification.

Table 7. Alternative objectives and justifications

Alternative objective	Justifications	Number of water bodies	Water body
Extended deadline	Cause of adverse impact unknown	3	Crigyll/Caradog catchment – LlanfaelogHolyhead Bay
		1	Ynys Mon Central Carboniferous Limestone
Less stringent objective	No known technical solution is available	1	Ynys Mon Secondary

5.5 Opportunities for partnerships

There are several external funding opportunities, which could support projects that contribute towards Water Framework Directive outcomes. Each fund has its own priorities, budgetary allocation and application process. Types of funding for consideration include:

- European funds – The EU provides funding from a broad range of programmes – go to the Welsh European Funding Office website for more information.
- Lottery Funding – such as Heritage Lottery Fund, Postcode Lottery and BIG Lottery Fund which have a range of programmes from £5000 up to £millions.
- Charities, trust & foundations – there are many of these operating and they often have a specific focus – either geographically or topically and will support local charities and projects.
- Businesses and sponsorship opportunities – including making the most of the Welsh carrier bag charge!
- Public bodies – Local authorities, Welsh Government, UK Government and NRW may have annual funding opportunities or one-off competitions for their priority areas.
- Crowdfunding – gathering support from a wide range and number of funders, often including individuals and usually using the internet to raise awareness for a specific project needing funds.
- Trading – Increasingly funders are looking to support organisations with longer term sustainability in mind so developing trading opportunities can be something to consider too.

Your local County Voluntary Council and Wales Council for Voluntary Action will have up to date information on opportunities such as these as well as a host of other support available.

6. Water Watch Wales

During the implementation phase of the first river basin management plan many of our partners and stakeholders requested access to data and information to assist them in helping to deliver local environmental improvements. Many stakeholders felt that the first plan was difficult to navigate and access information at a local scale. Consequently with both the support and input from the river basin district liaison panels a web based tool has been developed called **Water Watch Wales.** This is an interactive spatial web-based tool that provides supporting information and data layers which can assist partners.

We will continue to develop this tool and see it as a critical link between the more strategic RBMP and local delivery. It enables the user to access information on:

- classification data at the water body scale
- reasons for not achieving good status
- objectives
- measures/actions, including protected area information
- partnership projects

Data can be retrieved in a number of formats (spreadsheets and summary reports). A user guide together with frequently asked questions is included with the tool and can be accessed from a link on the home page.
Link to home page: waterwatchwales.naturalresourceswales.gov.uk

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