Isle of Wight

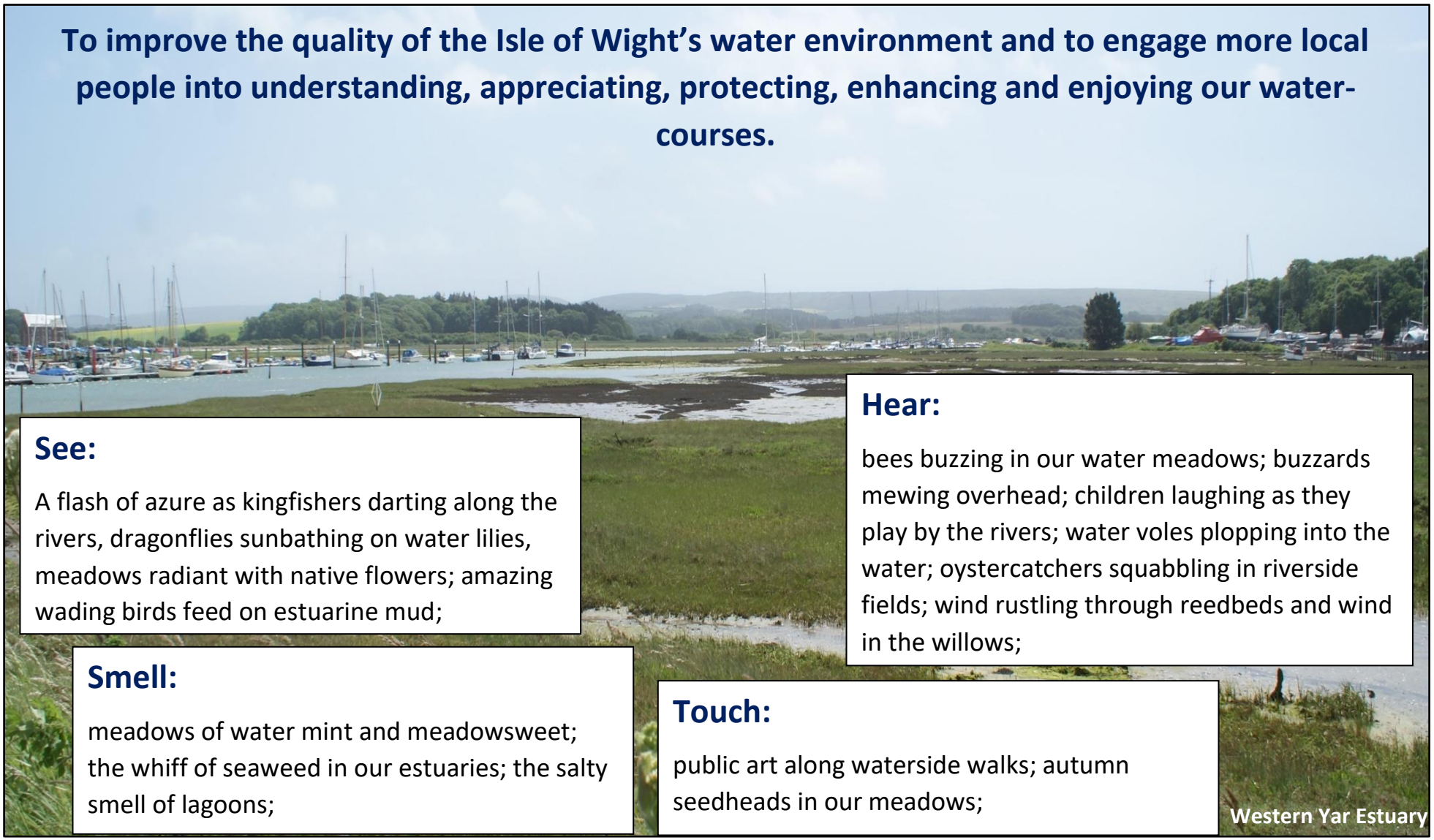
Catchment Management Plan

November 2023 Revision

ISLAND RIVERS PARTNERSHIP

1. Vision

To improve the quality of the Isle of Wight's water environment and to engage more local people into understanding, appreciating, protecting, enhancing and enjoying our water-courses.



See:

A flash of azure as kingfishers darting along the rivers, dragonflies sunbathing on water lilies, meadows radiant with native flowers; amazing wading birds feed on estuarine mud;

Hear:

bees buzzing in our water meadows; buzzards mewing overhead; children laughing as they play by the rivers; water voles plopping into the water; oystercatchers squabbling in riverside fields; wind rustling through reedbeds and wind in the willows;

Smell:

meadows of water mint and meadowsweet; the whiff of seaweed in our estuaries; the salty smell of lagoons;

Touch:

public art along waterside walks; autumn seedheads in our meadows;

Western Yar Estuary

Feel:

safe to visit our rivers and understand that they are a free source of recreation and well-being; that we are taking the best steps we can to be resilient to climate change; we can contribute to positive action by volunteering and taking part in citizen science;

Live on:

an island where farmers can make a living and continue to be good custodians of the countryside; where schools can study and visit local rivers as part of the national curriculum;

Clatterford Ford

2. Contents

3. Executive Summary

With a vision of improving the quality of the Isle of Wight's water environment and engaging more local people into understanding, appreciating, protecting, enhancing and enjoying our watercourses, the Island Rivers Catchment Plan is a **live document**, to be reviewed and updated annually. It has been developed by the **Island Rivers Partnership** and is a framework for identifying opportunities and delivering collaborative projects to improve the **Water Quality** of all the Isle of Wight river catchments and coastal and groundwaters, to reduce flood risk and improve **Water Resources** to enhance **Habitats,** to address **Physical Modifications** that hamper fish and eel passage and river performance and to deliver **Climate Resilience**. The Partnership want **to Engage with People** by developing educational and recreational opportunities and promoting the benefits to the health that engaging with nature brings.

This plan is developed by and for the members of the Catchment Partnership who are **actively involved** in delivering projects to enhance the Island's watercourses. It enables them to plan and coordinate actions so they get the maximum benefits for their money. There are a lot of aspirations in this plan which will require money to deliver that the Partnership do not have. It is hoped that other **organisations, landowners, businesses** and the **community** will read this plan and be inspired to join us in the delivery of projects. By detailing the legislative framework behind actions, we hope to demonstrate how we can deliver benefits beyond the environment , for example health and climate resilience.

The plan uses an Integrated Catchment Management approach to achieve the sustainable management of resources from the whole river catchment perspective, considering the management of land and water and recognising the role of natural systems in providing services to people and regulating the environment. This plan is therefore not limited to land immediately adjacent to watercourses and the coast.

The Island Rivers Partnership have identified six strategic aims as detailed above For each Strategic Aim this Plan details the issues which are backed by the most recent data we have been able to obtain. It highlights opportunities and there are a number of associated actions. These are tied into the strategic and legislative framework.

The plan divides the Island into sub-catchments – **West Wight Watercourses, Southwest Streams, Newtown Estuary and Northwest Coast, Medina Catchment, East Yar Catchment, Northeast Coast Watercourses and The Solent**. It describes each sub-catchment and its issues and opportunities. It details projects that we have delivered, currently projects and aspirations. It then discusses how to engage in delivery.

4. Introduction to the plan

What is it?

The Island Rivers Catchment Plan is a **live document**, to be reviewed and updated annually. It is a framework for identifying opportunities and delivering collaborative projects to improve the **Water Quality** of all the Isle of Wight river catchments and coastal and groundwater, to reduce flood risk and improve **Water Resources** to enhance **Habitats,** to address **Physical Modifications** that hamper fish and eel passage and river performance and to deliver **Climate Resilience.** The Partnership want to engage with **Local People** by developing educational and recreational opportunities and promoting the benefits to the health that engaging with nature brings.

Who has written it?

There is no single body responsible for water management on the Isle of Wight. The Environment Agency and the Isle of Wight Council have certain legislative responsibilities and, Southern Water abstract drinking water from our rivers and groundwater. Other national organisations have interests in our riverine and coastal environments. There are then a number of mainly local organisations who own or represent landowners, businesses, interest groups and the community. They work together to share knowledge and deliver actions to enhance these environments. This is the Island Rivers Partnership. It is not a formally constituted group, and partners do not always share the same viewpoint.

The Island Rivers Partnership meets quarterly and have produced the Island Rivers Catchment Management Plan. The Partnership is hosted by Natural Enterprise who are a local charity. The Partnership, in line with most other Catchment Partnerships across the country, have adopted a Catchment Based Approach methodology.

What is the Catchment Based Approach?

The Catchment Based Approach (CaBA) is an inclusive, civil society-led initiative that works in partnership with Government, Local Authorities, Water Companies, businesses and more, to maximise the natural value of our environment. CaBA partnerships are actively working in all 100+ river catchments across England and cross-border with Wales, directly supporting achievement of many of the targets under the Government's 25 Year Environment Plan. The Catchment Based Approach embeds collaborative working at a river catchment scale, delivering a range of environmental, social and economic benefits and protecting our precious water environments for the benefit of us all.

Integrated Catchment Management

Integrated Catchment Management aims to achieve the sustainable management of resources from the whole river catchment perspective, considering the management of land and water and recognising the role of natural systems in providing services to people and regulating the environment. This plan is therefore not limited to land immediately adjacent to watercourses and the coast.

Who is this plan for?

This plan is developed by and for the members of the Catchment Partnership who are actively involved in delivering projects to enhance the Island's watercourses. It enables them to plan and coordinate actions so they get the maximum benefits for their money.

There are a lot of aspirations in this plan which will require money to deliver that the Partnership do not have. It is hoped that other organisations, landowners, businesses and the community will read this plan and be inspired to join them in the delivery of projects. By detailing the legislative framework behind actions, they hope to demonstrate how we they deliver benefits beyond the environment , for example health and climate resilience.

A whistle stop tour of the plan.

Section 1 (Pages 2 -3) details **the vision.**

Section 5 (Pages 9 - 11)is a description of the Island as a water 'catchment'.

Section 6 (pages 12 - 49) discusses six strategic aims which centre around Water Quality, Water Resources, Habitats and Species, Physical Modifications, Climate and Resilience and Engagement. For each Strategic Aim it details the issues backed by the most recent data they have been able to obtain. The Plan highlights opportunities and there are a number of a ssociated actions. This is tied into a strategic and legislative framework. There is summary of Strategic Aims and Actions on pages 51 - 51.

Section 7. (pages 52 – 75) divides the Island into a number of sub-catchments – West Wight Watercourses, Southwest Streams, Newtown Estuary and Northwest Coast, Medina Catchment, East Yar Catchment, Northeast Coast Watercourses and The Solent. It describes each sub-catchment and its issues and opportunities. It then detail projects that have been delivered, that are currently being delivering and aspirations. There is a full list of current and aspirational projects tied to the Strategic Aims in Appendix 1 on pages 79 – 89, and our past projects in Appendix 2 on pages 90 - 96.

Section 8 (pages 76 – 78) is all about how to engage and get involved, whoever you are.

5. Catchment Description

- The Isle of Wight Catchment covers an area of 390 km2 of which 32.7km2 is Water Priority Area.
- The catchment is divided up into 35 river water bodies, 8 estuaries & coastal waters and 4 groundwater bodies. It also includes 14 bathing waters, 1 surface drinking water source and 6 shellfish waters.
- The catchment also covers part of one Special Protection Areas and five Special Areas of Conservation designated under the Habitats Directive
- As well as the Natura 2000 sites there are a further 38 Sites of Special Scientific Interest and 190km2 is Area of Outstanding Natural Beauty.
- The Isle of Wight is a UNESCO Biosphere Reserve.
- The Isle of Wight has a diverse geology with clay soils to the north, a ridge of chalk running through the middle (west to east) and greensand to the south. Chalk reappears in the south-east of the Island above Ventnor. Aquifers are found in both the chalk and the greensand.
- The soils reflect the geology with heavy clays to the north, with occasional plateau gravels; free draining silty loams on the chalk to the centre and free draining friable sandy loams to the south.
- With the exception of small streams running south into the English Channel, the majority of the Island's rivers run north into the Solent. Rising from the chalk they rapidly become influenced by either the clay or sandy soils depending on their course. Classic chalk streams are rare but the minor Lukely Brook in Newport and the Caul Bourne at Winkle Street are chalk streams, although the latter rapidly flows onto Tertiary clays.
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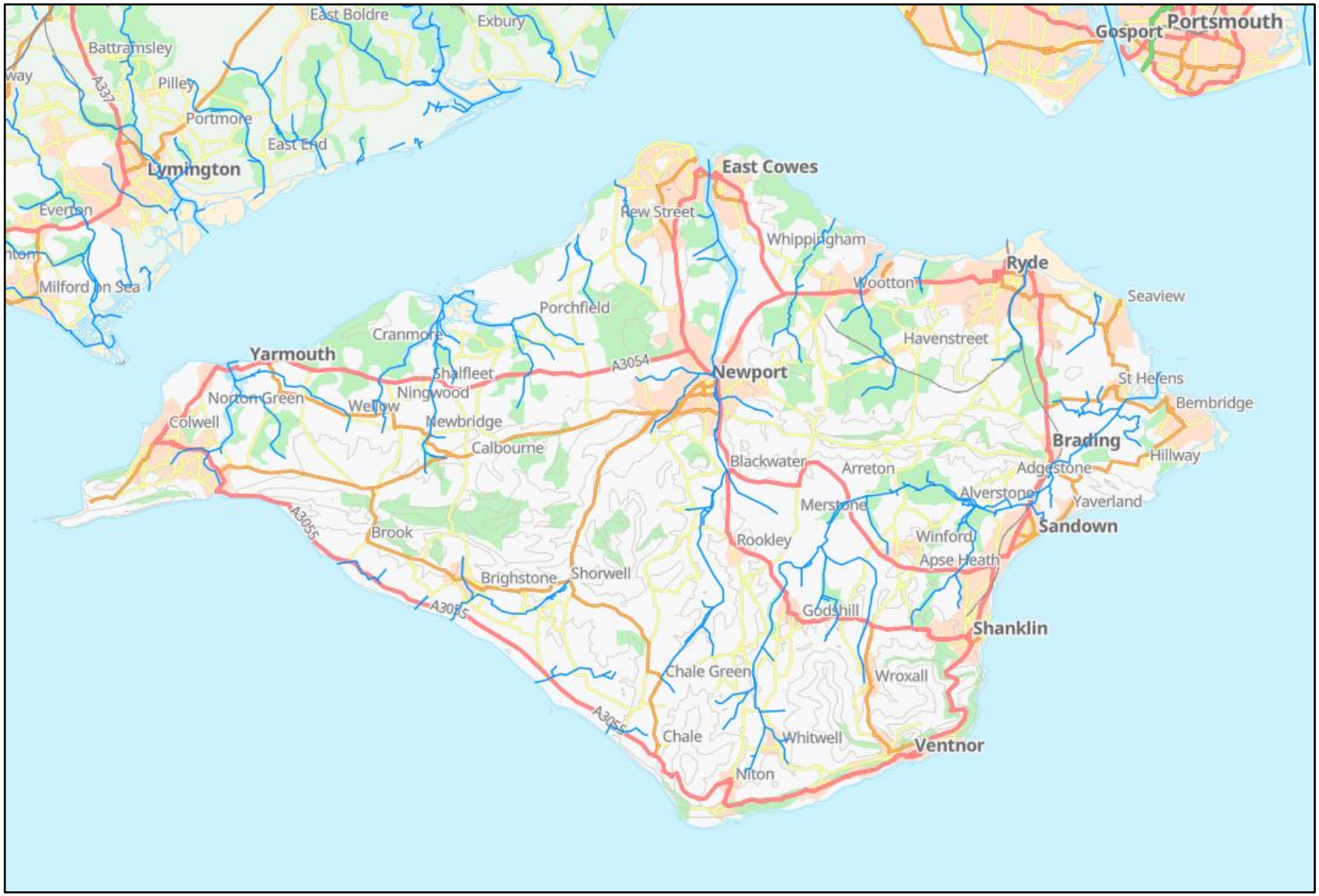
Merstone Steam

- There are quite a few springs from the Chalk and Upper Greensand, which has similar water chemistry, such as Froglands, Shalcombe, Brighstone Buddlehole, North Court Shorwell, and the Sheet Stream at Chillerton, but they rapidly change character as they flow on to different strata.
- Over 90% of rivers in the catchment have been changed for water abstraction, agriculture, navigation and flood protection reasons. They have been straightened and man-made river banks and structures such as weirs have been put in the rivers.
- Modifications such as weirs are obstacles to fish migration.
- Average rainfall in the catchment is 906mm. The rivers on the Island react dramatically to high rainfall incidents leading to spatey conditions and localised flooding.
- Sources of drinking water are found in the aquifers at Knighton (eastern chalk ridge), Carisbrooke (Bowcombe Valley) and Ventnor (Ventnor Downs) and from the eastern Yar river at Sandown. 25% of the Island's drinking water comes from the Hampshire Test river via a sub-Solent pipeline.
- Agriculture and land use: 24,903 ha (64%) of the Isle of Wight is farmed in 349 holdings. Arable (8,336 ha – of which wheat and spring barley is 51%); temp grass (2,217 ha), permanent grass (11,174 ha), rough grazing (548 ha) with 65% to beef and 18% to dairy. With two AD plants, maize is increasing rapidly (547 ha 2010 to 868 ha in 2013, which was prior to plant opening). Also farm woodland makes up 1,598 ha.
- Sources of pollution other than agriculture include poorly managed septic tanks, storm water discharges, road run-off and minor wastewater treatment works
- The Solent is a Water Framework Directive (WFD) Shellfish Water Protected Area and this highly designated area is the final destination of much of the catchment's water. Improved sewage treatment has led to the discharge of treated sewage to become localised at Sandown Bay, away from the Solent.


Wroxall Stream


East Boldre
Exbury
Battramsley
Pilley
Portmore
East End
Lymington
Everton
Milford on Sea
Gosport
Portsmouth
East Cowes
New Street
Whippingham
Ryde
Wootton
Seaview
Porchfield
Cranmore
Yarmouth
Havenstreet
Shalfleet
A3054
Newport
St Helens
Bembridge
Norton Green
Ningwood
Wellow
Colwell
Newbridge
Calbourne
Brading
Hillway
Blackwater
Arreton
Adgestone
Alverstone
Merstone
Yaverland
Sandown
Brook
Rookley
Winford
Apse Heath
Brighstone
Shorwell
A3055
Godshill
Shanklin
Chale Green
Wroxall
Chale
Whitwell
Ventnor
Niton

6. Strategic Aims

6.1 Strategic Aim 1 – Protect and Enhance Water Quality

Maintain and enhance the water quality of the Island's watercourses.

Water Quality Issues and Data

The quality of water bodies can be measured using **Water Framework Directive (WFD)** method. This UK -wide measure combines information on the chemical and ecological status of rivers and classifies them as being **High, Good, Moderate, Poor or Bad**. Estuaries and Coastal Waters are classed as Moderate, Poor or Bad.

On the Isle of Wight the Environment Agency classifies 10 water bodies: Atherfield Stream, Blackbridge Brook, Brighstone Steams, Caul Bourne, Upper Eastern Yar, Lower Eastern Yar, Lukely Brook, Medina, Monktonmead Brook and Wroxall Stream. None are 'High' or 'Good' status. Wroxall Stream is classified as 'Poor' and the rest are 'Moderate'. The coastal waters and estuaries are also 'Moderate'.

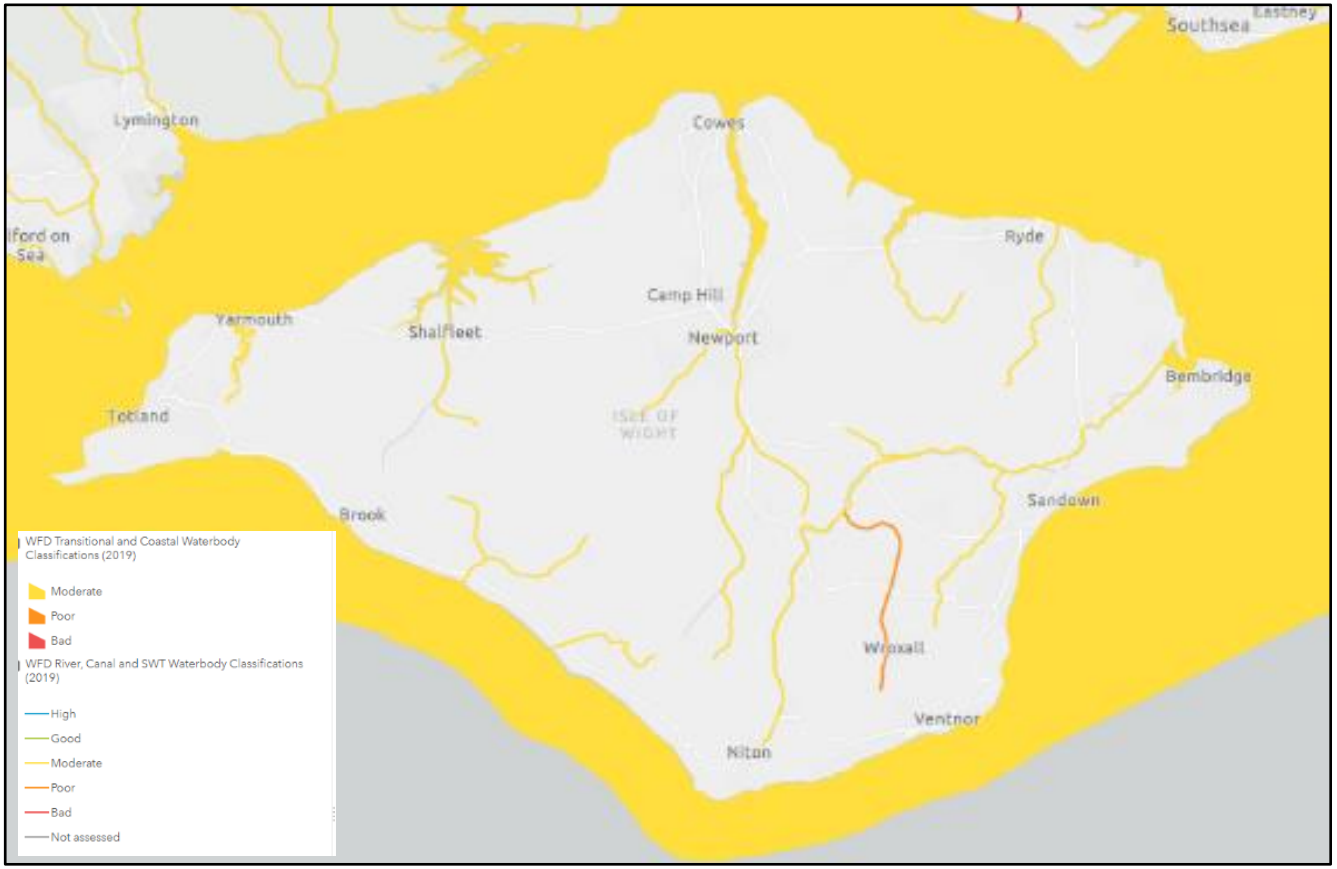


Figure 1. Current water Framework Directive status for each water body, 2019 [1]

Pressures

Figure 2 illustrates how the Environment Agency apportion the likely issues affecting water quality across the catchment, so that they can target more effective interventions that will help a failing water body to reach healthy status.

Urban pollution and road runoff

Runoff pollution happens when pollutants from oil spills and tyre and brake wear of vehicles build up on roads, especially in dry periods, and are then washed into nearby rivers when it rains. Trace metals, hydrocarbons and other organic pollutants carried into the river pose a significant threat to river health; runoff can carry over 300 different pollutants which can cause damage both in the short and longer term. Sustainable Drainage Systems (SuDS) can slow and filter water before it reaches a water course. This is not just an urban problem, in rural areas it is common for sediment to wash off from fields during heavy rain and onto the nearest road which acts as a conduit between the field and the river.

Rural Pollution

A range of different sources can contribute to rural diffuse pollution. The main cause is typically when rainwater run-off from land picks up soil, bacteria and nutrients from livestock excreta, or fertilisers and pesticides. The main sources on the Island result from agricultural land (Including equine) uses but there are contributions from rural septic tanks too. About 2/3rds of the Island is designated as a Nitrate Vulnerable Zone (NVZ) where water courses are at risk from agricultural nitrate pollution. Source Protection Zones (SPZs) identify areas of land through which water infiltrates into a groundwater borehole, well or spring that is used for public drinking water supply. These zones show the risk of contamination

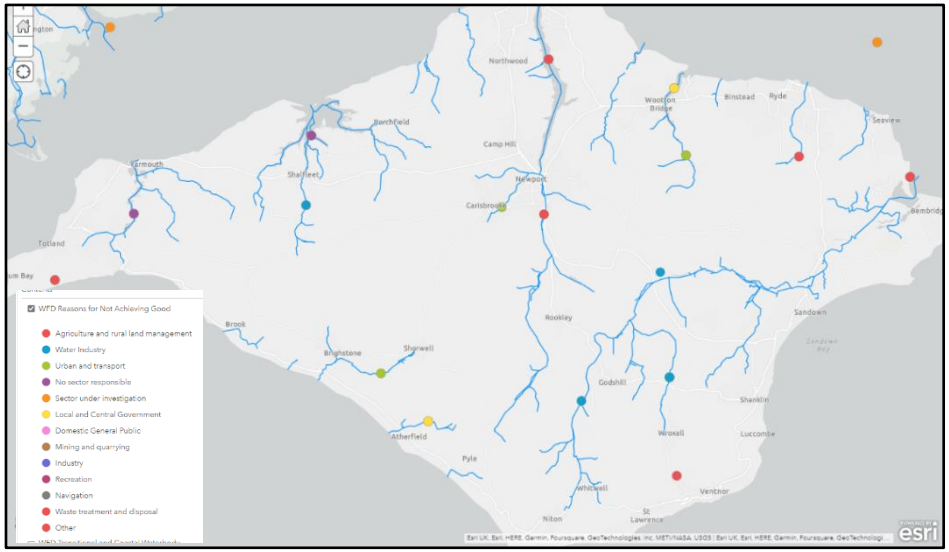


Figure 2. Reasons for not achieving 'Good' status [2]

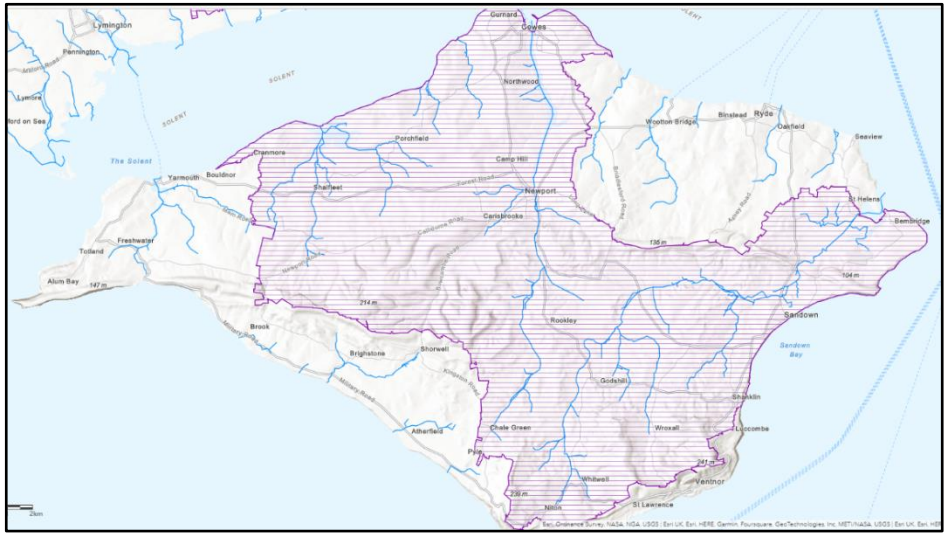


Figure 3. Nitrate Vulnerable Zone [3]

from potential pollution.

The Eastern Yar flows through greensand which is particularly susceptible to run off. The southwest of the Island is also problematic. This pollution is detrimental for wildlife and recreation, and also impacts on drinking water supplies.

Livestock in the river have negative impacts through adding to the nutrient load through waste, but also through poaching of riverbanks causing them to erode. High stock density can compact soils and water runs off quickly, rather than acting as a sponge that water soaks into. This can both increase the flow of water and pollutants entering a river as well as increasing flood risk. Inappropriately placed farm infrastructure also creates a risk to water quality.

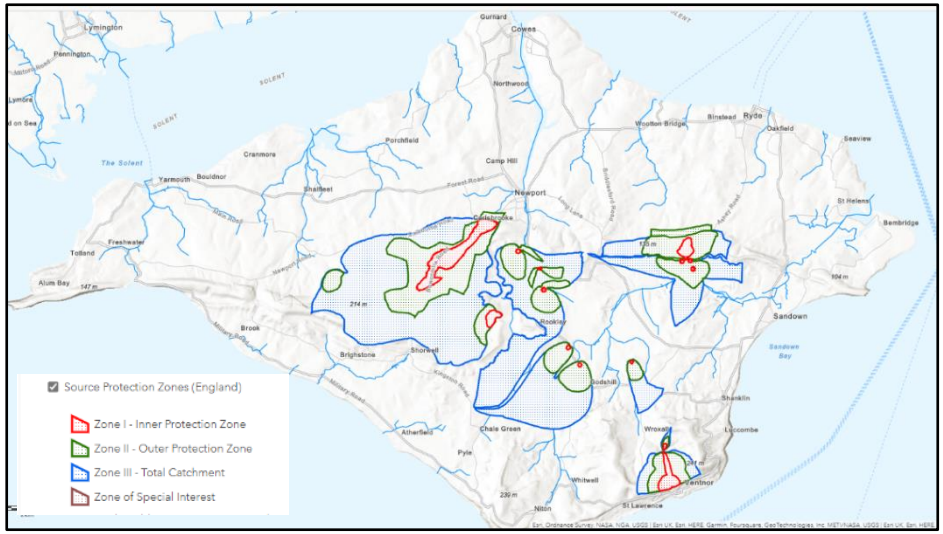


Figure 4. Source Protection Zones[4]

Herbicides and Pesticides

Southern Water conducts sampling of raw water at five specific locations within the Eastern Yar. Our monitoring spans over 350 determinands, with a primary focus on reducing and mitigating pesticide and nitrate levels in raw water. This effort aims to minimise the impact on the Sandown Surface Water Abstraction (SWA) in the Lower Eastern Yar. Their Catchment Risk Assessment (2021) identified the following concerns:

High Risk: Boscalid, Chlormequat, Fluroxypyr, Glyphosate, Mecoprop

Medium Risk: 24D, Metaldehyde, Pendimethalin, Prosulfocarb

New notable rising trend: Pendimethalin (herbicide to treat woody and broadleaf plants)

Waste Water

On the Isle of Wight Southern Water own and operate 20 separate sewerage systems. Each of these collects wastewater over a geographical area known as a sewer catchment.However Sandown Waste Treatment Works deal with 88% of the population and cover the towns of Sandown, Cowes, Newport, Ryde, and Ventnor, Shanklin, Newchurch, Alverstone, Brading, Bembridge, Nettlestone, Seaview, Ryde, Wootton, Havenstreet, Newport, East Cowes, Gurnard, Northwood, Yarmouth, Freshwater, Totland. Sewage is therefore pumped around the Island. Figure 5 details the make up of the network and indicates that 5% of Households are off-grid and likely to be using sceptic tanks.

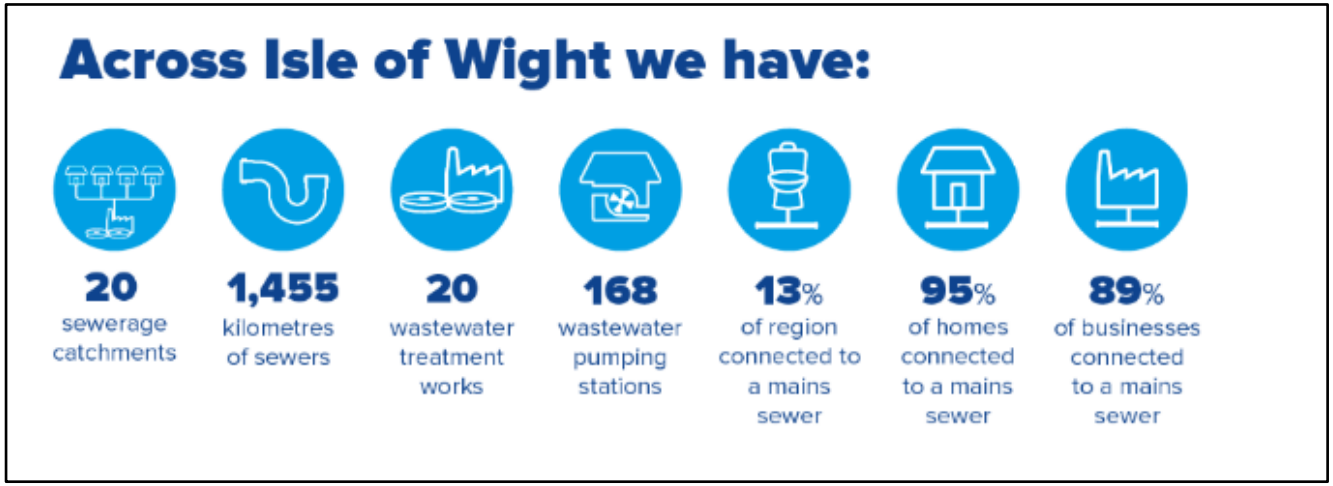


Figure 5. Southern Water Drainage Network[5]

Combined Sewer Overflows

Managing surface water is about making sure that water drains safely from homes and gardens, roads, fields, businesses and public spaces. Much of our drainage is into a single pipe system – Combined Sewer (CSO). On the Island, even in urban areas, there are not many two pipe systems (foul and surface separated). If the volume of water entering the drainage network overwhelms the system, it can sometimes cause heavily diluted sewage to be released into rivers and the sea. Summer storms falling on hard ground for example can produce very rapid water into the system.

The data shows how often and for how long monitored storm overflows discharged during 2021. However, this only includes events that the Water Company or Environment Agency know about.

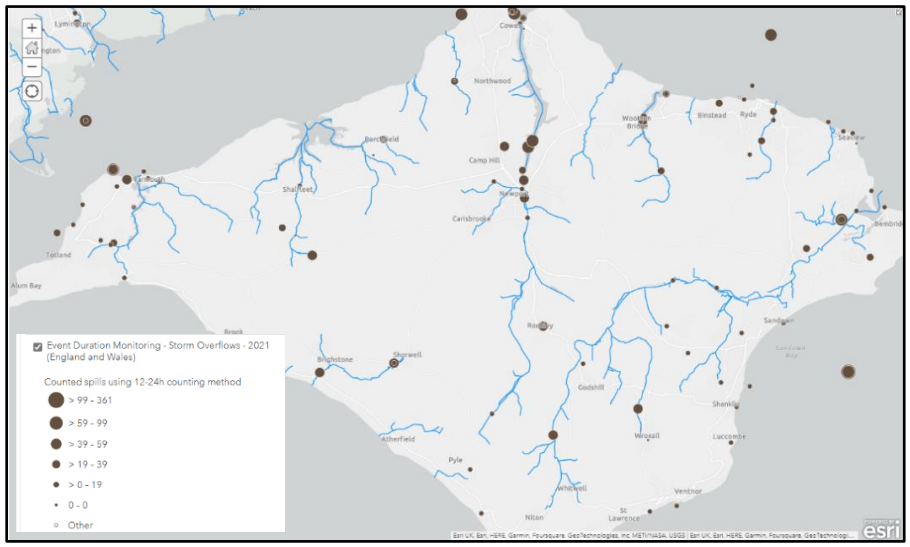


Figure 6. Event Duration Monitoring, Storm Overflows, 2021[6]

The Solent is also affected by spills from the mainland. The Solent Protection Society extract and analyse Environment Agency annual data on storm overflow releases into the Solent. There are some 300 storm overflows which the society has identified which discharge directly into the Solent, or into the tidal rivers and harbours that feed into it, for tens of thousands of hours per year. The results range between 35 and 45 thousand hours per year depending largely on how much rainfall occurs in each year, its intensity and the time of year.

They state that of these 300 CSOs, only around 12% account for an average of nearly 80% of the total number of hours spilled. In 2022 there were 37 outfalls which the Society believes are the worst cases and which should be given priority to drastically reduce the spills. They are broadly the same culprits in each of the three years.

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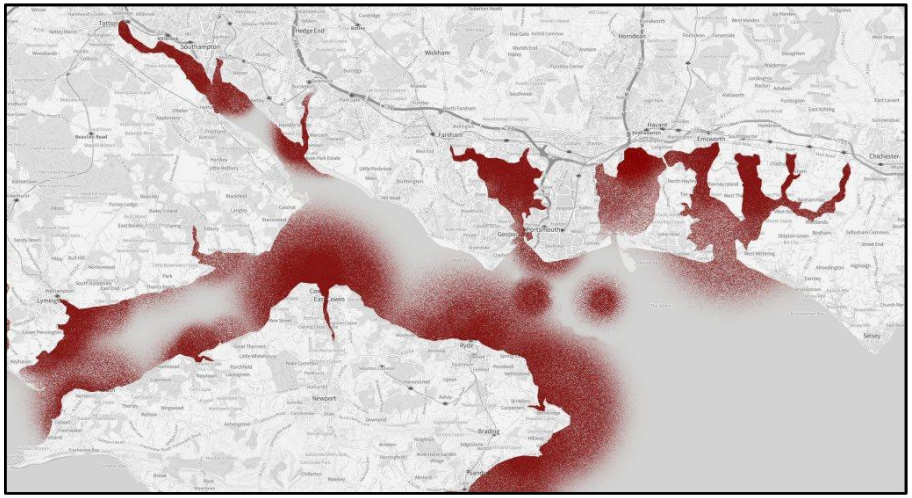


Figure 7. A geographical distribution of the 37 worst offending CSO spill locations in 2022[7]

Of the 15 Solent Areas the Society has looked at, the north and east shores of the Isle of Wight taken collectively account for nearly 40% of all the spills into the Solent by hours run or 'duration' as it is known in the water industry. There are 14 CSOs which spill for more than 290 hours per year, with an average closer to 1000 hours per year.

Rank 2022	SPS 'Solent area'	Total spill hours			Total # of CSOs	Worst cases – Highest spilling 'target' CSOs within each Solent tidal area									
						Subset of total spills			*% of total spills*			*# of target CSOs*			*Target CSOs in Solent tidal area*
		Hours 2020	Hours 2021	Hours 2022	2022	Hours 2020	Hours 2021	Hours 2022	2020	2021	2022	2020	2021	2022	Subset of 37 of 271 outfalls which spilled for more than 290 hours/year in 2022
1	Chichester harbour	4,869	7,808	7,366	19	4,407	6,981	6,322	91	89	86	3	3	4	Bosham SSO Chichester WTW2 SSO Nutbourne SSO Lavant WWTW
2	IW East	7,905	6,770	6,597	36	7,479	4,947	4,588	95	6	70	7	6	6	Appley Pk Ryde Transfer CEO Hillway Bembridge CEO Lane End Storage Tanks Bembridge CEO Sandown #1&2 SSOs St Helens SSO
3	Southampton Water	3,345	2,264	3,054	39	2,809	1,233	1,637	84	54	54	4	3	3	Millbrook WWTW Portswood WWTW Slowhill Copse WWTW
4	Portsmouth Harbour	2,621	4,294	2,932	47	1,912	3,229	2,042	73	75	70	2	5	4	Wickham WWTW High St Fareham North End Av Hambledon PS
5	Cowes	2,594	2,792	2,897	14	1,939	2,044	2,221	75	73	77	3	3	4	Springhill Cowes Transfer SSO Terminus Rd CSO Woodvale Transfer CSO Egypt Pt CSO
6	Medina River	2,434	2,309	2,556	13	1,803	1,805	1,664	74	78	65	2	3	3	Dodnor CEO Fairlee CSO Prior Crescent CSO
7	Western Solent	2,479	3,164	1,865	12	2,479	2,585	1,457	100	82	78	3	4	3	East Boldre SSO Flexford Ln Sway SSO Milford Rd Pennington SSO
8	IW West	1,527	2,029	1,817	23	972	1,427	1,337	64	70	74	1	3	1	Norton Transfer IW Pumped CEO
9	Langstone Harbour	1,898	1,525	1,643	13	1,898	1,415	1,440	100	93	88	2	2	2	Budds Farm Havant SSO Henderson Rd Eastney CSO.
10	Hamble River	363	2,681	1,205	10	0	2,173	580	0	81	48	0	2	1	Pound Road Bursledon CEO
11	Test River	4,244	7,257	1,067	17	3,847	7,084	673	91	98	63	2	4	2	King Somborne SSO Stockbridge SSO
12	Central Solent	1,419	878	1,013	8	778	586	712	55	67	70	1	1	1	Peel Common SSO
13	Beaulieu River	1,507	847	859	5	1,067	511	827	71	60	96	2	1	2	Beaulieu Village SSO Lyndhurst SSO
14	Itchen River	849	435	749	10	849	0	624	100	0	83	1	0	1	Chicken Hall Eastleigh SSO
15	Eastern Solent	1,046	151	134	5	612	0	0	59	0	0	1	0	0	Pier Rd Southsea CSO *[Less than 290hrs]*
		39,100	**45,204**	**35,754**	**271**	**32,851**	**36,020**	**26,124**	**84**	**80**	**73**	**34**	**40**	**37**	

Isle of Wight	***13,867***	***39%*** *of total spills*	***9,180***	***38%*** *of total spills*
Chichester Harbour	***7,366***	***21%*** *of total spills*	***6,322***	***24%*** *of total spills*

CEO Combined Emergency Overflow
CSO Combined Sewer Overflow
SSO - Sanitary Sewer Overflow
WWTW - Waste Water Treatment Works

Figure 8. SPS Environment Agency data analysis – 2020/2021/2022 – High priority sewer overflows summarised by Solent tidal area[8]

Water Quality Opportunities and Actions

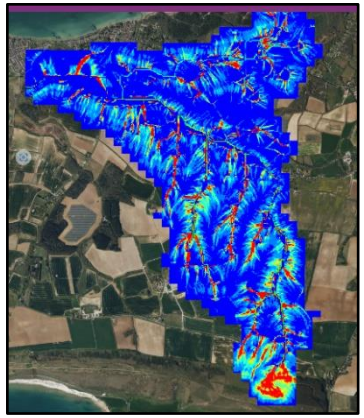


Figure 9. Thorley Brook [9]

Opportunities

Availability and use of data to target actions

Local knowledge, local, regional and national monitoring results and GIS datasets now enable us to identify potential high-risk areas for soil erosion, diffuse pollution and point source pollution. Figure 9 is a map of the Thorley Brook catchment that identifies locations of critical source areas within the landscape. These areas are where there is a source of a problem (fine sediment for example) and a connection from the source location to the river or lake. The locations of the source areas and connection are calculated from a detailed digital elevation model, land cover and rainfall information.

New land management schemes

Transitions in farming support is an opportunity for engaging landowners with advice and support for Catchment Sensitive Farming (CSF)

New policies affecting water companies

There is an opportunity to align the Island Rivers Catchment Plan with Southern Water Catchment and Drainage Plans. In addition, there are opportunities to support Southern Water's schemes to reduce CSO spillages.

New legislation affecting developers

With the Solent being as a Key Site, there is a need for mitigation from both Island and Mainland developments.

Island Plan

There is an opportunity to create buffers and legislate for good practice within the new Island Plan.

Action 1.1 Identify, investigate and address specific water quality issues within the catchment

Action 1.2 Provide advice and support for farmers and rural landowners to manage their land to reduce impacts on water quality

Action 1.3 Work with the Local Planning Authority, develops and landowners to minimise the impact of residential and industrial development on water quality

Action 1.4 Work with the Water Company to minimise CSO spillage into the Island's water courses and Solent

Water Quality Policies and Regulations

The Environment Act 2021

This seeks to improve the health of our rivers by reducing nutrient pollution and contamination in water courses and sets targets for water quality.

https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

The Farming Rules for Water (England) 2018

The rules require good farming practice, so that farmers manage their land both to avoid water pollution and to benefit their business. They provide a step by step checklist to make sure that fertilisers are spread to meet crop and soil needs. Other rules safeguard water quality by requiring farmers to judge when it is best to apply fertilisers, where to store manures and how to avoid pollution from soil erosion.

https://www.gov.uk/government/publications/farming-rules-for-water-in-england

Nitrate Vulnerable Zones (NVZs)

Nitrate Vulnerable Zones (NVZs) are areas designated as being at risk from agricultural nitrate pollution. They include about 55% of land in England.

https://www.gov.uk/government/collections/nitrate-vulnerable-zones

Groundwater Source Protection Zones (SPZs)

These are zones where there is a risk of contamination of groundwater that supplies our drinking water. They consist of an inner core and outer protection areas. There are 14 inner zones on the Island.

https://www.gov.uk/guidance/groundwater-source-protection-zones-spzs

Drinking Water Safeguard Zones

Drinking Water Groundwater Safeguard Zones (SgZs) are established around public water supplies where additional pollution control measures are needed. The Lukely Brook Catchment designated on the Island.

https://www.data.gov.uk/dataset/6ac22521-2e77-4dc8-ba90-6bb55d2ea3b8/drinking-water-safeguard-zones-surface-water

The Clean Air Strategy 2019

This targets ammonia emissions England-wide.

https://www.gov.uk/government/publications/clean-air-strategy-2019

General binding rules for small sewage discharges (SSDs) 2023

The general binding rules set out the conditions that septic tanks and sewage treatment plants need to meet in order to be used without an environmental permit.

https://www.gov.uk/government/publications/small-sewage-discharges-in-england-the-general-binding-rules/general-binding-rules-for-small-sewage-discharges-ssds-with-effect-from-2-october-2023

Levelling Up and Regeneration Bill (not yet enacted)

This will require the upgrade of wastewater treatment works in designated catchments by 1 April 2030. This action will reduce a significant source of nutrient pollution to key habitats sites, including the Solent. In addition, developers, environmental organisations, local authorities and Natural England have begun to invest in mitigations (such as new wetlands that can intercept nitrates and phosphates) so that as and where these are operational, new housing can be consented in the relevant area.

https://www.gov.uk/government/collections/levelling-up-and-regeneration-bill

Environmental Land Management Schemes

There are 3 new schemes that will reward environmental land management, Sustainable Farming Incentive, Local Nature Recovery, and Landscape Recovery. The Sustainable Farming Incentive offers 23 actions across 8 areas and the ones that are most likely to be advantageous to water quality are soil health, nutrient management, buffer strips and low input grassland. The Local Nature Recovery scheme will pay for actions that support local nature recovery and meet local environmental priorities. The scheme will encourage collaboration between farmers, helping them work together to improve their local environment. The Landscape Recovery scheme will support landscape and ecosystem recovery through long-term projects, such as restoring wilder landscapes in places where it's appropriate and peatland and salt marsh restoration.

https://www.gov.uk/government/publications/environmental-land-management-schemes-overview/environmental-land-management-scheme-overview

Plan for Water, 2023

The plan covers both the water environment, how clean it is, and water resources, how much of it we have. It brings together the significant action already taken, along with more investment, stronger regulation and tougher enforcement on those who pollute.

https://www.gov.uk/government/publications/plan-for-water-our-integrated-plan-for-delivering-clean-and-plentiful-water

South East England River Basin Management Plan

River basin management plans (RBMPs) set the legally binding locally specific environmental objectives that underpin water regulation (such as permitting) and planning activities. They provide a stable planning base for economic development. This includes investment programmes such as the Water Industry National Environment Improvement Programme (WINEP).

https://www.gov.uk/guidance/river-basin-management-plans-updated-2022

Southern Water Drainage and Waste Water Management Plan

This is a new long-term plan that sets out how the Water Company intend to maintain, extend and improve systems to ensure they are robust and resilient to 2050 and beyond. It provides transparency, robustness and clarity for their future investment decisions. Targets for the Isle of Wight include reducing the number of spills from storm overflows, separating or attenuating excess rainwater in the sewer network, Improving the resilience of networks and treatment works to prevent pollution incidents, and reducing the risk of sewer blockages.

https://www.southernwater.co.uk/dwmp/isle-of-wight-catchment

6.2 Strategic Aim 2 – Protect Water Resources

Ensure that water levels and flows are managed to meet the needs of the natural environment and need for abstraction, whilst preventing flooding of properties

Water Resources Issues and Data

Too much water

Flooding

The primary risk of flooding in the catchment is from rivers and the sea and flooding events are projected to become more frequent and more severe as the climate changes. The Environment Agency will work with the Isle of Wight Council to ensure that development primarily occurs in areas of low flood risk. However, the Medina Estuary is a prime development area and there will also be some development near floodplains, which will increase the number of people at risk of flooding.

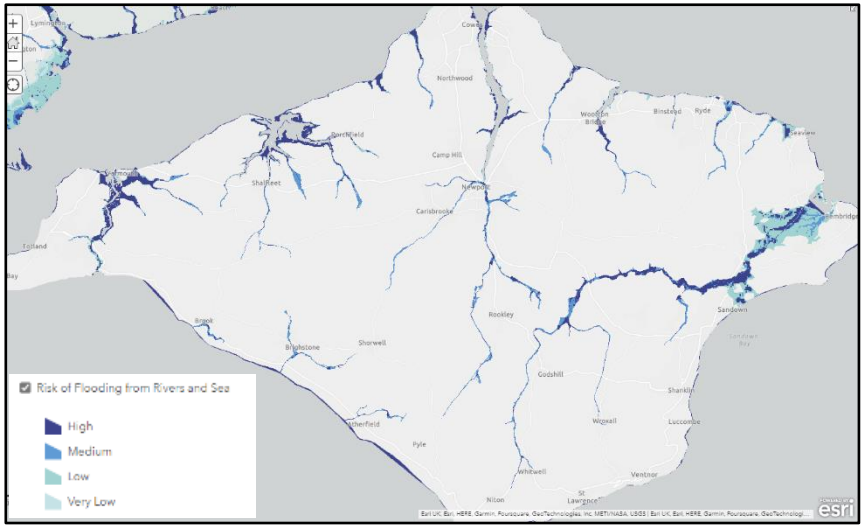


Figure 10. Risk of Flooding from Rivers and Sea [10]

Both the Eastern Yar and Medina are flashy rivers and vulnerable to flooding, this is exacerbated by poor management of river-side gardens, particularly in urban areas. Figure 10 shows the chance of flooding from rivers and/or the sea. It considers flood defences and their condition.

Furthermore, all development (no matter where located) can increase flood risk by increasing runoff and contributing to drainage problems, emphasising the importance of establishing sustainable drainage systems (SuDS) wherever appropriate. Figure 11, zoomed on Newport for illustrative purposes, shows a range of 1 in 30- to 1 in 1000 year flood events. Ryde is very vulnerable to surface run-off due to the topography of the town.

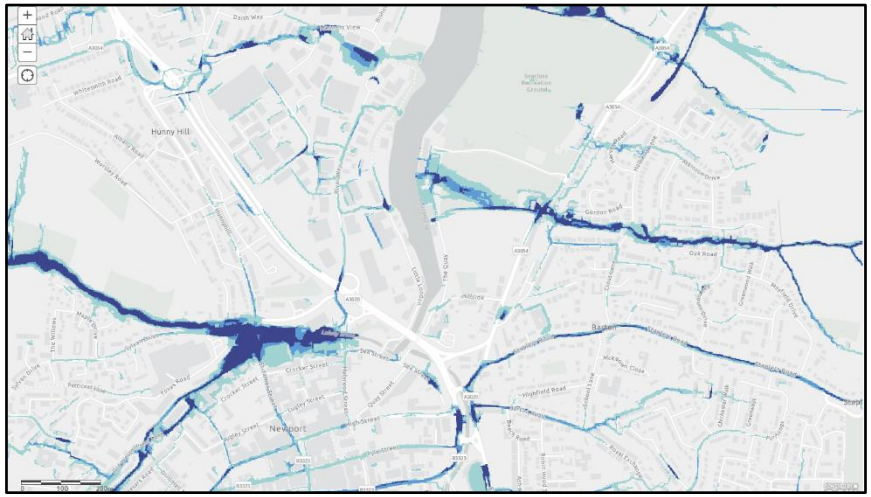


Figure 11. Risk of Flooding from Surface Water [11]

Too little water

We are seeing increasingly hot, dry conditions in the UK. 2022 was the hottest year on record for the UK with an annual average temperature of over 10°C, and this trend is projected to continue in the future. July 2022 saw the driest month on record for southern England, with the UK seeing just 56% of its average rainfall for the month. A drought was declared in August on the Island, and a hosepipe ban implemented.

Drinking Water

The Island has insufficient drinking water and is augmented from the mainland. Whilst drinking water supply falls out of the remit of the Catchment Partnership, there is a synergy in working to ensure that drinking water is not used when it doesn't need to be, and rainwater is stored where possible for later usage.

Low Flows

When there is low flow in rivers, fine sediment settles out more easily, oxygen levels decrease and the river channel becomes narrower and warmer. Reduced flow also means less dilution and higher concentrations of pollution. This increases nutrient levels in rivers and there is a higher risk of algal blooms. These changes in habitat can negatively impact both fish and invertebrate communities in our rivers.

Abstraction

Abstraction is the removal of water, permanently or temporarily, from water bodies or from groundwater. Licences are required from the Environment Agency

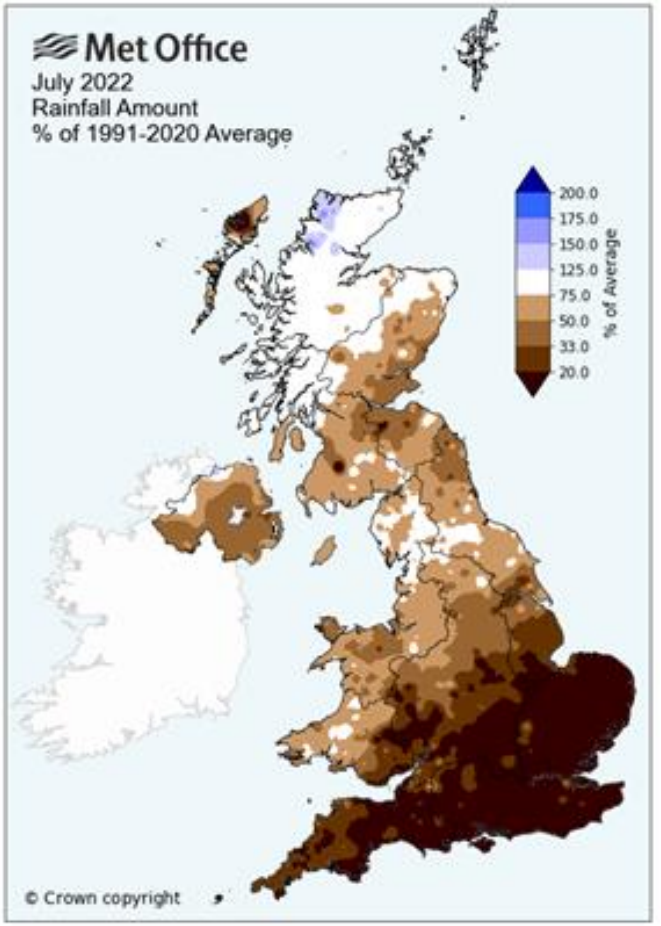


Figure 12. July 2022, Rainfall amount as % of average 1991-2020 [12]

Unsustainable abstraction from rivers and groundwater can change the natural follow regime and can exaggerate the impacts of barriers such as weirs, hinder fish passage to upstream reaches, slow the flow and increase sedimentation rates and concentrate nutrients making algal blooms become more likely.

Figure 13 shows the source and size of licensed abstractions. The Water Company abstracts from groundwater and rivers. River is piped from the River Medina to augment the flow in the Eastern Yar from which it is abstracted for drinking.

The Environment Agency monitors water resource availability as part of the Catchment Abstraction Management Strategy. A technical assessment is carried out to determine the water available in each river catchment. This is compared to the Environmental Flow Indicator (EFI) - minimum amount of water required to achieve healthy ecological status - in order to identify where resources demand from industry, agriculture or public water supply are compromising water quality and availability.

Water resource availability at different flow levels can be investigated in detail and at different flow levels to determine whether there is more or less water available than is required to meets the needs of the environment. Figure 8 models availability at low flows and for much of the Island there would not be water available for licencing.

Dredging

In natural river systems the floodplain temporarily stores, slows and absorbs floodwater. A dredge river will not hold as much water as its floodplain. It is better to allow a river to connect with its floodplain rather than dredge. This has many ecological benefits too.

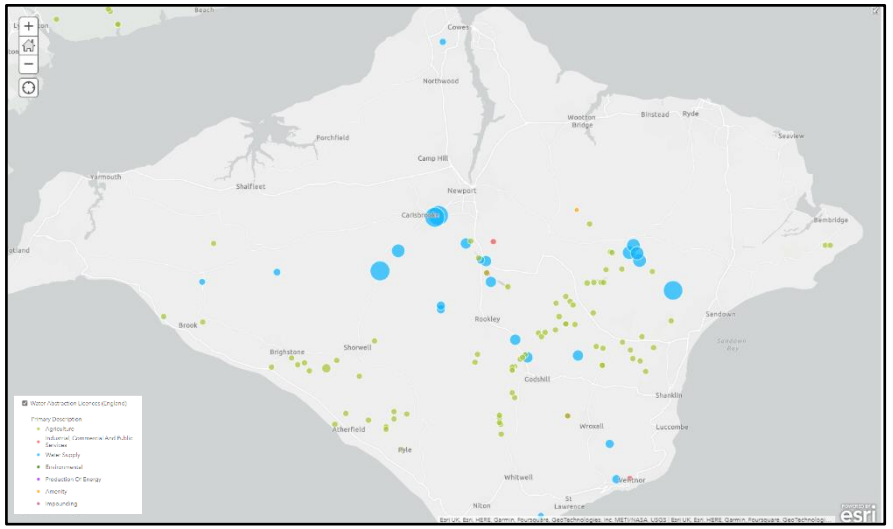


Figure 13. Water Abstraction Licenses [13]

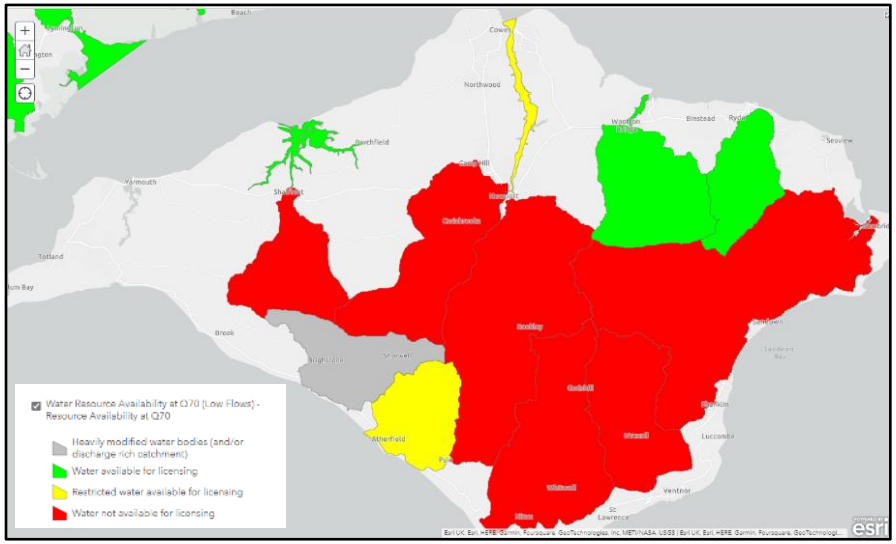


Figure 14. Water Availability at Low Flow Licenses[14]

Water Quality Opportunities and Actions

Opportunities

Availability and use of data to target actions

Local knowledge, local, regional and national monitoring results and GIS datasets now enable us to map opportunities for improvement the management of high flows on the Isle of Wight. Figure 15 is a map of the headwaters of the Monktonmead Brook catchment that identifies risk of flooding from surface waters (not rivers but indicates how improved floodplain performance might be used to slow water flow. Natural Flood Management techniques can reduce flood risk and improve river and riverine habitats.

Figure 15. Risk of surface water flooding [15]

New land management schemes

Advice and support for Catchment Sensitive Farming (CSF) and exploration of opportunities for farm reservoirs and wetlands.

New policies affecting water companies

There is an opportunity to align the Island Rivers Catchment Plan with Southern Water Catchment and Drainage Plans. In addition, there are opportunities to support Southern Water's schemes to reduce CSO spillages.

Island Plan

There is an opportunity to promote good practice such as Sustainable Drainage Systems (SUDs) within the new Island Plan.

Action 2.1 Identify, investigate and address flood risk issues within the catchment which would benefit from nature-based solutions

Action 2.2 Provide advice and support for farmers and landowners to manage their land to reduce impacts on water resources and provide opportunities for water storage

Action 2.3 Work with the Local Planning Authority, develops and landowners to minimise the impact of residential and industrial development on flood risk and water resources

Action 2.4 Work with the Water Company to identify opportunities to promote water saving and reduce quantities entering Combined Sewers

Action 2.5 Work with the community to reduce flood risk (e.g. through de-paving, rain gardens, rainwater harvesting, water butts etc)

Water Resources Policies and Regulations

The Environment Act 2021

Relevant elements include more collaborative water resources management plans, statutory drainage and sewerage management planning, planning to reduce Storm Overflows, and amendments to the water abstraction licence process.

https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

National Planning Policy Framework (NPPF) Revised 2023

Includes policy for avoiding and managing risks from flooding. Inappropriate development in flood risk areas should be avoided.

https://www.gov.uk/government/publications/national-planning-policy-framework--2

Flood and Water Management Act 2010

This identifies Lead Local Flood Authorities (Isle of Wight Council). The EA are required to develop, maintain, apply and monitor a National Flood and Coastal Erosion Risk Management Strategy.

https://www.gov.uk/guidance/flood-risk-management-information-for-flood-risk-management-authorities-asset-owners-and-local-authorities

Building Regulations – Drainage and Waste Disposal: Document H

Requires that if possible surface water is infiltrated into the ground. Less preferable is water course, and less still is surface water sewer. Combined sewers re the last resort.

Isle of Wight Strategic Flood Risk Assessment 2010

Designed to inform the Island Plan and including impacts of climate change and extreme rainfall

https://iow.gov.uk/environment-and-planning/planning/local-plan/emerging-island-planning-strategy/

Isle of Wight Local Flood Risk Management Strategy 2016

This identifies actions to reduce the risk of flooding on the Island, to plan for the effects of climate change and target resources.

https://iwc.iow.gov.uk/azservices/documents/2821-IW-Local-Flood-Risk-Management-Strategy-2016.pdf

Isle of Wight Catchment Flood Management Plan

An overview of the flood risk across the river catchment and recommended ways of managing the risk now and over the next 50 to 100 years.

https://www.gov.uk/government/publications/isle-of-wight-catchment-flood-management-plan

Isle of Wight Shoreline Management Plan 2011

This sets current shoreline management policies for the entire 168km of coastline and estuaries on the Isle of Wight. It odentifies a number of schemes to reduce flood risk at Bembridge, Shanklin, Ventnor and Yaverland.

https://www.iow.gov.uk/environment-and-planning/coastal-management/shoreline-management-plan-strategies-and-schemes/plans-and-strategies/

West Wight Coastal Flood and Erosion Risk Management Strategy 2016

The West Wight Coastal Flood and Erosion Risk Management Strategy recommends the preferred strategic approaches for managing coastal flood and erosion risk for an 84km frontage of the Isle of Wight coast running from Freshwater Bay clockwise round to Old Castle Point, East Cowes and including the key development area of the Medina Estuary.

https://iwc.iow.gov.uk/azservices/documents/2821-Full-ReportWest-Wight-Coastal-StrategyMarch-2016.pdf

South East England River Basin Management Plan

River basin management plans (RBMPs) set the legally binding locally specific environmental objectives that underpin water regulation (such as permitting) and planning activities. They provide a stable planning base for economic development. This includes investment programmes such as the Water Industry National Environment Improvement Programme (WINEP).

https://www.gov.uk/guidance/river-basin-management-plans-updated-2022

Southern Water Water Resouces Management Plan 2020-70

Details how Southern Water plan to keep taps flowing for the next 50 years.

https://www.southernwater.co.uk/our-story/water-resources-management-plan/water-resources-management-plan-2020-70

Environmental Land Management Schemes

There are 3 new schemes that will reward environmental land management, Sustainable Farming Incentive, Local Nature Recovery, and Landscape Recovery. The Sustainable Farming Incentive offers 23 actions across 8 areas and the two that are most likely to be advantageous to water resources are soli health and nutrient management. The Local Nature Recovery scheme will pay for actions that support local nature recovery and meet local environmental priorities. The scheme will encourage collaboration between farmers, helping them work together to improve their local environment. The Landscape Recovery scheme will support landscape and ecosystem recovery through long-term projects, such as restoring wilder landscapes in places where it's appropriate and peatland and salt marsh restoration.

https://www.gov.uk/government/publications/environmental-land-management-schemes-overview/environmental-land-management-scheme-overview

6.3 Strategic Aim 3 – Enhance Habitats and Protect Species

Maintain and enhance the status and distribution of riverine, riparian, wetland, estuarine and coastal species, and habitats of conservation interest

Habitats and Species Issues and Data

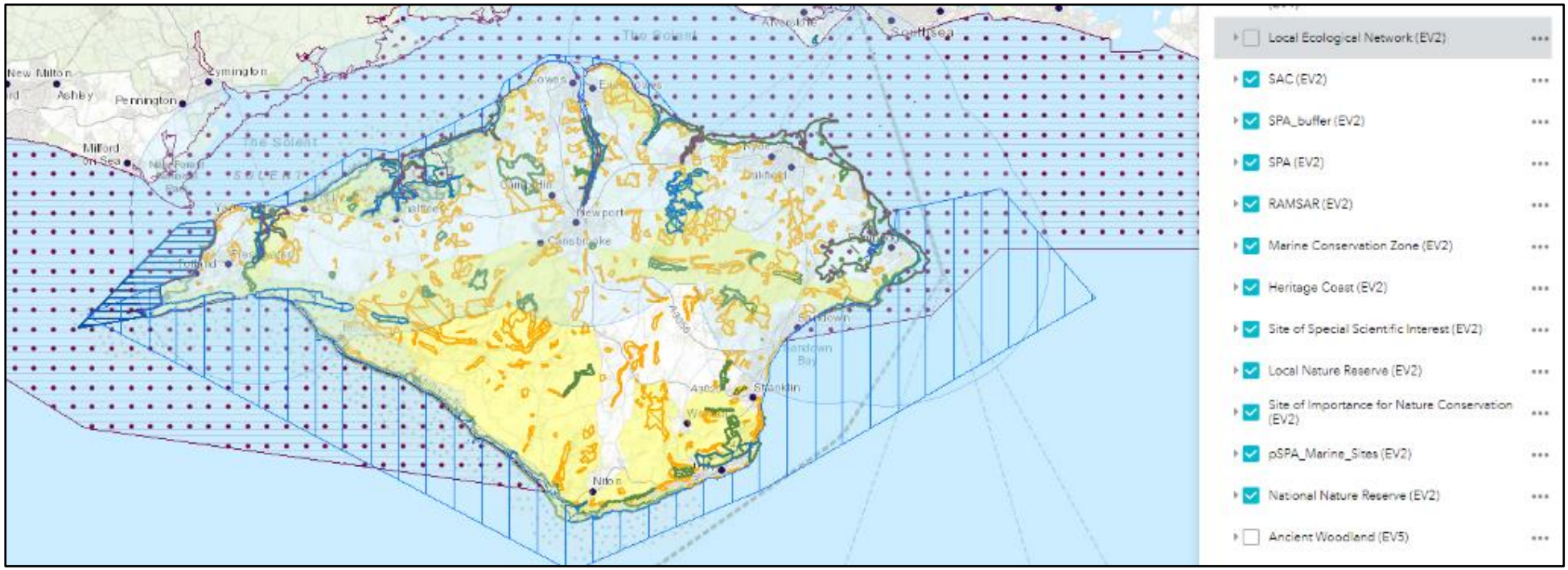


Figure 16. Selection of international, national and local environmental designations [16]

The Isle of Wight and Solent is highly designated as the above map illustrates. Our rich diversity of habitats and species has led to various conservation designations being conferred upon the Solent and sections of the catchment including Special Area of Conservation (SAC), Site of

Special Scientific Interest (SSSI), Special Protection Area, RAMSAR and National Nature Reserve. In addition, the Solent and Island are part of a Biosphere Reserve. In order of importance, internationally designated sites have the most consideration, and with regards to this plan these are the Solent and the estuaries.

The Island's water courses and the Solent have a wide diversity of habitats, which support an array of flora and fauna. This reflects the Islan's varied geology and topography following the flooding of the Solent River which has resulted in the formation of estuaries which are quite distinct in their own right.

The main species of interest include water vole, sea trout and brown trout, European oysters and a great variety of invertebrate fauna and aquatic macrophytes. In addition, the Solent and estuaries support populations of many birds, which include migratory waders, gulls, ducks, geese and terns. Kingfishers, yellow wagtails, cormorants, heron and egrets are frequently found, and bitterns can be heard in reedbeds.

Where appropriate, the Catchment Plan will help develop and take forward specific actions to improve the biodiversity of coastal, riverine, wetland and riparian habitats.

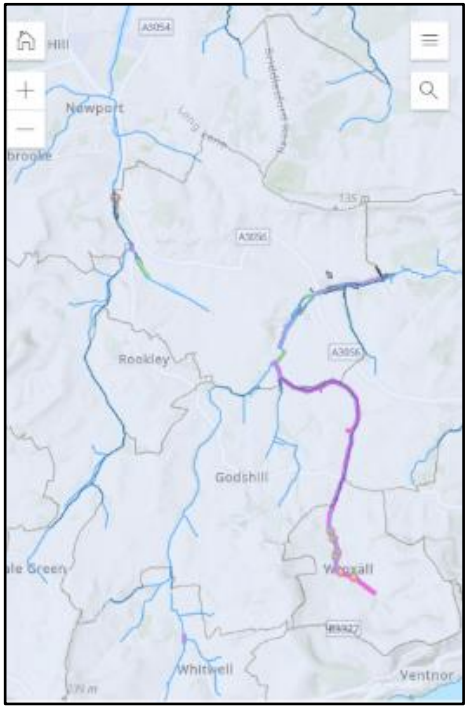


Figure 17. Screen grab of Himalayan balsam and Japanese knotweed controls 2022 [17]

Pressures

Invasive Non-Native Species (INNS)

Invasive non-native or 'alien' species are a global problem that present a threat to biodiversity and conservation efforts. On the rivers the main issues are currently with garden escapee plants introduced by Victorians, such as Himalayan balsam, Japanese knotweed and crassula helmsii, although increased recreation poses an additional threat. Increases in shipping, recreational boating, offshore energy and aquaculture activity have led to an increase in global introductions of marine aliens, and the Solent is a hotspot. The threat is not just to native species that are outcompeted, for example Pacific oysters threaten our native fisheries and also could form reefs that would stop winter waders from foraging.

Creeping Water Primrose occurs and is subject to national eradication programme by the Environment Agency. The Isle of Wight does have an absence of European mink, one of the main reason for the catastrophic fall in its population elsewhere.

Habitat fragmentation

Key to the protection of species is the protection of habitats. Urban development threatens riverine, estuarine and coastal habitats alike. Rising sea-levels and erosion leads to coastal squeeze, where habitats like saltmarsh disappear as they have nowhere to retreat because of development. On the Island's freshwater water courses lack of appropriate management has led to an excess of scrub and brambles which has led to the decline of water voles. Whilst parts of the Island are strongholds, the mammal has disappeared from the Island western and north east water courses. Figure 18 is constructed by using aerial imagery of salt marsh in 2006 and 2019 to indicate where it is being lost.

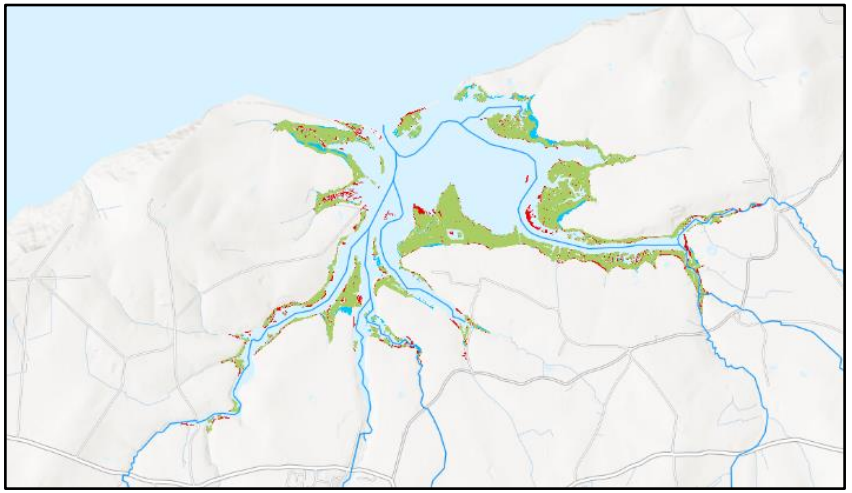


Figure 18. Saltmarsh Loss, Newtown Estuary [18]

Increased nutrients

Increased nutrient levels carried along the Island's water courses and caused by fertilisers, wastewater and sewage discharges, result in the excessive growth of green algae on the rivers and intertidal mudflats, saltmarshes and seagrass meadows covering thousands of hectares. The process, known as eutrophication, causes ecological, economic and human health issues. Kelp and seagrass beds, which could be great sequestrators of carbon, have been devasted in the Solent.

Habitats and Species Opportunities and Actions

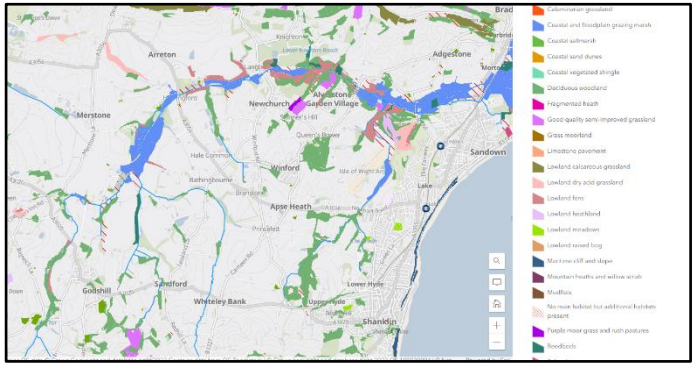


Figure 19. Priority Habitat Inventory (South) [19]

Opportunities

Availability and use of data to target actions

Local knowledge, local, regional and national monitoring results and GIS datasets now enable us to map opportunities for improvement and connection of habitats across the Island. Figure 19 is a section of the Priority Habitat Inventory for the South of England. Creating new habitat adjacent to existing habitat offers enhanced benefits rather than habitat creation in isolation. Here the East Yar illustrates how river valleys are already corridors of priority habitat.

New land management schemes

The New Environmental Land Management Schemes (ELMs) will include a Local Nature Recovery Scheme which will pay for actions that support local nature recovery and the Landscape Recovery Scheme supports landscape and ecosystem recovery through long-term projects such as restoring wilder landscapes and peatland and saltmarsh restoration.

New legislation affecting developers

With the Solent being as a Key Site, there is a need for mitigation from both Island and Mainland developments.

Action 3.1 Identify, create and protect a network of sites with the potential to lead to recovery of nature along riverine and coastal corridors

Action 3.2 Provide advice and support for farmers, landowners and developers to identify mitigation along the Island's rivers and wetlands.

Action 3.3 Monitor and control the introduction and establishment of non-native riverine and riparian species and where appropriate control or eradicate established populations

Action 3.4 Develop and deliver a number of large or landscape – scale habitat improvements

Action 3.5 Work with riparian landowners to halt the decline in the Island's water vole populations

Habitats and Species Policies and Regulations

The Environment Act 2021

This sets government targets to halt the decline in species abundance, protect 30% of UK land, restore and create habitats and reduce the risk of species extinction. Local Authorities are required to consider Local Nature Recovery Strategies, Species Conservation Strategies and Protected Site Strategies. The Act sets out policies to secure clean, healthy, productive and biologically diverse seas and oceans including sustainable fisheries and good environmental status. Key commitments that are protecting and growing natural capital, embedding a 'net environmental gain' principle for development to deliver environmental improvements and expanding the net gain approaches used for biodiversity to include wider natural capital benefits, such as flood protection, recreation and improved water and air quality.

https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

Levelling Up and Regeneration Bill (not yet enacted)

This tackles the issue of housing and development being a significant source of nutrient pollution to key habitats sites, including the Solent. In addition, developers, environmental organisations, local authorities and Natural England have begun to invest in mitigations (such as nitrate credits) so that new housing can be consented in the relevant area. Island land that has drainage to the Solent can be used to offset mainland development.

https://www.gov.uk/government/collections/levelling-up-and-regeneration-bill

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Habitats Directive identifies 189 habitat types and 788 species protected by Special Areas of Conservation (SAC). These areas are identified as making a significant contribution to conserving those listed habitats/species. Special Protection Areas (SPAs) are protected areas for birds under the Wild Birds Directive. There are 275 in the UK. Any plan likely to affect these has to have an assessment under the Habitats Directive, and must not have adverse effects.

https://www.legislation.gov.uk/uksi/2017/1012/2020-12-31

The Wildlife and Countryside Act 1981 (as amended)

All birds and a variety of other plant and animal species are protected under this Act. The Act also includes sections relating to Sites of Scientific Interest, National Parks and countryside access and rights of way. Section 14 of the Wildlife and Countryside Act 1981 prevents the release into the wild of certain plants and animals which may cause ecological, environmental, or socio-economic harm.

https://www.legislation.gov.uk/ukpga/1981/69/contents

UK Marine Strategy

The UK Marine Strategy provides the framework for delivering marine policy at the UK level and sets out how to achieve the vision of clean, healthy, safe, productive and biologically diverse oceans and seas. It consists of a simple 3-stage framework for achieving good environmental status (GES). Achieving GES is about protecting the marine environment, preventing its deterioration and restoring it where practical, while allowing sustainable use of marine resources. The strategy covers 11 elements including: biodiversity; non-indigenous species; commercial fish; food webs; eutrophication; sea-floor integrity; hydrographical conditions; contaminants; contaminants in seafood; marine litter and underwater noise.

https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status

The Water Environment Regulations and South East England River Basin Management Plan

River basin management plans (RBMPs) set the legally binding locally specific environmental objectives that underpin water regulation (such as permitting) and planning activities. They provide a stable planning base for economic development. This includes investment programmes such as the Water Industry National Environment Improvement Programme (WINEP).

https://www.gov.uk/guidance/river-basin-management-plans-updated-2022

England Peat Action Plan (Policy Paper)

The England Peat Action Plan sets out the government's long-term vision for the management, protection and restoration of our peatlands, so that they provide a wide range of benefits to wildlife, people and the planet. To implement this vision, the plan includes the announcement of the Nature for Climate Peatland Grant Scheme through the Nature for Climate Fund, a commitment to end the use of peat in the amateur horticulture sector, a new spatial map of England's peatland.

https://www.gov.uk/government/publications/england-peat-action-plan

The Invasive Species Non-Native (Alien) Animal and Plant Rules 2020

These are species whose potential adverse impacts are such that concerted action is required to manage their impact. Several of these species are present on the Island and are associated with riverine or marine environments. There are restrictions about allowing to escape to the wild and buying and selling. Some, such as Creeping Water Primrose have an 'eradication' policy.

https://www.gov.uk/guidance/invasive-non-native-alien-animal-species-rules-in-england-and-wales

https://www.gov.uk/guidance/invasive-non-native-alien-plant-species-rules-in-england-and-wales

Environmental Land Management Schemes

There are 3 new schemes that will reward environmental land management, Sustainable Farming Incentive, Local Nature Recovery, and Landscape Recovery. The Sustainable Farming Incentive offers 23 actions across 8 areas and the ones that are most likely to be advantageous to wetland habitat and species restoration are farmland wildlife and low input grassland. The Local Nature Recovery scheme will pay for actions that support local nature recovery and meet local environmental priorities. The scheme will encourage collaboration between farmers, helping them work together to improve their local environment. The Landscape Recovery scheme will support landscape and ecosystem recovery through long-term projects, such as restoring wilder landscapes in places where it's appropriate and peatland and salt marsh restoration.

https://www.gov.uk/government/publications/environmental-land-management-schemes-overview/environmental-land-management-scheme-overview

South Marine Plan

Marine plans are developed by the Marine Management Organisation. They set out priorities and directions for future development within the plan area, inform sustainable use of marine resources, help marine users understand the best locations for their activities, including where new developments may be appropriate. The Solent lies within the South Marine Plan area.

https://www.gov.uk/government/collections/south-marine-plans

Solent Recreation Mitigation Strategy

Three Special Protection Areas (SPAs) have been designated for the tens of thousands of birds that come to the Solent coast each winter. Bird Aware Solent seeks to lessen potential impacts from increased local housing development near the Solent coast. The initiative is run by the Solent Recreation Mitigation Partnership and affects all new residential development within 5.6km of the SPAs. Developer contributions from this support Bird Aware Solent.

https://iow.gov.uk/environment-and-planning/planning/ecology/solent-recreation-mitigation-strategy/

Isle of Wight Invasive Alien Species Action Plan 2020

This includes sections on education, pathway prevention, species we want to keep out, or to control, and details who is doing what on the Island.

https://islandrivers.org.uk/isle-of-wight-ias-action-plan-feb2020/

Isle of Wight Local Nature Recovery Strategy (underway)

Introduced in the Environment Act 2021 as detailed above. They will be developed by responsible authorities (Isle of Wight Council and Natural England) and will consist of a statement of biodiversity priorities for the strategy area, and a local habitat map for the strategy area. This will supersede the current Biodiversity Action Plan.

https://iow.gov.uk/environment-and-planning/planning/ecology/local-nature-recovery-strategy/

Isle of Wight Wetlands Habitat Action Plan (revised 2020)

This action plan embraces several wetland habitats that are identified as individual habitats types within Section 41 of the Natural Environment and Rural Communities Act 2006. This includes reedbeds, coastal and floodplain grazing marsh, fens, ponds and rivers. Species included are great crested newt and water vole. (Only 2011 revision online).

https://www.wildonwight.co.uk/publications/haps/Wetlands%20HAP_revised%202011.pdf

6.4 Strategic Aim 4 – Tackle Damage Caused by Physical Modifications

Restore modified water courses and ensure all river engineering operations respect the physical, ecological and aesthetic integrity of the river system

Physical modification Issues and Data

Nearly every watercourse on the Island has been modified, often these changes are centuries old. Early efforts to manage and control the river channels were driven by the need for waterpower for milling, for the improvement of agricultural land and for the creation of railways and roads. More recently, river management issues such as bank erosion, flood alleviation and bridge, building and utility protection have been the focus.

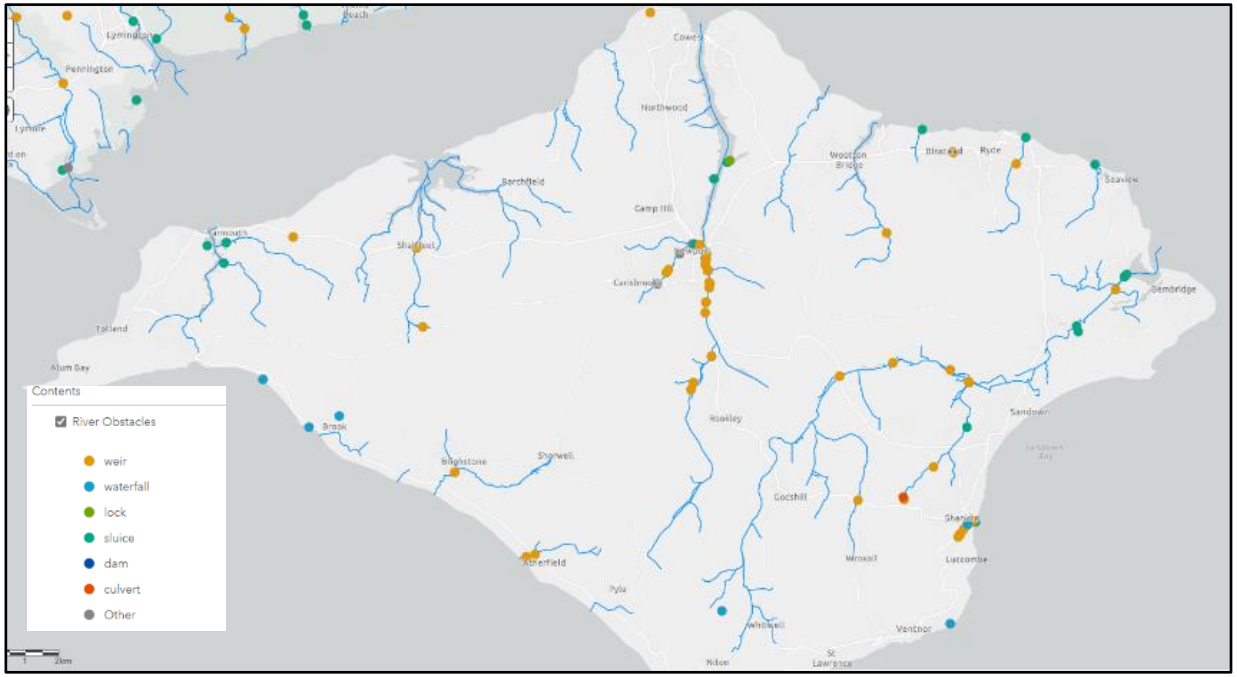


Figure 20. River Obstacles [20]

Many of the manmade obstacles perform important functions - for example dams, sluices, weirs and road culverts - but they can also cause problems such as restricting the movement of eels and fish, damaging riverbanks and beds, and posing a hazard to people using boats, canoes and kayaks. Figure 20 is from citizen science data and vastly under-estimates the barriers on the Island.

Modifications are not restricted to obstacles. Many of the Island's water courses have been artificially straightened, deepened or their course has been altered. In many places dredging has created banks that disconnect rivers from their flood plains. As well as being ecologically detrimental, this limits water storage and once a river does top its banks, it is very difficult for the water to re-enter the channel. Both exacerbate flooding.

Opportunities

Availability and use of data to target actions, interest in citizen science

Local knowledge, local, regional and national monitoring results and GIS datasets now enable us to map opportunities for the removal of obstacles and re-naturalisation of water courses across the Island. However local knowledge shows that there are many obstacles etc are not recorded and there is a role for local people in adding to our knowledge. Figure 21 illustrates the Environment Agency's priorities for removal of eel obstructions.

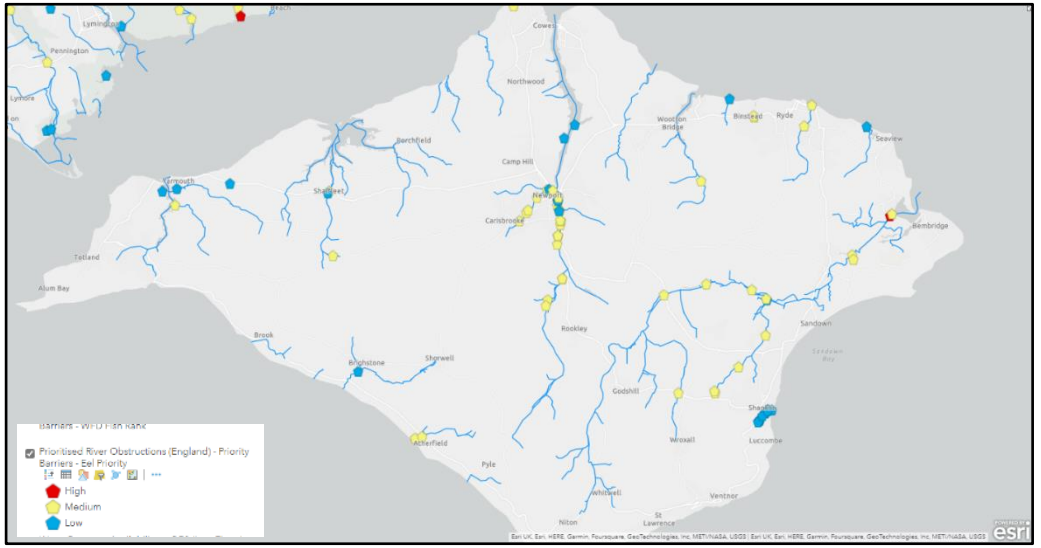


Figure 21. Prioritised River Obstructions (England): Eel Priority [21]

New land management schemes

The New Environmental Land Management Schemes (ELMs) will include a Local Nature Recovery Scheme which will pay for actions that support local nature recovery and the Landscape Recovery Scheme supports landscape and ecosystem recovery through long-term projects such as increasing water storage, restoring wilder landscapes and stage zero river restoration.

New legislation affecting developers

With the Solent being as a Key Site, there is a need for mitigation from both Island and Mainland developments.

Action 4.1	**Update records to record all know river obstacles and in order to prioritise removal or mitigation**
Action 4.2	**Develop and deliver actions to remove river obstacles where desirable**
Action 4.3	**Develop and deliver actions to reconnect river to floodplain where desirable**
Action 4.4	**Develop and deliver actions for Stage Zero restoration of headwaters where desirable**
Action 4.5	**Work with developers and regulatory bodies to ensure that river engineering processes are as natural as possible**

Physical Modifications Policy and Regulations

The Environment Act 2021

This sets government targets to halt the decline in species abundance, protect 30% of UK land, restore and create habitats and reduce the risk of species extinction. Local Authorities are required to consider Local Nature Recovery Strategies, Species Conservation Strategies and Protected Site Strategies. The Act sets out policies to give particular focus to the conservation, restoration and enhancement of species and habitats when deciding the actions to take under the biodiversity objective.

https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Habitats Directive identifies 189 habitat types and 788 species protected by Special Areas of Conservation (SAC). These areas are identified as making a significant contribution to conserving those listed habitats/species. Special Protection Areas (SPAs) are protected areas for birds under the Wild Birds Directive. There are 275 in the UK. Any plan likely to affect these has to have an assessment under the Habitats Directive, and must not have adverse effects.

https://www.legislation.gov.uk/uksi/2017/1012/2020-12-31

The Water Environment Regulations and South East England River Basin Management Plan

River basin management plans (RBMPs) set the legally binding locally specific environmental objectives that underpin water regulation (such as permitting) and planning activities. The Environment Agency is responsible for the management of freshwater and migratory fisheries in England. This responsibility extends 6 nautical miles out to sea. The Environment Agency has a specific duty to maintain, improve and develop fisheries, including both migratory and freshwater fish. Specifically, the Environment Agency is required to maintain, improve and develop salmon, trout, freshwater fish, lampreys, smelt and eel fisheries.

https://www.gov.uk/guidance/s 2009-basin-management-plans-updated-2022

The Eels (England and Wales) Regulation

The Eels Regulations require the protection of eel at water intakes and make provision for eel passage at obstructions.

https://www.legislation.gov.uk/uksi/2009/3344/made

Environment Agency Flood Risk Activities Permits

These are required for the erecting or removal of structures in, over or under a main river, such as a culverts, outfalls, weirs, dams, pipe crossings, erosion protection, scaffolding or bridges. This applies to rivers over which the EA have authority.

https://www.gov.uk/guidance/flood-risk-activities-environmental-permits

Ordinary Watercourse Consents

These are required for any activity that is likely to impact the flow or storage of water, or that culvert water. This applies to water courses over which the Isle of Wight Council have authority.

https://www.iow.gov.uk/environment-and-planning/planning/flood-risk-and-watercourse-consents/ordinary-watercourses-and-consent/

Alverstone Weir

6.5 Strategic Aim 5 Climate Resilience

Offer solutions that increase the Island's resilience to climate change and offer opportunities to increase carbon storage

Climate Resilience Issues and Data

Climate change affects the Isle of Wight's water courses in a number of ways: Extreme rainfall events, including unseasonal heavy rainfall in summer, already causes flash flooding and also increases soil erosion.

Increasing number and length of spells of prolonged dry weather, and stresses on supply and demand, could lead to a greater risk of water shortages. The Island will be vulnerable to the arrival of new pests, diseases and invasive non-native species, and to fires in forests, heaths and grasslands.

Lower water levels and unnatural flow conditions in rivers threaten the viability of habitats and capacity of wildlife to thrive. Increased water temperatures will affect the ecology of the river.

Some freshwater wetlands may be at risk of saline ingress and rising sea levels can cause coastal squeeze where there is no room for habitats to retreat in land.

Habitat	Offset per HA per year	Total footprint	15% to offset	Hectares needed
Council				
Mixed native broadleaved woodland (30 years)[123]	14.5	4,164	624.6	43.1
Mixed native broadleaved woodland (100 years)[124]	7	4,164	624.6	89.2
Hedgerow	1.99	4,164	624.6	313.9
Traditional orchard with low intensity management	2.89	4,164	624.6	216.1
Intensive orchard	5.99	4,164	624.6	104.3
Island				
Mixed native broadleaved woodland (30 years)[123]	14.5	558,200	83,730	5,774.5
Mixed native broadleaved woodland (100 years)[124]	7	558,200	83,730	11,961.4
Traditional orchard with low intensity management	2.89	558,200	83,730	28,972.3
Intensive orchard	5.99	558,200	83,730	13,978.3

Figure 22. Offset from types of land area needed for offset on the Isle of Wight [22]

Land-use also has a role in climate mitigation and in carbon capture. Some land uses have greater resilience and also grater opportunities. Figure 22 is an offset table taken from the Island's Mission Zero strategy and looks at the offset opportunity per hectare of different land uses. It does not include coastal habitats, and salt marsh and sea grass beds do also offer potential. Whilst table concentrates on the advantage of tree planting, this is not the most appropriate land use within the wetlands.

Work to increase the resilience of our catchment will have multi-benefits also flood risk, creating and maintaining water and wetland habitats that support the associated ecology and encouraging everyone, including the public, to work together across the catchment.

Climate Resilience Opportunities and Actions

Availability and use of data to target actions, interest in citizen science

Local knowledge, local, regional and national monitoring results and GIS datasets can enable us to map opportunities for the removal of obstacles and re-naturalisation of water courses across the Island. Some projects such as sea grass seeding can involve local volunteers.

New land management schemes

The New Environmental Land Management Schemes (ELMs) will include a Local Nature Recovery Scheme which will pay for actions that support local nature recovery and the Landscape Recovery Scheme supports landscape and ecosystem recovery through long-term projects such as increasing water storage on land, protecting peat bogs, saltmarsh protection and enhancement, restoring wilder landscapes and stage zero river restoration.

New legislation affecting developers

With the Solent being as a Key Site, there is a need for mitigation from both Island and Mainland developments.

Action 5.1 Map data to ascertain which sites offer the best opportunities, and use this to inform action plan and delivery
Action 5.2 Develop and deliver projects that offer better management of flood risk, particularly through natural flood management processes wherever possible
Action 5.3 Work with landowners, businesses and the community to increase water storage capabilities
Action 5.4 Develop and deliver projects to create and maintain water and wetland habitats, coastal and marine habitats that support the associated ecology, create climate resilience and best offset the Island's carbon footprint

Climate Resilience Policy and Regulations

The Environment Act 2021

Local Authorities are required to consider Local Nature Recovery Strategies, Species Conservation Strategies and Protected Site Strategies. The Act sets out policies to secure clean, healthy, productive and biologically diverse seas and oceans including sustainable fisheries and good environmental status. Key commitments that are protecting and growing natural capital, embedding a 'net environmental gain' principle for development to deliver environmental improvements and expanding the net gain approaches used for biodiversity to include wider natural capital benefits, such as flood protection, recreation and improved water and air quality.

https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

Levelling Up and Regeneration Bill (not yet enacted)

This tackles the issue of housing and development being a significant source of nutrient pollution to key habitats sites, including the Solent. In addition, developers, environmental organisations, local authorities and Natural England have begun to invest in mitigations (such as nitrate credits) so that new housing can be consented in the relevant area. Island land that has drainage to the Solent can be used to offset mainland development.

https://www.gov.uk/government/collections/levelling-up-and-regeneration-bill

The Climate Change Act 2008

This sets up a framework for the UK to achieve its long-term goals of reducing greenhouse gas emissions and to ensure steps are taken towards adapting to the impact of climate change. It introduced legally binding carbon budgets with the aim of achieving net zero by 2050.

https://www.legislation.gov.uk/ukpga/2008/27/contents

National Adaptation Programme

Sets out a strategic five-year plan to boost resilience and protect people, homes, businesses and our cultural heritage against climate change risks such as flooding, drought and heatwaves. We are currently in NAP3.

https://www.gov.uk/government/publications/third-national-adaptation-programme-nap3

Environmental Land Management Schemes

There are 3 new schemes that will reward environmental land management, Sustainable Farming Incentive, Local Nature Recovery, and Landscape Recovery. The Sustainable Farming Incentive offers 23 actions across 8 areas and the ones that are most likely to be advantageous climate resiience are soil heath and low input grassland. The Local Nature Recovery scheme will pay for actions that support local nature recovery and meet local environmental priorities. The scheme will encourage collaboration between farmers, helping them work together to improve their local environment. The Landscape Recovery scheme will support landscape and ecosystem recovery through long-term projects, such as restoring wilder landscapes in places where it's appropriate and peatland and salt marsh restoration.

https://www.gov.uk/government/publications/environmental-land-management-schemes-overview/environmental-land-management-scheme-overview

Isle of Wight Mission Zero Strategy

The Strategy fand Action Plan follows on from the Isle of Wight Council declaring a Climate Emergency in 2019 and sets out three target dates, namely to be net-carbon zero as a council by 2030, across our school estate by 2035 and as an Island by 2040. These include carbon off-setting targets to be achieved by land management.

https://togetherformissionzero.co.uk/mission-zero/

Isle of Wight Climate Adaptation Report

This details the impact of climate change on the Island and suggested adaptation actions including the role of land in providing mitigation opportunities.

https://www.iow.gov.uk/azservices/documents/Isle%20of%20Wight%20Climate%20Adaptation%20Report%202011.pdf

6.6 Strategic Aim 6 – Engaging People

Encourage the community to engage with our rivers for health and leisure by promoting learning and volunteering, protecting and celebrating the culture and heritage of our rivers, wetlands and coasts and by supporting the sustainable development of coastal and river-related tourism and recreation

Engaging People Issues and Data

The English Indices of Deprivation 2019 use 39 separate indicators, organised across seven distinct domains of deprivation (income; employment; education, skills and training; health and disability; crime; barriers to housing and services; and living environment deprivation) which can be combined, using appropriate weights, to calculate the Index of Multiple Deprivation 2019 (IMD 2019). This is an overall measure of multiple deprivation experienced by people living in an area and is calculated for every Lower layer Super Output Area (LSOA) in England. The IMD 2019 can be used to rank every LSOA in England according to their relative level of deprivation.

On this map, the darker blue, is the greater the degree of deprivation. The most deprived are in Newport and Ryde. The Isle of Wight is ranked 80 out of 317 (1 being most deprived) Local Authorities for the average rank. 12 areas are in the top 20% most deprived in England.

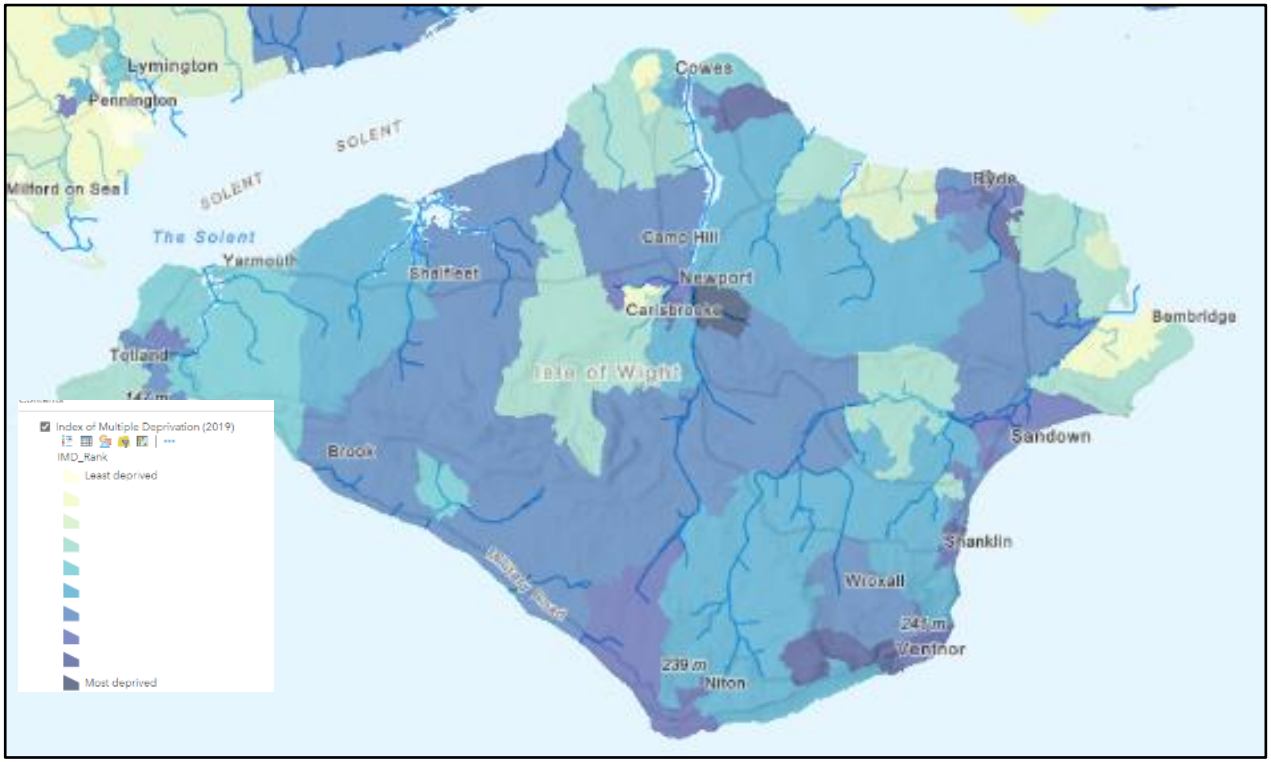


Figure 23. Relative overall measure of multiple deprivation (2019) [23]

Health and Well Being

The Isle of Wight has a population of around 142,300 individuals, of which 28.7% are aged 65 years and over. This is older than the England average (18.5%). Healthy life expectancy is significantly lower than the national average and has fallen in recent years, most markedly in women. Inequalities in healthy life expectancy are evident with those living in most deprived areas of the Isle of Wight living a smaller proportion of their lives in good health. The Global Burden of Disease study has identified the highest risk factors driving lower quality of life due to disease on the Isle of Wight as high body-mass index, tobacco, occupational risks and alcohol use. The highest causes of years lived with disability in the area are musculoskeletal disorders (22.8%) and mental disorders (17.0%). Isle of Wight residents reported slightly lower life satisfaction and lower happiness than the national average[24].

Healthy Lifestyles

Life expectancy for men and women on the Isle of Wight is increasing. Although we are living longer lives, we are not living healthier lives. Both men and women spend around 20 years at the end of their lives in poor health. Poor health does not affect us all equally. People who are more deprived or more vulnerable have shorter lives and shorter healthy lives. Much of this poor health is avoidable. Smoking, poor diet, lack of physical activity and excessive alcohol consumption all contribute towards avoidable illness and death. We need to prevent avoidable illness and death by enabling people to make a change now to improve their health for the future. We know that we need to appropriately target our support towards those who are more likely to experience ill-health.

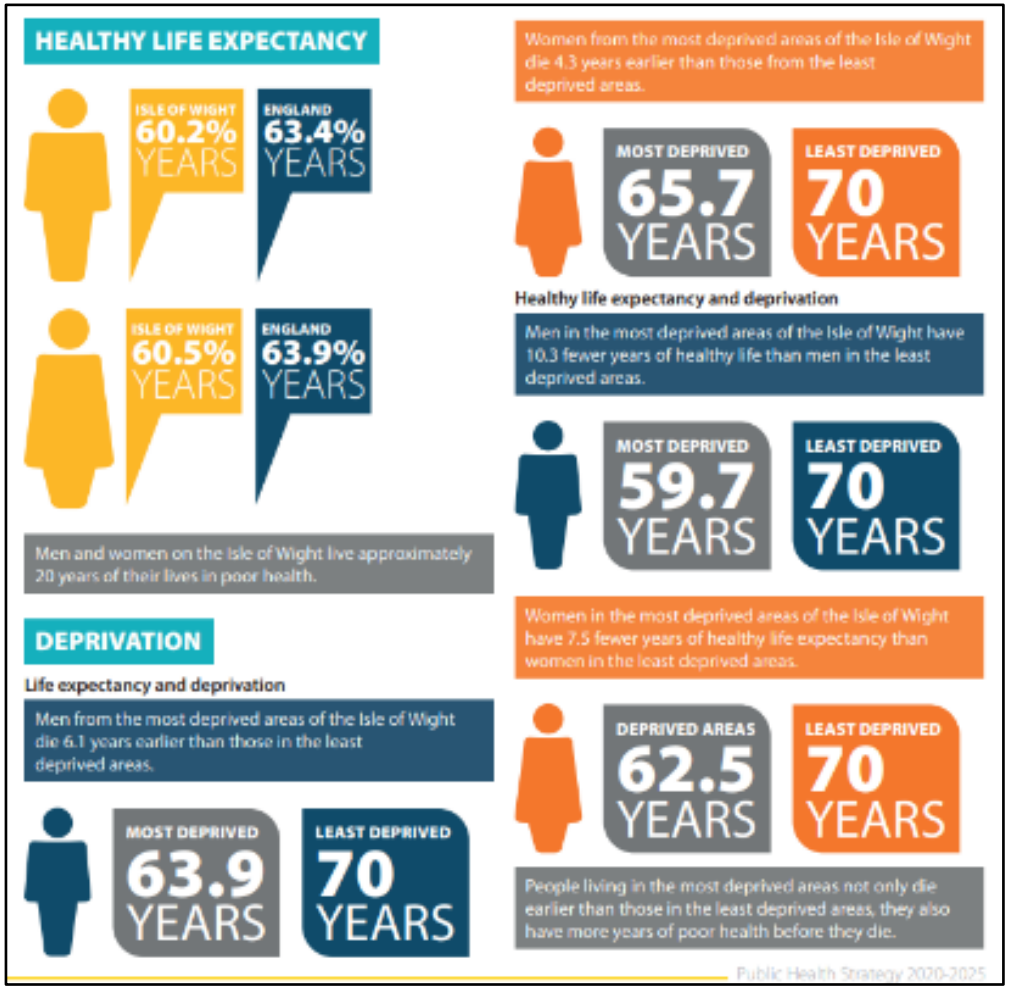


Figure 24. Healthy Life Expectancy[25]

Demographics

People on the Isle of Wight are living longer, and our population is growing older. There is also an increase in the ageing population as older people move to the Island to retire. The Isle of Wight has one of the oldest populations in England. Currently, more than one in four people in the Isle of Wight are aged over 65 years. By 2028, almost one in three people will be over 65 years. There are relatively fewer children and young people on the Island. Children and young people aged between 0-19 years, comprise 19.5 per cent of the population on the Isle of Wight. In England, 23.7 per cent of the population is aged between 0-19 years. Younger people tend to leave the island to pursue educational and employment opportunities[26].

Mental Wellbeing

On the Isle of Wight, 16.5% of the population aged 16 years and over have a mental health disorder, of which depression is the most common diagnosis.[27]

Access to green and blue space

Figure 25 identifies how much green/blue space (areas with greenery and/or inland water) people have to opportunity to experience within each MSOA. It includes land that the public can directly access and land they are able to walk/cycle/etc. immediately adjacent to, including CRoW Open Access Land,, playing fields, parks, Local and National Nature Reserves, inland and tidal water, woodland, foreshore, countryside/fields and Public Rights of Way but not beaches. It indicates that Cowes, East Cowes Ryde and to a lesser extent Shanklin are poorly served.

Figure 25. Areas of accessible green and blue space per 1000 population[28]

Engaging People Opportunities and Actions

Opportunities.

Access. The towns of Newport, Ryde, Cowes and Freshwater all have water-courses flowing through, as do numerous smaller towns and villages. The Island's rivers and streams do come into their own when it comes to themed trails, The Yar River Trail, Wroxall Stream Trail, Scotchells Brook Trail, Western Yar Walk, Medina Estuary Walk , Mill Trail, Barnsley Trail and Boat Trail to name but a few. In many places the main rivers are adjacent to cycle tracks enabling access for a greater number of people. 'Access' is not solely physical, and barriers are not just spatial.

There is a heightened awareness with regards to Water Companies and water supply, waste-water disposal and flooding. This raised profile is an opportunity to engage people in conversation, utilise citizen science and encourage community action.

A YouGov poll found that 10 per cent of adults in Great Britain – amounting to 5.1 million people – have either cancelled or are considering cancelling a gym or other sports or exercise membership "due to the rising cost of living". It also found Free outdoor exercise in parks, woodland, and other natural spaces will become more important to 70 per cent of the adults "as the cost of living rises"[29]. Many of the activities that can take place around the Island's rivers and estuaries are low cost or free of charge.

There is increased awareness of, and studies that show, the importance of local nature to people's mental and physical health.

Action 6.1	**Support activities which increase engagement whether physical or virtual with the Islands rivers, estuaries and the Solent**
Action 6.2	**Support opportunities to enhance access to the Island's water courses for people with mobility, sensory or neural diversity issues**
Action 6.3	**Support tourism and recreation activities which promote good practice, deliver multiple benefits and do not come into conflict with other aims and objectives set out in this document**
Action 6.4	**Promote and establish activities based on the built, natural and cultural heritage of the Island's water courses and the Solent**
Action 6.5	**Promote volunteering and citizen science opportunities connected with the water environment**
Action 6.6	**Develop and deliver educational resources linking the Island's water courses with the National Curriculum**

Engaging People Policies and Legislation

The Mental Health Strategy for England

This strategy sets out how the government, working with all sectors of the community and taking a life course approach, will improve the mental health and wellbeing of the population and keep people well.

https://www.gov.uk/government/publications/the-mental-health-strategy-for-england

Isle of Wight Public Health Strategy 2020-2025

This strategy sets out the ambition to improve the health and wellbeing of people living on the Isle of Wight. This strategy focuses on everyone living on the Island being able to have the same opportunities to live in good health. It creates a shared vision for how we can make health improvements happen over the next 5 years (

https://iwc.iow.gov.uk/documentlibrary/view/iw-public-health-strategy-20-251

Isle of Wight Health and Wellbeing Strategy 2022-2027

The Health and Wellbeing Strategy sets out the strategy for improving the health of the Island population, based on the needs identified in the Joint Strategic Needs Assessment.

https://iwc.iow.gov.uk/documentlibrary/view/isle-of-wight-health-and-wellbeing-strategy-2022-27

Southern Water Drainage and Waste Water Management Plan

This is a new long-term plan that sets out how the Water Company intend to maintain, extend and improve systems to ensure they are robust and resilient to 2050 and beyond. It provides transparency, robustness and clarity for their future investment decisions. Targets for the Isle of Wight include reducing the risk of sewer blockages to include actions targeting customer campaigns to reduce the amount of FOG (fats, oils and grease) and unflushables in the sewer network.

https://www.southernwater.co.uk/dwmp/isle-of-wight-catchment

6.7 Summary of Aims and Action

1. Protect and Enhance Water Quality

1.1 Identify, investigate and address specific water quality issues within the catchment

1.2 Provide advice and support for farmers and rural landowners to manage their land to reduce impacts on water quality

1.3 Work with the Local Planning Authority, develops and landowners to minimise the impact of residential and industrial development on water quality

1.4 Work with the Water Company to minimise CSO spillage into the Island's water courses and Solent

2. Protect Water Resources

2.1 Identify, investigate and address flood risk issues within the catchment which would benefit from nature-based solutions

2.2 Provide advice and support for farmers and landowners to manage their land to reduce impacts on water resources and provide opportunities for water storage

2.3 Work with the Local Planning Authority, develops and landowners to minimise the impact of residential and industrial development on flood risk and water resources

2.4 Work with the Water Company to identify opportunities to promote water saving and reduce quantities entering Combined Sewers

2.5 Work with the community to reduce flood risk (e.g. through de-paving, rain gardens, rainwater harvesting, water butts etc)

3. Enhance Habitats and Protect Species

3.1 Identify, create and protect a network of sites with the potential to lead to recovery of nature along riverine and coastal corridors

3.2 Provide advice and support for farmers, landowners and developers to identify mitigation along the Island's rivers and wetlands.

3.3 Monitor and control the introduction and establishment of non-native riverine and riparian species and where appropriate control or eradicate established populations

3.4 Develop and deliver a number of large or landscape – scale habitat improvements

3.5 Work with riparian landowners to halt the decline in the Island's water vole populations

4. Tackle Damage Caused by Physical Modifications

4.1 Update records to record all know river obstacles and in order to prioritise removal or mitigation

4.2 Develop and deliver actions to remove river obstacles where desirable

4.3 Develop and deliver actions to reconnect river to floodplain where desirable

4.4 Develop and deliver actions for Stage Zero restoration of headwaters where desirable

4.5 Work with developers and regulatory bodies to ensure that river engineering processes are as natural as possible

5. Climate Resilience

5.1 Map data to ascertain which sites offer the best opportunities, and use this to inform action plan and delivery

5.2 Develop and deliver projects that offer better management of flood risk, particularly through natural flood management processes wherever possible

5.3 Work with landowners, businesses and the community to increase water storage capabilities

5.4 Develop and deliver projects to create and maintain water and wetland habitats, coastal and marine habitats that support the associated ecology, create climate resilience and best offset the Island's carbon footprint

6. Engaging People

6.1 Support activities which increase engagement whether physical or virtual with the Islands rivers, estuaries and the Solent

6.2 Support opportunities to enhance access to the Island's water courses for people with mobility, sensory or neural diversity issues

6.3 Support tourism and recreation activities which promote good practice, deliver multiple benefits and do not come into conflict with other aims and objectives set out in this document

6.4 Promote and establish activities based on the built, natural and cultural heritage of the Island's water courses and the Solent

6.5 Promote volunteering and citizen science opportunities connected with the water environment

6.6 Develop and deliver educational resources linking the Island's water courses with the National Curriculum

6.8 Integrated Catchment Strategy

In october 2022, Natural Enterprise agreed to partner with Southern Water to help with a more integrated approach to managing catchment risks via catchment and nature-based solutions and identifying strategic and project related opportunities for collaborative working with others over an extended timeframe.

This project is a collaborative planning task with other catchment stakeholders. It is focused on collating risks, issues and evolving internal SWS Plans, and working with the Catchment Partnerships and other key stakeholders locally to align future catchment and nature-based solution (C&NBS) mitigations and actions to achieve wider outcomes for natural capital and social value.

7. Sub Catchment and Catchment-wide Action Plans and Projects

Projects have been developed across the Island. Some activities affect just one water course, others have a wider remit. This plan adopts a spatial approach detailing 7 operational catchments (West Wight Rivers, Southwest Steams, Newtown Estuary and Northwest Coast, Medina Catchment, East Yar Catchment, Northeast Coast Watercourses and the Solent) and targets specific areas for interventions. Each sub-catchment action plan contains :

1. An overview of the sub-catchment including the main pressures
2. Opportunities to resolves issues
3. A selection of completed and current projects addressing these problems and aspirational projects that have been identified

The Catchment Partnership reviews the Catchment Plans on an annual basis and a dynamic list of projects is mapped online and can be viewed at

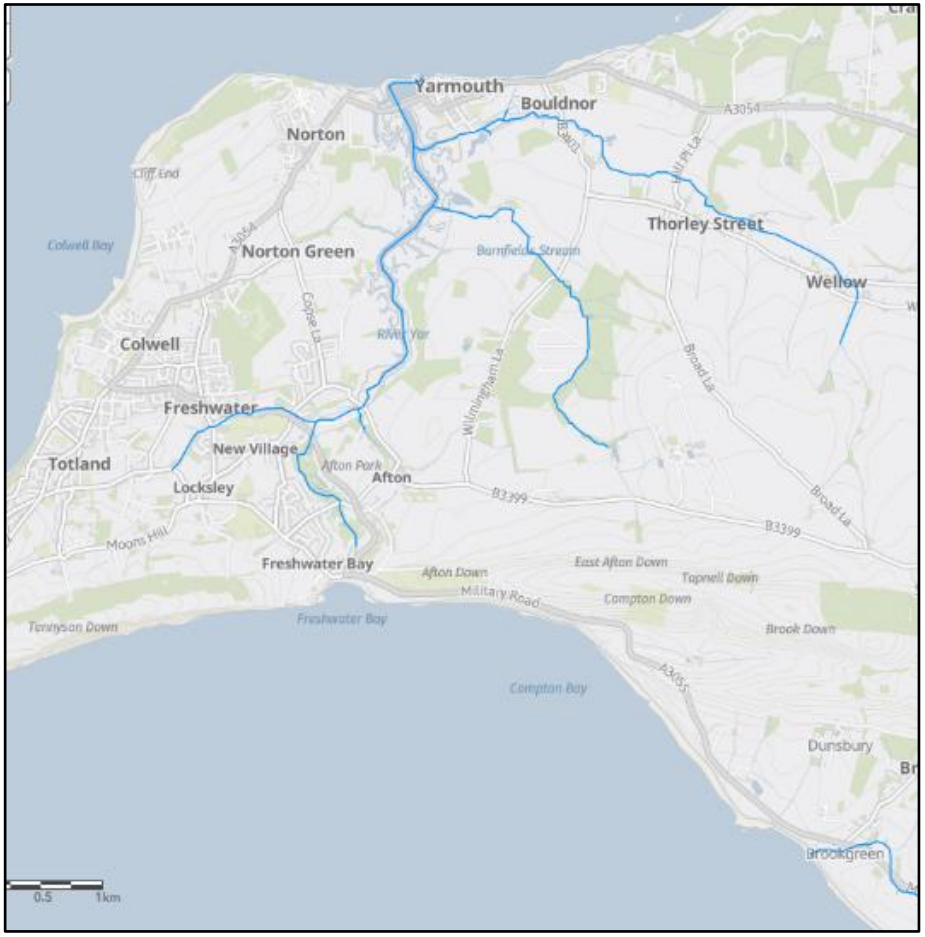
Considerable investment is required for aspirational projects to be delivered. In order to implement these projects the Catchment Partnership will :

1. Work collaboratively to develop projects that appeal to a broad range of funding bodies
2. Identify opportunities for buyers of ecosystem services and the private sector to invest (such as Biodiversity Net Gain and Carbon and Neutrality Offsets)
3. Assist landowners to develop management practices that deliver national strategic priorities and enable them to access funding through schemes such as the Sustainable Farming initiative and Nature Recovery Schemes
4. Find commonality and work together to deliver projects that can deliver benefits for a number of organisations and agencies

Priority projects are those that deliver against more than one of our Strategic Aims and deliver multi-benefits. However, the Partnership also favours projects that can produce quick wins. Appendix 1 on pages 79 - 89 contains a full list of projects and identifies the Strategic Aims that each fulfils.

7.1 West Wight Watercourses

Includes Western Yar, Barnfield Stream and Thorley Brook.



The Western Yar arises below the chalk cliff at Freshwater Bay and flows north to the Solent. The small catchment is dominated by floodplain marshes and reedbeds before it reaches its estuary at Freshwater Causeway. Beyond the floodplain (which is designated in its entirety as an SSSI) the landscape is characterised by mixed farming and woodland on clay soils. Built up areas influencing the area include the Easton area of Freshwater town and Freshwater Bay.

The Barnfield and Thorley Streams join the estuary near the mouth at Yarmouth. The catchment of the Thorley Stream is dominated by intensive arable cultivation on chalky soils and base rich clays.

Issues in these sub-catchments include diffuse and point source pollution with high levels of nitrogen and phosphate.

Opportunities

Changes in land management will greatly improve water quality and the levels of nitrates and phosphates entering the Solent.

There are opportunities for landowners to collaborate to provide land for Biodiversity Net Gain or to earn carbon credits around the Western Yar Estuary and Thorley Brook. This will deliver multi-benefits including water quality and habitat improvement and climate resilience.

A selection of completed, current and aspirational projects on the West Wight Watercourses

Completed projects

Bird and Seagrass Surveys
To inform Harbour Management Plan.

Elm Project
Arboretum of disease resistant elm established.

Current projects

Yarmouth Estuary Water Quality
Water testing on Thorley Brook and tributaries.

Catchment Sensitive Farming Advice
Advice and grants for farmers to improve farm practices and reduce pollution to water, land and air.

Afton Marsh Restoration
Improving habitat by removal of encroaching scrub and groundworks to allow grazing. Removal of invasive species, improvements to access.

Western Yar Saltmarsh Restoration Trials
Feasibility study to identify appropriate options for restoration. Gathering baseline data for ongoing monitoring. More detailed investigation into potential areas for managed realignment.

Pathfinder
Reducing Combined Sewer Overflow spillage with various interventions.

Teachers Resources
Production of Key Stage 2 resource packs for the West Yar.

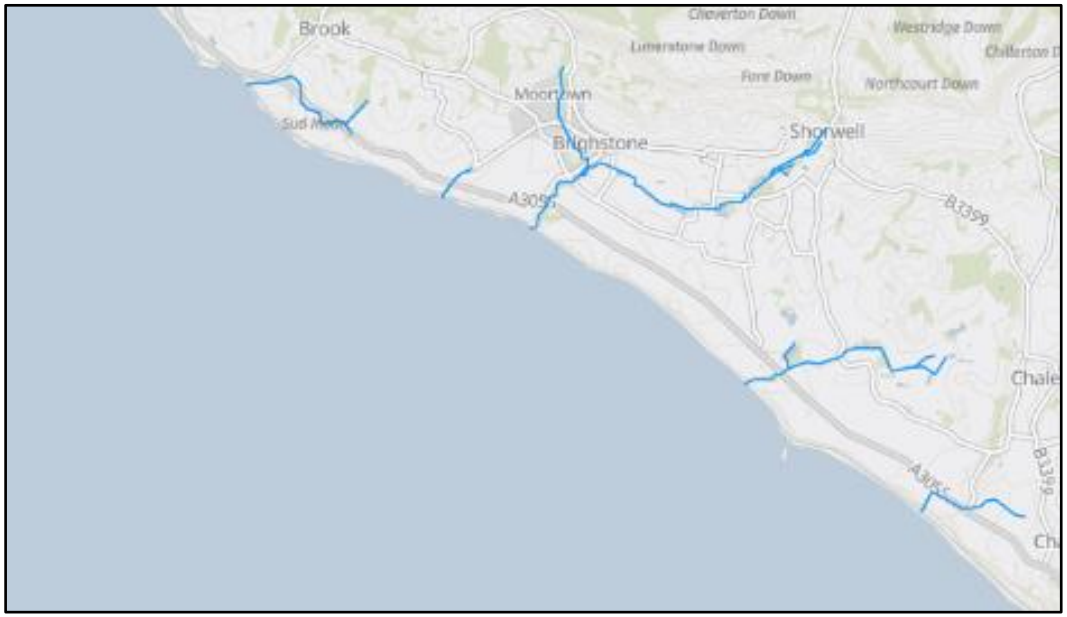
Aspirational Projects 2023 - 30

Western Yar and Thorley Brook Biodiversity Net Gain
Exploration of sites where BNG opportunities could improve water quality, climate resilience and biodiversity.


Farmland at Wellow

7.2 Southwest Streams

Includes Brook Chine, Chilton Chine, Compton Chine, Atherfield Stream, Walpen Chine and Brighstone Stream.



This collection of small streams rise from greensand hills and flow southwards to the English Channel. They are truncated, deeply incised river valleys which once formed the tributaries of a river now drowned by the Channel. The northern catchments of these streams are characterised by mixed farming but arable intensification increases further south. Recently some land has been returned to pasture and a less aggressive land regime has been adopted. A number of small villages and hamlets are established in these catchment, the most significant being Brighstone, Brook and Chale.

Issues in these catchments include low flows and diffuse pollution with high phosphate levels.

Opportunities

Changes in land management will greatly improve water quality and the levels of nitrates, phosphates and sediments flowing through the chines.

The National Trust area a major landowner and are working to revert from arable to pasture and restore natural process to their land. There are opportunities for other landowners to also provide land for Biodiversity Net Gain in this intensely farmed area. This will deliver multi-benefits including water quality and habitat improvement and climate resilience.

A selection of current and aspirational projects on the Southwest Streams

Current projects

Dunsbury Wetlands
Restoration of water courses and natural processes.

Mottistone Estate Restoration
Restoration of water courses and natural processes. This project is currently undergoing a feasibility study.

Aspirational Projects 2023 - 30

Catchment Sensitive Farming Advice
Advice and grants for farmers to improve farm practices and reduce pollution to water, land and air.

Buddle Brook
A community led group wanting to protect Buddle Valley eco system and wetlands in Brighstone.

Atherfield Stream Habitat Improvement
Working with landowners to improve water vole habitat


Dunsbury

7.3 Newtown Estuary and Northwest Coast

Includes Great Thorness Stream, Little Thorness Stream, Gurnard Luck, Ningwood Stream, Caul Bourne, Fleetlands Copse Stream, Rodge Brook, Clamerkin Brook and Newtown Brook

This series of small streams almost all rise and flow from clay soils into the Solent. The exception is the Caul Bourne which rises further south in the chalk and continues to show characteristics of a base-rich chalk stream for much of its course.

The Caul Bourne, Ningwood Stream, Newtown Brook, Rodge Brook, and Clamerkin Brook all flow into the internationally designated Newtown Estuary. The landscape of the catchments is dominated by both intensively grazed improved and extensively grazed unimproved pasture and woodland. Grazing is with both cattle and sheep. The upper reaches of the Caul Bourne are influenced by arable cultivation. A number of villages are found in the area including Shalfleet, Wellow, Porchfield, Cranmore and Newtown.

Also included are the Thorness Streams and Gurnard Luck predominantly flowing through farmland from Parkhurst Forest.

Issues in these catchments include diffuse pollution from high nitrogen, pesticide and sediment levels, point source pollution leading to high phosphate levels and low invertebrate numbers possibly as a result of the factors above. There are also coastal issues caused by tourism, erosion and sea-level rise.

Opportunities

The National Trust are a major landowner around the Estuary. Upstream and across the area here are opportunities for landowners to collaborate to provide land for Biodiversity Net Gain or to earn carbon credits. This will deliver multi-benefits including water quality and habitat improvement and climate resilience. There is local love and concern of the Caul Bourne.

A selection of completed, current and aspirational projects on the Newtown Estuary and Northwest Coast

Completed projects

Shalfleet Fish Passage
Fish and eel easement at Shalfleet road bridge and Upper Shalfleet Sluice.

Little Thorness Stream
Managed retreat and creek restoration.

Current projects

Newtown Creek Water Quality
Water testing on Caul Bourne and other Newtown water courses.

Catchment Sensitive Farming Advice
Advice and grants for farmers to improve farm practices and reduce pollution to water, land and air.

Phosphate Reduction at Shalfleet & Calbourne Sewage Treatment Works
Measures installed at STWs to reduce phosphate in downstream river.

Thorness Bay Saltmarsh Restoration
Study to understand if saltmarsh can be restored.

Aspirational Projects 2023 - 30

Newtown Estuaries SSSI Failures
An action group is meeting to determine causes of failure, write a plan and secure funding to address. Scope still to be agreed.

Lower Calbourne Mill Fish Passage
Address impoundment. Eels upstream. River flows through mill leat. Relict channel dries up. Major stream by-pass required to re-engage relict channel.

Calbourne Mill Fish Passage
Address a heavy impoundment has impact on the river downstream.

7.4 Medina Catchment

Includes Medina River, Dodnor Creek, Lukely Brook, Froglands Stream, Pan Streams, Fairlee Hole, Alverstone Stream, Gunville Stream, Parkhurst Stream and Merstone Stream

The Medina River rises in the greensand hills around Chale and flows north to the Solent. It is joined by a significant tributary – Merstone Stream, which rises near Rookley and joins it just south of Newport. The landscape of the catchment is dominated by mixed agriculture with arable dominant in the wider catchment on sandier soils whilst intensive grazing of both cattle and sheep is found in the clay soils closer to the floodplain.

The catchments of the Pan Streams,, Failree Hole, Dodnor Creek and Alverstone Stream are similarly influenced with a mixture of arable and grassland being farmed to the estuary edge but also large amounts of urbanisation. The estuary itself is designated as a Natura 2000 site. The catchment is influenced by the establishment of the major towns of Newport (at the river mouth) and East Cowes and West Cowes (at the estuary mouth) as well as a number of villages such as Rookley, Chale, Gatcombe and Chillerton.

The Lukely Brook has different characteristics. Rising in the chalk hills of the Bowcombe valley the Lukely retains its chalk stream character until it enters the Medina river in Newport. The landscape of the Lukely valley is predominately grazing on the floodplain with intensive arable and pasture in the wider catchment. It is joined by Froglands Stream ay Clatterford. The watercourse is highly modified for much of its length as it flows through Carisbrooke and Newport. Weirs and canalisation in concrete channels increases its flow and reduces its ability to occupy its floodplain which has been subsequently developed. Gunville Stream flows through fields and is joined by the Parkhurst Streams which flow from the Forest, before it joins Lukely Brook at Town Gate.

Issues in these catchments include modified watercourses, diffuse pollution including high nitrogen and sediment levels, point source leading to high phosphate levels and low flows. There is increasing urban encroachment.

Opportunities

Land management changes in the upper catchment will offer Biodiversity Net Gain and Carbon credits. Large number of projects already delivered within town means there are already many partner engaged. Urban development will necessitate on-site biodiversity improvements.

A selection of completed, current and aspirational projects on the Medina Catchment

Completed projects

Plaish Meadow Restoration
Stage zero type approach to retain water on land for longer periods. Monitoring to 2025.

Foxes Road In-Channel Improvments
Improvements to fish passage between Towngate Pond and Foxes Road.

Froglands Stream Realignments
Improving ecological value at Clatterford.

Lukely Brook Improvements - Towngate to Carisbrooke
Allowing fish through two major ponds and their impoundments. Improving the bed and removal of obstacles between Wellington Road and Carisbrooke Mill Pond

Albany Pumping Station & Bowcombe Water Supply Works
Resilience Measures.

Dodnor Outflow
New storm screens.

Flood Wardens
Training of volunteers

Dodnor Creek & Dicksons Copse Local Nature Reserve & Pan Mill Meadows
Improvements to two Nature Reserves and heritage interpretation

Newport Harbour Houseboats
Pump-out facilities

Medina Greenway
SPA mitigation projects.

Westminster Grill & Caeasrs Road Bridge
Two projects to alleviate flooding issues

Medina River Restoration
River restoration, in-channel enhancements along a 3 km stretch of the River Medina.

Towngate Pond, Viaduct Sculpture Park and St Cross Fish Pass
Pond restoration, arts, fish passage and public realm improvements.

Current projects

Catchment Sensitive Farming Advice and Medina Water Quality Grants
Advice and grants for farmers to improve farm practices and reduce pollution to water, land and air.

Saltmarsh Restoration Trials
Developing techniques for replenishing sediment.

Lukely Brook - Spring Lane
Tree works. Permanent closure of ford. Planting.

Medina Invasive Non-Native Species
Himalayan balsam and Japanese knotweed control.

Pathfinder
Reducing Combined Sewer Overflow spillage with various interventions.

Teachers Resources
Production of Key Stage 2 resource packs for the Medina River and Estuary.


Spring Lane, Carisbrooke

Aspirational Projects 2023 - 30

Chillerton to Chale Green
Exploration of sites where BNG opportunities could improve water quality and biodiversity.

Cridmore Bog
Investigations and remedies for water quality failures. Exploration of sites where BNG opportunities could improve water quality and biodiversity.

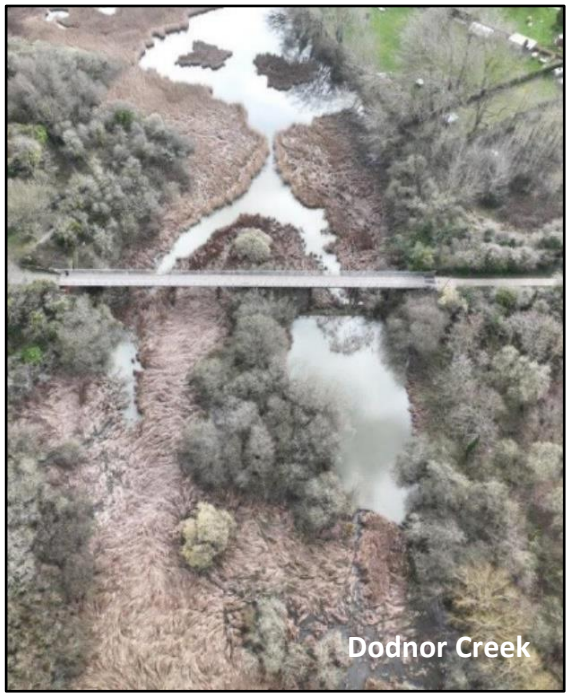
Medina Fish Pass Project
Design and installation of 10 passes on Medina between Matalan and Blackwater

Dodnor Creek
Removal of encroaching willow and scrub.

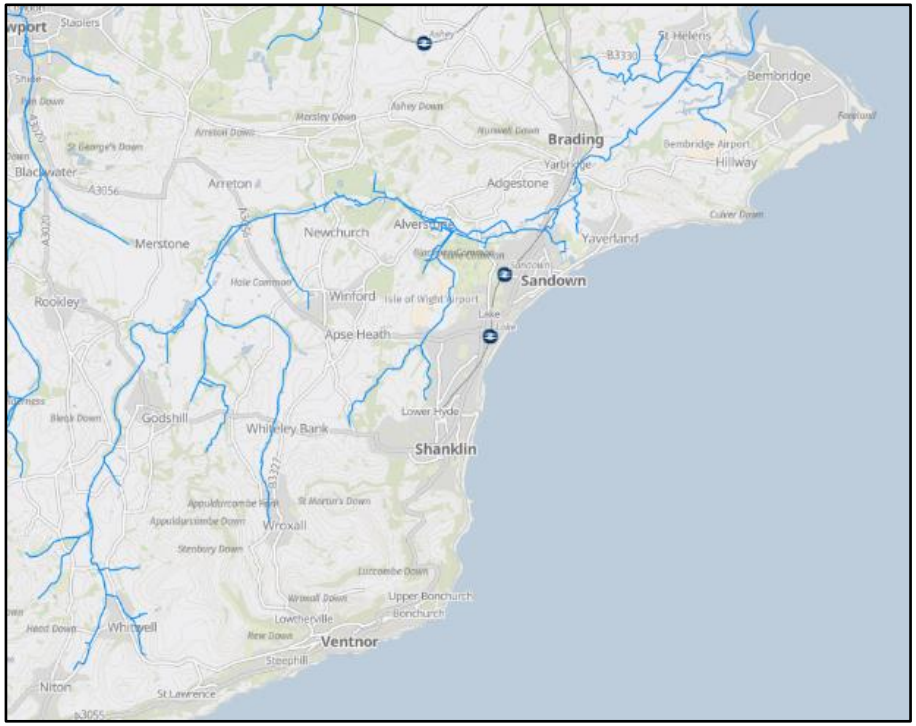
Town Centre Improvements
Improvements to fish passage between Towngate Pond and Foxes Road, St Cross Fish Pass, Hurst Fire Break.

Gatcombe, Chillerton & Froglands
Suite of projects investigating diffuse and point source pollution.

Gunville habitat conservation
Preservation of ecology threatened by development. Opportunity to create nature reserve.


Dodnor Creek

7.5 Eastern Yar Catchment



Includes Eastern Yar, Arreton Stream, Scotchells' Brook, Kingston Stream and Wroxall Stream.

The Eastern Yar rises in the chalk at Niton and flows north to Budbridge before turning east to enter the Solent at Bembridge Harbour. The lower river catchment is characterised by predominately arable agriculture which intensifies as it enters the middle catchment.

The lower river is joined by the Wroxall Stream which rises in the base-rich soils at Wroxall and flows north. The Wroxall catchment is characterised by mixed arable and intensive grazing but the arable becomes dominant as the stream flows north. The middle section of the river is characterised by intensive arable agriculture but as the floodplain widens this is found further from the watercourse.

From Horringford the floodplain is dominated by extensively grazed wet grassland and fens. Scotchell's Brook, which rises in the greensand near Shanklin, flows north to join the eastern Yar in its middle catchment. The catchment of Scotchell's Brook is again grazed floodplain with more intensive arable in the hinterland.

The upper catchment floodplain is extensively grazed and the wider catchment returns to mixed agriculture. The river and its tributaries are heavily influenced by the towns and villages found in the catchment including Wroxall, Whitwell, Brading, Arreton, Shanklin, Sandown and Bembridge.

Issues in this catchment includes invasive species and diffuse pollution including herbicides and pesticides, phosphate, sediment and point source pollution. River modifications and past dredging has led to floodplain disconnection and disfunction leading to flooding.

Opportunities Large tracts of land in the Lower Eastern Yar are owned by conservation organisations. There are opportunities for other landowners to also provide land for Biodiversity Net Gain in this intensely farmed area. This will deliver multi-benefits including water quality and habitat improvement and climate resilience. There are also opportunities to consolidate on previous projects and open up much of the catchment for fish.

A selection of completed, current and aspirational projects on the Eastern Yar Catchment

Completed projects

Wroxall Sewage Treatment Works
Phosphate Reduction.

Meanders and Reflections
Restoration of Yar River Trail and creation of Scotchells Brook and Wroxall Stream Trails.

Brading Marshes, Budbridge Weir, Waightshale Weir, Horringford and Langbridge Fish Passage
Easements at all the above sites.

Wetland Restoration
Improvement and restoration of wetland sites on East Yar, Wroxall Stream and Blackbridge Brook.

Wroxall Stream Run-Off Projects
Small-scale measures to reduce run-off from steep slopes.

Wroxall Stream Wetlands
Creation of two small wetlands to intercept run-off.

Tree Works on Wroxall Stream and East Yar
River lightening works.

Sandown and Kingston Water Supply Works
Projects to improve resilience and reliability.

Sandown Community Orchard
Wetland access improvements.

St Helens Duver & Brading Marshes Paths
Improvements to footpath across Yar Floodplain and coastal land.

Current projects

Catchment Sensitive Farming Advice and Medina Water Quality Grants
Advice and grants for farmers to improve farm practices and reduce pollution to water, land and air.

East Yar and Wroxall Stream Invasive Non-Native Species
Himalayan balsam and Japanese knotweed control.

East Yar River and Floodplain Restoration
Reconnection of floodplain and realign watercourse between Langbridge and Alverstone Bridge inc. Alverstone Marshes.

Pathfinder
Reducing Combined Sewer Overflow spillage with various interventions.

Munsley Bog Improvements
Willow and Scrub removal, boardwalk replacement, Improved Interpretation.

Phosphate reduction at Roud Sewage Treatment Works
Measures installed at STWs to reduce phosphate in downstream river.

Wroxall water voles
Small-scale measures to improve habitat. Land management advice.

Teachers Resources
Production of Key Stage 2 resource packs for the East Yar.

Aspirational Projects 2023 - 30

East Yar Catchment Management Scheme
Suite of surface water measures for farmers and land users within E Yar catchment to mitigate turbidity and algae affecting Sandown abstraction.

Bembridge Harbour Silt
Review the operating cycle of the Eastern Yar sluice gates to see if a reduction in the amount of silt that is deposited in Bembridge Harbour can be achieved.

Lower Eastern Yar Biodiversity Net Gain
Exploration of sites where BNG opportunities could improve water quality and biodiversity.

Sandown Levels
Removal of invasive non-native plants and opening access on this large site.

Lower Eastern Yar Water level management improvements
Re-appraise flood risk in long term and potential habitat improvements.

St Helens Wetland
Wetland construction to mitigate groundwater infiltration.

Beaver Introduction
Explore the issues and opportunities associated with introducing beavers to deliver river restoration.

Horringford Biodiversity Net Gain
Exploration of sites where BNG opportunities could improve water quality and biodiversity

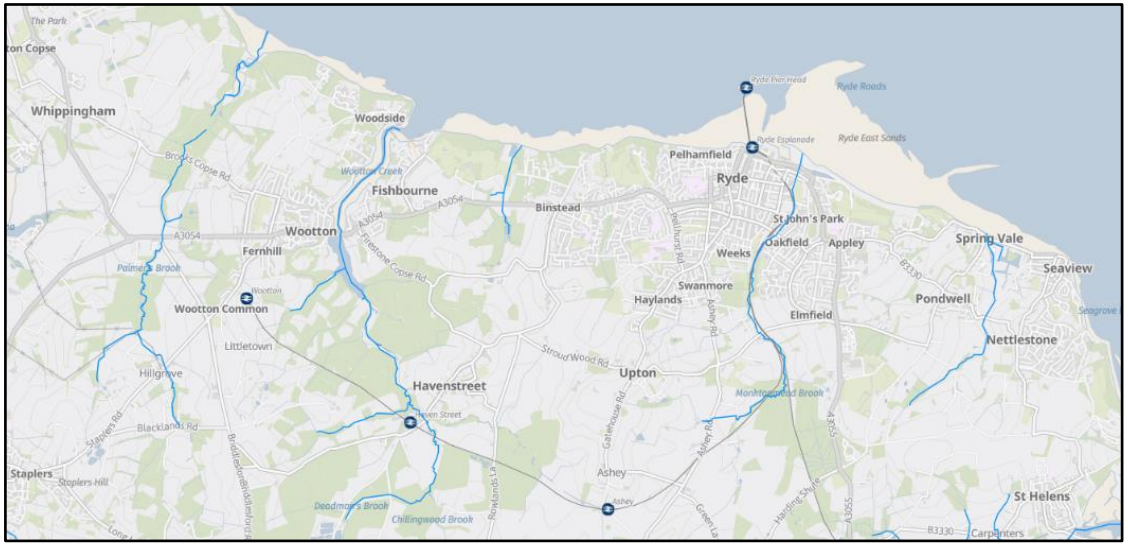
Whitwell Biodiversity Net Gain
Investigation into possible morphology and land management improvements at Whitwell / Nettlecombe. Exploration of sites where BNG opportunities could improve water quality and biodiversity

Wroxall Fish Migration
Suite of projects to tackle a series of obstructions preventing fish migration.

Wroxall Stream Run – Off
Small-scale measures to reduce run-off from steep slopes and diffuse pollution . Some works done in 2020. More recommended.

7.6 Northeast Coast Watercourses

Includes Barton Manor Stream, Palmers Brook, Blackbridge Brook, Quarr Stream, Binstead Stream, Monktonmead Brook, Pondwell Stream and Nettlestone Stream



The northeast coast is a collection of small streams which mostly rise in the clays of the north of the Island and flow north into the Solent. The major streams include Palmers Brook, Blackbridge Brook and Monktonmead Stream. These rise further south in chalk or base-rich clays. Their catchments are characterised by intensive grazing with some arable but their valleys are shaded in many areas by woodland.

Palmers Brook is influenced by the refuse tip at Lynbottom but is relatively free of urban influence. The northern catchments of Blackbridge and Monktonmead are influenced by the towns of Wootton and Ryde. The Monktonmead is highly modified by flood defence and railway infrastructure as well as urban development the further north it flows.

Issues in these catchments include diffuse pollution with high sediment, pesticide and phosphate levels. In common with other waterbodies entering the Solent there are concerns over nitrogen and phosphate levels and their contribution to green algal blooms (Enteromorpha) in estuaries where wintering birds, and the invertebrates they depend on, may be adversely affected. There are issues with run-off and surface water flooding in Havenstreet, Ryde and Binstead.

Land ownership and management changes in the upper Monktonmead catchment will offer Biodiversity Net Gain and Carbon credits. Because of the importance of the Solent there are opportunities to use this approach in other of the northeast waster course catchments. Urban development will necessitate on-site biodiversity improvements.

A selection of completed, current and aspirational projects on the Northeast Coast Watercourses

Completed projects

Blackbridge Brook
Improvement and restoration of wetland sites.

Monktonmead Outfall
Re-routing of river at seafront. Increased water storage provision. Flood alleviation measures.

Pig Leg Lane & Rosemary Lane
Riverside Meadow Restoration and Interpretation in Nature Reserve. Arresting run-off into brook.

Hersey Reserve
Creation of an accessible SSSI wetland reserve with bird hide on the north-east coast of the Island.

Current projects

Pathfinder
Reducing Combined Sewer Overflow spillage with various interventions.

Catchment Sensitive Farming Advice
Advice for farmers to improve farm practices and reduce pollution to water, land and air.

Binstead Stream
Measures to allieviate riverine, highway and surface water flooding.

Upper Monktonmead Improvements
Natural flood management at Nunwell, reconnection of floodplain, renaturalisation of watercourse.

Monktonmead Non-natives
Japanese Knotweed control programme

Aspirational Projects 2023 - 30

Blackbridge Brook phosphate reduction
Havenstreet - potential phosphate solutions. Need more monitoring evidence from site downstream of railway.

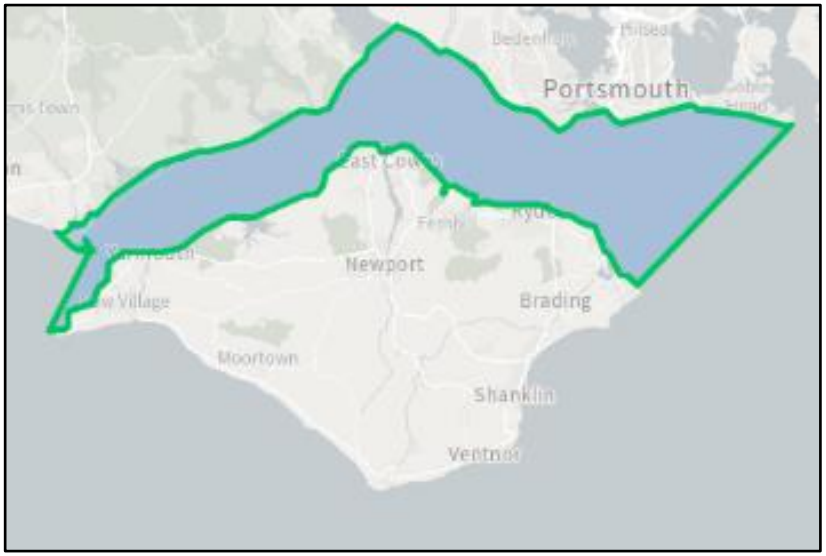
Blackbridge Brook Biodiversity Net Gain
Exploration of sites where BNG opportunities could improve water quality and biodiversity.

Palmers Brook
Exploration of sites where BNG opportunities could improve water quality and biodiversity.

Monktonmead fish passage and habitat
To allow fish passage upstream of Smallbrook Lane road bridge. Relevant to flood protection for road bridge and railway.

Monktonmead Brook Biodiversity Net Gain
Exploration of sites where BNG opportunities could improve water quality and biodiversity.

7.7 The Solent



The Solent coastline is around 390 kilometres long on the mainland between Selsey Bill and Hurst Spit. It includes Chichester, Langstone and Portsmouth Harbours, Southampton Water and the tidal extent of the main rivers. It is approximately 80 kilometres long from the Needles in the West to Bembridge in the East on the Isle of Wight. It is located at the southern margin of the Hampshire Basin.

The Solent itself is the water strait that separates the Isle of Wight from the mainland of England. It is about 32 kilometres long and varies in width between 4 and 8 kilometres. Hurst Spit projects 2.4 kilometres into the Solent narrows the sea making the crossing between Hurst Castle and Colwell Bay to be just over 1.6 kilometres. It is considered to be the drowned valley of a river which once flowed east between the Isle of Wight and the mainland of Hampshire and West Sussex.

Issues

The Solent is a highly modified waterbody and is intensively used for both commerce and recreation. The physical water body and most of the coastline in its harbours are designated as Marine Protected Areas. Specific issues include recreational carrying capacity, eutrophication, habitat loss, coastal erosion and storm water overflows.

Opportunities

The issues facing the Solent are well known and researched and there is already lots of partnership working taking place to help address them. Notable are the Solent Seascapes Project, a multi-million pound habitat restoration scheme, the work of Coastal Partners on coastal defence issues which includes ecological enhancement work and the work of the Solent Forum to coordinate and facilitate partnership networking. The Solent Marine Sites management scheme enables the Solent's Relevant Authorities to work together on issues addressing MPAs, with the evidence base for management being supported by the Solent Forum's Natural Environment Group.

A selection of completed and current and aspirational projects on the Solent

Completed projects

Solent Boating and Water Quality
Working together as a 'Community of Practice' to improve water quality from recreational boating related activities in the Solent & Poole Harbour area.

The Solent Forum led and partnered in a number of projects before joining the Catchment Partnership.
These are detailed on the following webpages:
http://www.solentforum.org/services/Current_Projects/
http://www.solentforum.org/services/past/

Current projects

Solent Seascapes
Restoration of Solent's saltmarsh, seagrass, native oysters and birds on a seascape scale.

Clean Solent Shores and Seas
This is a framework to 'collate and share' water quality resources and initiatives, to help improve awareness and influence behaviour in the Solent.

Solent Biosecurity Planning
Raising awareness of marine invasive species and three biosecurity action plans developed including one for the Isle of Wight.

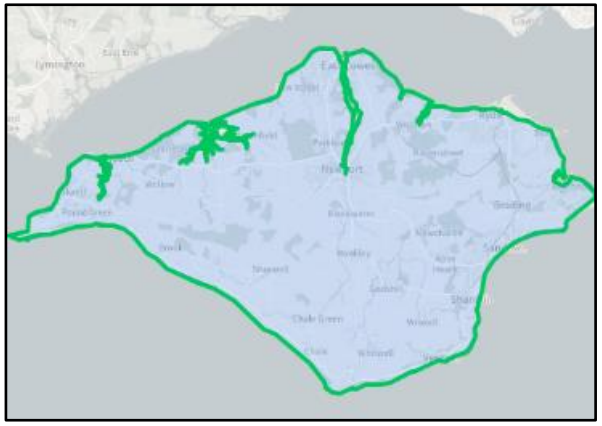
Pathfinder
Reducing Combined Sewer Overflow spillage with various interventions.

Solent Seagrass Restoration Project
Researching and delivering seagrass restoration.

The Solent Forum lead and partnered in a number of projects that are beyond the remit of the Catchment Partnership.
These are detailed on the following webpages:
http://www.solentforum.org/services/Current_Projects/
http://www.solentforum.org/services/Partnership_Opportunities/

40

7.8 Multi Catchment and Catchment-wide Projects



There are a number of projects that affect more than one sub-catchment. These have been detailed in the relevant sub-catchment but are also detailed here for clarity.

Some projects also affect the Island's groundwater reserve. They too are listed on the following pages.

Completed projects

Farmscoper
Reduction of nutrients from rural land to improve estuary water quality.

Water Vole Surveys
Comprehensive survey of Western Yar and Eastern Yar 2012-2020.

Sandown Waste Treatment Works, Fairlee Waste Treatment Works, Appley Waste Treatment Works, Lion Point Waste Treatment Works and Shanklin Bathing Water
A number of upgrades to increase the resilience of the Island's waste treatment infrastructure.

Broadfields Water Supply Works, Cooks Castle, Ventnor Water Supply Works and Broadfield, Alvington, Ashey Road and Staplers Main Replacement
A number of upgrades to increase the resilience of the Island's waste treatment infrastructure.

Love Where You Sail
Raising awareness among boat users and assessing impact of recreational boating on water quality.

Current projects

Pathfinder
Reducing Combined Sewer Overflow spillage with various interventions.

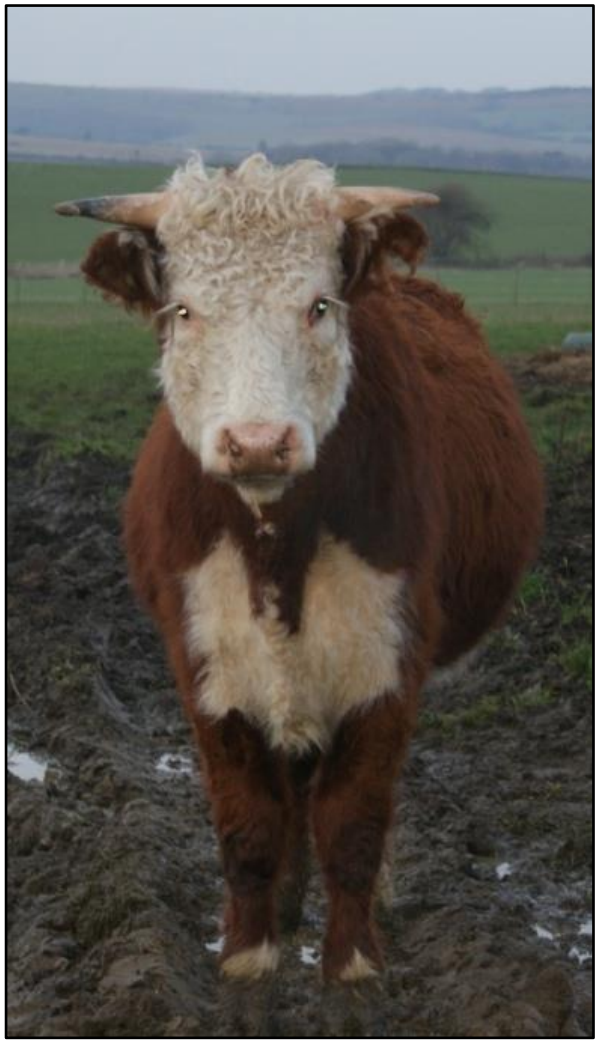
Catchment Sensitive Farming Advice
Advice for farmers to improve farm practices and reduce pollution to water, land and air.

Teachers Resources
Production of Key Stage 2 resource packs for East Yar, Monktonmead Brook, West Yar and Medina.

Aspirational Projects 2023 - 30

Water vole rehabilitation
Water vole habitat improvements including management of fenced off riparian areas. Currently being piloted on Wroxall Stream.

Equine Land Management
Issues with water quality - advice of best practice.



8. Get Involved

We have listed current and aspirational projects by sub-catchment in Section 7. There is also a summary of all projects including the strategic aims they deliver in Appendix X.

8.1 If you have finance, are a land manager, or a need to deliver mitigation for development

The Isle of Wight Catchment Management Plan links to current national and land and water policy and legislation. These include the goals of the Environmental Improvement Plan, and Southern Water's Drainage and Waste Water Management Plan.

For landowners and managers there are links with the Sustainable Farming Initiative, Local Nature Recovery, Landscape Reocvery and Farming Rules for Water. Projects that deliver towards our objectives concerning water quality, water, resources and habitats and species can earn money through these schemes. Our Catchment Sensitive Farming Project can provide advice and assistance in attracting these monies.

The plan also details how schemes can benefit from Biodiversity Net Gain and Nutrient Neutrality monies if you are a landowner, or how you can benefit from our projects if you are a developer. This is particularly relevant given the importance of The Solent, and we highlight potential areas where projects could deliver multi-benefits.

Please contact us if you feel that we could work together for mutual benefit.

8.2 If you are active in local governance

The Isle of Wight Catchment Management Plan links to current local policy and legislation. These include the goals of the Isle of Wight's Local Plan, its Local Nature Recovery Scheme, and Southern Water's Drainage and Waste Water Management Plan. In addition, many of our current and aspirational projects deliver benefits of climate adaptation and mitigation, Net Zero and flood risk management.

Please contact us if you feel that we could work together for mutual benefit.

8.3 If you are actively delivering riverine or coastal projects on the Isle of Wight

We are interested to hear from any partners who we are yet to engage with. If you are delivering projects that align with the Strategic Aims and Actions summarised on pages 50 – 51 it may be that we can work better together or co-ordinate our projects to achieve extra outcomes and value for money. We can also promote them on the Island Rivers website and Social Media accounts.

Please contact us and tell us about your projects.

8.4 If you have time to give

Some of the projects listed in this plan are currently recruiting volunteers. We are also interested in helping to develop and support citizen science opportunities and community engagement.

If you have time to give, please contact is.

8.5 If you have an interest in, or an issues with the Island's water courses

If you have an interest in the Islands rivers, wetlands and coastal areas the first port of call is the Island Rivers website – www.islandrivers.org.uk Here you will find information on most of the Island's water courses, along with walk, galleries and whatever data we have. The website also discussed best practices and issues specific to the Island. Most of our projects are detailed there, and there a many links.

There is a whole section with materials for Home Education and details of how to access our teacher resources. There is also the opportunity to sign up to our bi-annual e-newsletter from the website.

We post regularly to Facebook.

If you have any issues or queries these can be sent via the website, or you are welcome to call us. The Catchment Partnership Steering Group meets quarterly and we can bring subjects forward.

Catchment Host Telephone Number 01893 296244

www.islandrivers.org.uk

hello@islandrivers.org.uk

Members of The Island Rivers Partnership

The Isle of Wight Catchment Management Plan has been developed collaboratively with all Catchment Partnership members led by Natural Enterprise

Environment Agency . Natural Enterprise . Hampshire and Isle of Wight Wildlife Trust . National Trust . Isle of Wight AONB . Isle of Wight Council . Southern Water . Country Landowners Association . National Farmers Union . Isle of Wight Estuaries Project . Arc Consulting . Solent Form . Solent Protection Society . Bembridge Harbour Users Group . Marine Management Organisation .

Appendix 1 Current and Aspirational Projects

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
WEST WIGHT WATERCOURSES												
Western Yar & Thorley Brook Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality, climate resilience and biodiversity.	Developers	Island Rivers Group, IWC, EA	Western Yar. Thorley Brook								Aspiration -Landowner discussions
Yarmouth Estuary Water Quality	Water testing on Thorley Brook and tributaries	AONB CSF	EA, Natural Enterprise	Thorley Brook								Underway
Afton Marsh Restoration	Reduction of scrub within Freshwater Marshes SSSI. Removal of Japanese Knotweed. Upgrade of paths in North Marsh.	Natural Enterprise	Natural England	Western Yar								Stewardship Application Written. North Marsh pathwork complete
Western Yar Saltmarsh Restoration Project	Feasibility study to identify appropriate options for restoration. Gathering baseline data for ongoing monitoring. More detailed investigation into potential areas for managed realignment.	Estuaries Project	EA, NE, Wildlife Trust	Western Yar								Feasibility report done New monitoring scheme set up. Further investigation into potential sites for managed realignment underway.

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality		Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
SOUTHWEST STREAMS													
Buddle Brook	Project group wanting to protect Buddle Valley eco system and wetlands in Brighstone	Brighstone PC	Community	Brighstone Steam									Aspiration - Still requires scope to be agreed
Atherfield Stream Habitat Improvement	Working with landowners to improve water vole habitat	EA?	Landowners	Atherfield Stream									Aspiration - Still requires scope to be agreed
Dunsbury Wetlands	Restoration of water courses and natural processes	National Trust		Chine Streams									Underway
Mottistone Estate Restoration	Restoration of water courses and natural processes	National Trust		Chine Streams									Underway - CS funded Feasibility Study
NEWTOWN ESTUARY & NORTHWEST COAST													
Newtown Estuaries SSSI failures	Action group to determine causes of failure, write plan and secure funding to address. Also water quality monitoring.	EA	Natural Ent, NE, CSF, IWC, Parish Councils, Landowners. Southern Water	Caul Bourne, Newtown River, Rodge Brook and other tributaries									Aspiration - Still requires scope to be agreed
Lower Calbourne Mill Fish passage	Impoundment. Eels upstream. River flows through mill leat. Relict channel dries up. Major stream by-pass required to re-engage relict channel.	Mill owner		Caul Bourne									Aspiration, but validity of project to agree.
Calbourne Mill Fish passage	Heavy impoundment has impact on the river d/s.	Mill owner		Caul Bourne									Aspiration, but validity of project to agree.

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other
NEWTOWN ESTUARY & NORTHWEST COAST											
Phosphate reduction at sewage treatment works: Shallfleet and Caulbourne	Measures installed at STWs to reduce phosphate in downstream river	Southern Water	EA	Caulbourne							By 2024
Newtown Creek Water Quality	Water testing on Caul Bourne and other Newtown water courses. Catchment Sensitive Farming Advice	AONB CSF	EA, Natural Enterprise	Caul Bourne, Newtown Creek tributaries							Underway
Thorness Bay saltmarsh restoration	Study to understand if saltmarsh can be restored	IW Estuaries Project and Arc	EA	Thorness							Vegetation survey and salinity monitoring completed. Hydrodynamic modelling underway to understand impact of removing restrictions for tidal ingress.
MEDINA CATCHMENT											
Chale Green to Chillerton - Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Medina							Aspiration -Landowner discussions
Cridmore 1	Remedies for water-quality failures	EA, Southern Water	Island Rivers Group, CSF	Medina							Needs investigations. Project Meeting Dec 2023

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
MEDINA CATCHMENT												
Cridmore 2 - Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Medina								Aspiration -Landowner discussions
Cridmore Bog and Wilderness investigations	Investgation into lower greensand geology and designated habitat and species. Tbc	Southern Water	Natural England									WINEP 25-30?
Medina river pass project	Design and installation of 10 passes on Medina between Matalan and Blackwater	Environment Agency	NRG	Medina								Aspiration
Hurst Fire Break	Screen d/s of hump to shield fry from predating gulls	NRG	NRG	Lukely Brook								Aspiration
Foxes Rd in-channel improvements	Improvements to fish passage between Towngate Pond and Foxes Road - preliminary study done needs landowner approval	EA	NRG / SW	Lukely Brook								Aspiration
St Cross Mill eel pass	Amendments to fish pass to fasciiltate eel passage	EA		Lukely Brook								Tender written, capital bid to be made for works 2023/4
Froglands Phosphates	To investigate pollution reports and high P load	??	CSF / NRG	Lukely Brook								Aspiration

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
MEDINA CATCHMENT												
Urban diffuse pollution reduction	Community project to identify and reduce diffuse pollution	tbd	Gatcombe & Chillerton PC	Medina	■							Need to confirm if this is a viable project
Gunville habitat conservation	Preservation of ecology threatened by development. Opportunity to create nature reserve.	Natural Enterprise, Newport Rivers Group	Developer, Land Owners, SW	Gunville Stream			■			■		Working with land owners and planners
Dodnor Creek	Removal of encroaching willow and scrub	Natural Enterprise	Natural England	Parkhurst Stream			■					Stewardship application submitted
Saltmarsh Restoration Trial	Saltmarsh restoration trials	Estuaries Project	EA, NE, Wildlife Trust	Medina Estuary			■	■	■			Feasibility study completed. Methodology for first sediment replenishment trial being developed. Additional funding may be needed. Licencing underway.
Lukely Brook - Spring Lane	Treeworks. Permant closure of ford. Planting	Southern Water	NRG	Lukely Brook			■	■	■			Underway - completion 2024
Medina Water Quality	Target Capital grant scheme, also workshops,demonstations and catchment sensitive farming advice	Southern Water, AONB CSF		Medina	■							Underway
Medina non natives removal	Himalayan balsam and Japanese knoweed control	Natural Enterprise	Volunteers, EA	Medina			■					Underway. Delivery to 2026.
Plaish Meadows Restoration	Stage zero type approach to retain water on land for longer periods	Southern Water	NRG / Natural England	Lukely Brook			■					Completed 2022- Monitoring to 2025

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
EAST YAR CATCHMENT												
AMP 8 Catchment scheme for E Yar starting 2025	Suite of surface water measures for farmers and land users within E Yar catchment to mitigate turbidity and algae affecting Sandown abstraction	Southern Water		Eastern Yar (possibly Medina)	■	■						Commencing 2025
Sandown Levels	Removal of invasive non-native plants and opening access	Natural England/Environment Agency	RSPB, IWC	Eastern Yar			■					Increasing urgency to resolve
Lower Eastern Yar Water level management improvements	Re-appraise flood risk in long term and potential habitat improvements	RSPB	Environment Agency, Natural England	Lower Eastern Yar		■	■	■	■			>Review led by EA, yet to start >Middle and Great sluice fish pass construction
Bembridge Harbour Silt	Rview the operating cycle of the Eastern Yar sluice gates to see if a reduction in the amount of silt that is deposited in Bembridge Harbour can be achieved	EA	Bembridge Harbour Users Group	Lower Eastern Yar			■	■	■		■	Aspiration
Flood defence restoration on south east coast	Works planned at Embankment Rd, Ventnor, Shanklin and Sandown	EA	Other stakeholders involved in consultation	IW East TraC		■	■	■	■			Consultation started
St Helens Wetland	Wetland construction to mitigate groundwater infiltration	Southern Water	RSPB	Eastern Yar	■		■					Planning Stage

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
EAST YAR CATCHMENT												
Beaver Introduction	Explore the issues and opportunities associated with introducing beavers to deliver river restoration.	HIWWT	Natural England	Eastern Yar	■	■	■	■	■	■		Preparing risk assessment. DEFRA are not currently granting release licences, so criteria is unknown
Upper East Yar	Investigation into possible morphology and land management improvements at Whitwell / Nettlecombe	EA	Southern Water, CSF, Land owners	Eastern Yar tributary	■		■					Aspiration Investigations
Whitwell Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Upper Eastern Yar	■		■					Aspiration - landowner discussions
Horringford Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Eastern Yar	■		■					Aspiration - landowner discussions
Lower Eastern Yar Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Eastern Yar	■		■					Aspiration - landowner discussions
Wroxall Fish Migration	Suite of projects to tackle a series of obstructions preventing fish migration.	Natural Enterprise	Island Rivers	Wroxall Stream			■	■	■			Aspiration No WFD fish fail on Wroxall, so needs alternative funding source.
Wroxall Stream Run - Off	Small-scale measures to reduce run-off from steep slopes and diffuse pollution . Some works done in 2020. More recommended.	APS, Natural Enterprise	Other Wroxall landowners, Island Rivers	Wroxall Stream	■							Aspiration

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
EAST YAR CATCHMENT												
East Yar Water Quality	Target Capital grant scheme, also workshops,d emonstations and advice	Southern Water	AONB CSF	East Yar	■	■						Underway
East Yar Invasive Non Natives Species removal	E Yar non natives tackled over 5 years alongside E Yar works	Natural Enterprise	Volunteers,	Eastern Yar, Wroxall Stream			■					Underway
East Yar River Restoration	Reconnect floodplain and realign watercourse between Langbridge and Alverstone Bridge	HIWWT	HIWWT, EA	Eastern Yar			■	■	■			Underway - permits to be applied for
Peatland restoration	Raising of water levels, especially on Unit 1, to restore fen habitat and peat.	HIWWT	EA	Eastern Yar	■		■					Due (Sept 23) - to confirm with HIWWT
Munsley Bog Improvements	Willow and Scrub removal, boardwalk replacement, Improved Interpretation	Natural Enterprise	Natural England	Eastern Yar			■			■		Underway. Completion due 2023
Wroxall water voles	Small-scale measures to improve habitat. Land management advice	Natural Enterprise	Landowners	Wroxall Stream			■					Underway. Completion 2026
Phosphate reduction at sewage treatment works: Roud	Measures installed at STWs to reduce phosphate in downstream river.	Southern Water	EA	Wroxall, Upper Eastern Yar	■							By 2024

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
NORTHEAST COAST WATERCOURSES												
Blackbridge Brook phosphate reduction	Havenstreet - potential phosphate solutions. Need more monitoring evidence from site downstream of railway.	Environment Agency	Land Owners, EWLP	Blackbridge Brook	■							Needs investigations
Blackbridge Brook Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Blackbridge Brook	■		■					Aspiration - landowner discussions
Palmers Brook	Issues with water quality	Southern Water? IWC? CSF? Landoweners		Palmers Brook	■							??
Palmers Brook Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Palmers Brook	■		■					Aspiration - landowner discussions
Monktonmead fish passage and habitat	To allow fish passage upstream of Smallbrook Lane road bridge. Relevant to flood protection for road bridge and railway.	EA and landowner	IW Council	Monktonmead			■	■	■			Need to confirm measures and landowner consent
Monktonmead Brook Biodiversity Net Gain	Exploration of sites where BNG opportunities could improve water quality and biodiversity.	Developers	Island Rivers Group, IWC, EA	Monktonmead	■		■					Aspiration - landowner discussions
Binstead Stream	Measures to alleviate riverine, highway and surface water flooding	IWC	Southern Water, EA	Binstead Stream		■			■	■		Underway

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
NORTHEAST COAST WATERCOURSES												
Upper Monktonmead Improvements	Natural flood management at Nunwell, reconnection of floodplain, renaturalisation of watercourse	Wildlife Trust	EA	Monktonmead								Land purchased / leased. Planning stage
Monktonmead Non-natives	Japanese Knotweed control programme	EA		Monktonmead								Underway
THE SOLENT												
Solent Seascapes	Restoration of Solent's saltmarsh, seagrass, native oysters and birds on a seascape scale.	BLUE Marine Foundation	HIWWT, EA, Estuaries Project, Solent Forum	Solent coast and estuaries								Underway
Clean Solent Shores and Seas	This is a framework to 'collate and share' water quality resources and initiatives, to help improve awareness and influence behaviour in the Solent. http://www.solentforum.org/services/Member_Services/css/	Solent Forum	Solent Forum members	Solent Trac waters								Commenced 2020 and ongoing
Solent Biosecurity Planning	Will be launched October 2023, raises awareness of marine invasive species and three biosecurity action plans developed including one for the Isle of Wight - http://www.solentforum.org/publications/solent_biosecurity_plans/	Solent Forum	Developed by the Solent Forum with input from MBA and APEM Ltd. Natural England funded.	Solent Trac waters								

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Engaging People	Other	
THE SOLENT												
Solent Seagrass Restoration Project	Researching and delivering seagrass restoration.	HIWWT										Underway
CATCHMENT-WIDE / MULTI WATERCOURSE												
Water voles rehabilitation	Water vole habitat improvements inc management of fenced off riparian areas.	tbd		Tbd								
Equine Land Management	Issues with water quality - advice of best practice	Southern Water, AONB-CSF,Landowners		All								Aspiration - initial event Sept 2023
Catchment Sensitive Farming	Advice and grants for farmers to improve farm practices and reduce pollution to water, land and air.	IW AONB	Natural England, Southern Water	All								
Teacher Resources	Production of Key Stage 2 resource packs for East Yar, Monktonmead Brook, West Yar and Medina.	Natural Enterprise										Underway. Completion due 2023
Pathfinder	Reduce CSO spillage with various interventions	Southern Water	IWC / Island Roads, Property Owners	Medina, West Yar, Blackbridge Brook, Waterbodies flowing into Solent								Underway. Further funding being sort from AMP 8

Appendix 2 Completed Projects

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Tourism & Recreation	Other	
WEST WIGHT WATERCOURSES												
Seagrass Survey	Seagrass survey Yarmouth	Estuaries Project		Western Yar								Complete 2022
Bird Survey	Bird survey at Yarmouth Breakwater.	Estuaries Project	Medina Valley Centre	Western Yar								Complete 2018
Elm Project	Arboretum of disease resistant elm established.	Estuaries Project		Western Yar								Complete piror 2016
SOUTHWEST STREAMS												
NEWTOWN ESTUARY & NORTHWEST COAST												
Shalfleet Fish Passage	Fish and eel easement at Shalfleet roadbridge and Upper Shalfleet Sluice	Environment Agency		Caul Bourne								Complete 2019
Little Thorness Stream	Managed retreat and creek restoration.	Natural Enterprise	Natural England	Little Thorness Stream								Complete 2019
MEDINA CATCHMENT												
Foxes Rd In-Channel Improvements	Improvements to fish passage between Towngate Pond and Foxes Road	Southern Water	NRG	Lukely Brook								Complete 2023
Froglands Stream Realignment	To improve ecological value at Clatterford	Southern Water	NRG	Lukely Brook								Complete 2023
Carisbrooke Waterworks Pond and Mill Pond	Allowing fish through and below two major ponds and their impoundments	Southern Water		Lukely Brook								Complete 2021

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Tourism & Recreation	Other	
MEDINA CATCHMENT												
Lukely Brook Improvements - Towngate to Carisbrooke	Improvements to bed and removal of obstacles between Wellington Road and Carisbrooke Waterworks	Southern Water	NRG	Lukely Brook		■	■	■	■			Complete 2021
Albany Pumping Station	£1.5m resilience measures.	Southern Water		Gunville Stream	■				■			Complete 2020
Dodnor Outflow	New storm screens	Southern Water		Medina Estuary	■							Complete 2019
Bowcombe Water Supply Works	Resilience Improvements	Southern Water		Lukely Brook		■			■			Complete 2019
Flood wardens	Training of volunteer flood wardens	Newport & Carisbrooke Community Council	Footprint Trust	River Medina		■			■			Complete 2018
Dodnor Creek & Dicksons Copse Local Nature Reserve	Improvements to Nature Reserve and heritage interpretation	Natural Enterprise		Medina Estuary			■			■		Complete 2018
Pan Mill Meadows	Pan Mill Meadows Restoration	Natural Enterprise	Newport Rivers Group, Newport PC	River Medina			■			■		Complete 2016
Newport Harbour Houseboats	Pump Out facilities for houseboats	Isle of Wight Council	Island Rivers	Medina Estuary	■					■		Complete 2016
Gunville Data	Water vole survey, Great Crested newt conservation,	Newport Rivers Project		Gunville							■	Complete 2016

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Tourism & Recreation	Other	
MEDINA CATCHMENT												
Medina Greenway	SPA mitigation projects.	Estuaries Project	Arc	Medina Estuary			■		■	■		Complete 2015
Westminster Grill	Replacement of grill	Environment Agency		Lukely Brook		■			■			Complete prior 2016
Caesars Road Bridge	Removal of pipe under bridge	Southern Water		Lukely Brook		■		■				Complete prior 2016
River Medina Restoration	River restoration, in-channel enhancements along a 3 km stretch of the River Medina	Newport Rivers Project	Natural Enterprise, EA	River Medina			■			■		Complete 2013
Towngate Pond	Restoration	Environment Agency	Newport Rivers Group, Newport PC	Lukely Brook				■		■		Complete 2003
Viaduct Sculpture Park and St Cross Fish Pass	Arts, fish passage and public realm	Environment Agency / Natural Enterprise		Lukely Brook						■		Complete 2003
EAST YAR CATCHMENT												
Sewage Treatment Works	Phosphate reduction at Wroxall	Southern Water		Wroxall Stream	■				■			Complete 2021
Meanders and Reflections	Restoration of Yar River Trail and add-ons from Shanklin and Ventnor	Natural Enterprise	Ramblers	Eastern Yar, Scotchells Brook and Wroxall Stream						■		Complete 2020

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Tourism & Recreation	Other	
EAST YAR CATCHMENT												
Budbridge Weir	Fish easement	Environment Agency		East Yar			■	■				Complete 2020
Wetland Restoration	Improvement and restoration of wetland sites,	Wildlife Trust	DttC	Eastern Yar, Blackbridge Brook, Wroxall Stream	■		■					Complete 2020
Alverstone Marshes	Land purchase and improvements at Unit 1 Alverstone Marshes	Wildlife Trust & Environment Agency	DttC	Eastern Yar			■	■				Complete 2020
Upper Wroxall Stream Run-off Projects	Small-scale measures to reduce run-off from steep slopes	Natural Enterprise	Island Rivers	Wroxall Stream	■							Complete 2020
Middlebarn Wetlands	Wetland Creation	Natural Enterprise	Island Rivers	Wroxall Stream	■		■					Complete 2020
APS Wetlands	Wetland Creation	Natural Enterprise	Island Rivers	Wroxall Stream	■		■					Complete 2020
Waightshale Weir	Fish easement	Environment Agency		Wroxall Stream			■	■				Complete 2020
Donkey Sanctuary (Wetland Restoration)	Scrub control and riverside management. Including raising public awareness of wetland sites.	Wildlife Trust	DttC	Wroxall Stream			■			■		Complete 2020
Horringford Fish Easement		Wildlife Trust	EA, DttC	Eastern Yar			■	■				Complete 2019
Farm Cluster EY Tree Works	Management of tree downstream of Budbridge	Farm Cluster	AONB	Eastern Yar			■					Complete 2019

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Tourism & Recreation	Other	
EAST YAR CATCHMENT												
Sandown Water Supply Works	Upgrade to reliably produce 12 Mld	Southern Water		Eastern Yar		■			■			Complete 2019
Knighton Water Supply Works	£6m to return 2 lower greensand boreholes to supply (4Mld). By 2020	Southern Water		Groundwater	■				■			Complete 2018
Langbridge Fish Easement		Wildlife Trust	EA, DttC	Eastern Yar			■	■				Complete 2018
Sandown Community Orchard	Wetland access improvements	Natural Enterprise		Eastern Yar						■		Complete 2018
St Helens Duver	Access improvements	Ramblers	DttC, Natural Enterprise	Eastern Yar						■		Complete 2017
Brading Marshes Footpath Improvements	Improvements to footpath across Yar Floodplain.	Ramblers	DttC, Natural Enterprise Trust	Eastern Yar						■		Complete 2017
Bembridge fish enhancement project	Install 4 enhancements at Bembridge to allow passage of fish along Eastern Yar	EA		Eastern Yar			■	■				Complete prior 2016
Wroxall Stream River Lightening	River lightening	Natural Enterprise	Island Rivers Partnership	Wroxall Stream			■					Complete 2015 & 2020
Wroxall Stream Bunding	Soil run-off capture	Wildlife Trust	Island Rivers Partnership	Wroxall Stream	■							Complete 2015
Fenland Restoration	Scrub removal at Hale	Wildlife Trust		Wroxall Stream			■					Complete 2015

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Tourism & Recreation	Other	
NORTHEAST COAST WATERCOURSES												
Blackbridge Brook	Improvement and restoration of wetland sites,	Wildlife Trust		Blackbridge Brook								Complete 2020
Monktonmead Outfall	Re-routing of river at seafront. Increased water storage provision. Flood alleviation measures.	Environment Agency	IW Council, Southern Water	Monktonmead Brook								Complete 2018
Pig Leg Lane Restoration	Riverside Meadow Restoration and Interpretation	Natural Enterprise		Monktonmead Brook								Complete 2016
Rosemary Lane run-off	Arresting flow into brook	Natural Enterprise	EA	Monktonmead Brook								Complete 2016
Hersey Reserve	Creation of accessible SSSI wetland reserve with bird hide on the north-east coast of the Island	IWC, Seaview Parish Council	EA, Natural England	Nettlestone Stream								Complete prior 2016
THE SOLENT												
Solent Boating and Water Quality	Working together as a 'Community of Practice' to improve water quality from recreational boating related activities in the Solent & Poole Harbour area. http://www.solentforum.org/services/Current_Projects/Boating/	Natural England/Environment Agency	Facilitated by the Solent Forum, wide enagement with coastal partners/organisations	Solent Trac waters								Compete 2023

Project name	Project Description	Lead Organisation	Other Partners / groups	Water Body	Water Quality	Water Resources	Habitats & Species	Physical Modifications	Climate Resilience	Tourism & Recreation	Other	
CATCHMENT-WIDE / MULTI WATERCOURSE												
Farmscoper/ Targeted agri'	Reduction of nutrients from rural land to improve estuary water quality. Revisit farmers 21/22	AONB, Southern Water	Farmers, EA, NE	Eastern Yar, Medina, Caul Bourne	■							Complete 2022
Water Vole Surveys	Comprehensive survey of Western Yar and Eastern Yar 2012-2020.	Wildlife Trust		Western Yar and Eastern Yar							■	Complete 2020
Sandown Waste Treatment Works	£4m inlet works. New screens and grit removal. By 2020	Southern Water			■				■			Complete 2020
Mains Replacement	Broadfields, Alvington, Ashey Road, Staplers	Southern Water		All waterbodies		■			■			Complete 2019
Broadfields Water Supply Works	£250K Resilience Improvements by 2020	Southern Water		Groundwater		■			■			Complete 2019
Cooks Castle	New reservoir	Southern Water		Groundwater		■			■			Complete 2019
Ventnor Water Supply Works	Resilience and crypto mitigation scheme. By 2020	Southern Water		Groundwater		■			■			Complete 2019
Fairlee Waste Treatment Works	Pump Upgrade	Southern Water			■				■			Complete 2019
Appley Waste Treatment Works	Pump Upgrade	Southern Water			■				■			Complete 2019
Lion Point Waste Treatment Works	Pump Upgrade	Southern Water			■				■			Complete 2019
Shanklin Bathing Water	£5m to improve from 'good' to 'excellent'.	Southern Water			■				■			Complete 2019
Love Where You Sail	Raising awareness among boat users and assessing impact of recreational boating on water quality.	Green Blue, RYA, EA	Estuaries Project	All waterbodies						■		Complete prior 2016

Appendix 3 References

[1] WFD river, canal and surface water transfer bodies (Cycle 2) symbolised by overall classification for 2019. Environment Agency copyright and/or database right 2019. All rights reserved. WFD Transitional and Coastal Water Bodies Cycle 2 classification data for 2019 with additional user attribution including CaBA partnership identifiers. Environment Agency copyright and/or database right 2019. All rights reserved.
[2] Environment Agency's Water Framework Directive Reasons for Not Achieving Good status for Cycle 2 waterbodies in England & cross-border catchments in Wales (2013 - 2016). Environment Agency
[3] Nitrate Vulnerable Zones (NVZ) - Eutrophic Waters 2017 Final Designations. The Rivers Trust
[4] Source Protection Zones (England). The Rivers Trust.
[5] Southern Water Drainage and Waste Water Management Plan https://www.southernwater.co.uk/dwmp/isle-of-wight-catchment
[6] Event Duration Monitoring - Storm Overflows - 2021 (England and Wales) Produced by The Rivers Trust. © Environment Agency copyright and/or database right 2022. All rights reserved. © Dŵr Cymru/Welsh Water.
[7] Solent Protection Society A geographical distribution of the 37 worst offending CSO spill locations in 2022 https://solentprotection.org/2023/06/07/untreated-sewage-continues-to-spill-into-the-solent/
[8]Solent Protection Society Environment Agency data analysis – 2020/2021/2022 – High priority sewer overflows summarised by Solent tidal area see website for full information https://solentprotection.org/2023/06/07/untreated-sewage-continues-to-spill-into-the-solent/
[9] SCIMAP Risk Mapping Approach
[10] Risk of Flooding from Rivers and Sea. Environment Agency copyright and/or database right 2018. All rights reserved. Some features of this map are based on digital spatial data from the Centre for Ecology & Hydrology, © NERC (CEH) © Crown copyright and database rights 2018 Ordnance Survey 100024198
[11] Risk of Flooding from Surface Water (Basic) © Environment Agency copyright and/or database right 2015. All rights reserved.
[12] July 2022 Rainfall Amount - % of 1991-2020 Average. © Met Agency © Crown copyright
[13] Water Abstraction Licences (England). Environment Agency
[14] Water Resource Availability at Q70 (Low Flows). © Environment Agency copyright and/or database right 2015. All rights reserved.
[15] Risk of Flooding from Surface Water (Basic) © Environment Agency copyright and/or database right 2015. All rights reserved.
[16] Island Planning Strategy Map, Isle of Wight Council. Accessed 05/09/2023
[17] https://islandrivers.org.uk/projects/plant-positive-invasive-non-native-species-removal/ Screen Grab 21/09/2023
[18] Saltmarsh Change (EA) © Environment Agency copyright and/or database right 2015. All rights reserved.
[19] Priority Habitat Inventory (South) (England) / Priority Habitats Inventory (South) (England) © Natural England

[20] River Obstacles data is licensed by the Environment Agency under Open Government Licence. The River Obstacles initiative is a joint endeavour by the Environment Agency, Zoological Society of London, The Rivers Trust, Thames Estuary Partnership, The River Restoration Centre and Natural Apptitude.
[21] Priority Barriers: Eel Priority © Environment Agency copyright and / or database rights 2016.
[22] Isle of Wight Mission Zero https://togetherformissionzero.co.uk/wp-content/uploads/2022/09/2570-Mission-Zero-Climate-and-Environment-Strategy-2021-2040-final.pdf calculated from http://publications.naturalengland.org.uk/publication/5419124441481216
[23] https://naturalent.maps.arcgis.com/home/search.html?t=content&q=tags:%22Indices%20of%20Multiple%20Deprivation%22
[24] Isle of Wight Health and Wellbeing Strategy, 2022
[25] Isle of Wight Public Healthy Strategy 2020=2025
[26] Isle of Wight Public Healthy Strategy 2020=2025
[27] Isle of Wight Public Healthy Strategy 2020=2025
[28] Area of accessible green and blue space per 1000 population (England)© Ribble Rivers Trust 2021. Produced using data: © Natural England copyright 2021. Contains Ordnance Survey data © Crown copyright and database right 2021. Contains public sector information licensed under the Open Government Licence v3.0.; © Sustrans 2021, licensed under the Open Government Licence v3.0.; © Forestry Commission 2016.; © Office for National Statistics licensed under the Open Government Licence v3.0. © Crown Copyright 2020.
[29] https://inews.co.uk/inews-lifestyle/wellbeing/cost-living-five-million-cancelling-gym-memberships-health-fitness-crisis-2005079