

# Water Body Summary Sheet

Water Body Summary Information (Data based on SERBMP Dec 2009)

WATERBODY ID	WB NAME	CATCHMENT	WB TYPE	HMWB
GB107101005970	Eastern Yar	Isle of Wight	River	Yes
WB COORDINATOR	AEP LEAD	CATCHMENTCOORDINATOR	DESK STUDY AUTHOR	
Linda Treasure	Eamonn St Lawrence	Peter Taylor	Sean McGrogan	

Designations							
Bathing Water	Drinking Water	Shellfish Water	Freshwater Fish	Nitrates Directive	Urban Waste Water	Wild Birds Directive	Habitats and Species
Yes	Yes	No	Yes	Yes	No	Yes	Yes

Overall Ecological Status/Potential	Confidence WB is less than good	Elements Driving Classification	Other Failing Elements (element status)	Elements Passing
Moderate	Very Certain	Mitigation Measures	Invertebrates (poor- very certain) Quantity and Dynamics of Flow	Ammonia (Phys-chem & Annex 8), Dissolved Oxygen, pH, Phosphate, Temperature, Copper, Zinc, Cypermethrin

Relevant Monitoring Points					
Diatoms	Macrophytes	Fish	Invertebrates	Physico-Chemical	Chemistry
Not Monitored	Not Monitored	Not Monitored	42307, Arreton Stream, Haseley Manor (poor) 42920, Burnt House (moderate) 41927, Horringford (good)	Y0004401- River Eastern Yar at Brading Y0004402- River Eastern Yar at Burnt House Y0004415- Scotchells at confluence Y0004418- Arreton stream st Heasley Manor	Y0004401- River Eastern Yar at Brading Y0004402- River Eastern Yar at Burnt House Y0004418- Arreton stream st Heasley Manor

## Photographs of catchment



Horringford- Eastern Yar  
Picture taken in Spring 2004.



Burnt House- Eastern Yar  
Picture taken in Spring 2004.

Last saved by Carol Flux 02/11/2015

## Situation

**BACKGROUND** = The Eastern Yar flows for 24.27km; the waterbody is composed of two tributaries and the main Eastern Yar river. The North tributary begins North of Godshill and is joined approximately 3 km downstream by a tributary beginning at Arreton. The South tributary begins West of Shanklin and joins the North tributary East of Alverstone. The lower part of the waterbody flows through Brading marshes and together are designated as a Site of Special Scientific Interest, Ramsar site, a Special Protection Area and a Nitrate Vulnerable Zone. The area is also entirely artificial, dug out in the 1880s following the reclamation of the lower Brading Marshes.

**STATUS** = The waterbody is currently at Moderate status and is not expected to improve by 2015 as it would be disproportionately expensive. The Eastern Yar is designated as a heavily modified waterbody due to reasons for flood defence, drinking water, water regulation, water storage and urbanisation. The quantity and dynamics of flow has also been assessed as not achieving good status, therefore WFD requires us to bring all failing biological elements up to good status. This requirement is based on flow issues contributing to ecological failures rather than them being purely a result of physical modifications.

**PRESSURES** = Due to the rural setting of the river it is thought diffuse pollution is having an impact on the stream, along with physical modifications made to the channel. There are four STW located in the waterbody, the combination of these may be causing a detrimental impact to the river. The Arreton stream is a small tributary to the Eastern Yar, included in the waterbody. The stream is relatively short, approximately 1.6km, with numerous discharges along its stretch, including discharges from Hazely Combe and Arreton STW.

**FAILING ELEMENT OVERVIEW** = The following is a summary of the current situation for each failing element. This was last updated on **14<sup>th</sup> December 2011**.

**Invertebrates:** The main Eastern Yar would achieve Good (site 42920, Burnt House was incorrectly classified as 'Moderate' when it actually achieved 'High'). The invertebrate ecology of the entire waterbody is 'brought down' significantly by the site 42307, Haseley Manor, which is located on the tiny Arreton Stream. Arreton stream has historically been problematic due to septic tank discharges, Arreton STW, Hazely Combe STW, numerous licensed discharges along the stretch and agricultural diffuse pollution. Much work has already been done to improve the water quality such as leaflet dropping about septic tank care to all the villagers in Arreton. It is hoped **Action NA3** will further improve the effluent quality from Arreton and Hazely Combe STW. Also the Arreton Stream, being so small, is prone to low flows and is very iron rich due to the surrounding geology. Both of these natural issues will limit the invertebrate community in the small stream.

### **Fish: (updated 06.02.14 D. Longley)**

- This Waterbody will be monitored for fish in RBMP2 and the surveys on which classification will be based were conducted in 2012 at Newchurch and Yarbridge.
- The 2013 FCS2 interim classification for fish is High for both samples and for the waterbody. This is erroneous as the catch at Yarbridge was clearly poor and there is abundant evidence that the fish population is at less than GES and is under considerable pressure from sedimentation, morphology, hydrology and obstructions to fish passage.
- The cause of the miscalculation has been discussed with the national FCS2 lead, who confirms that it is due to the very low expected prevalences for Yarbridge – this is a recognised problem which typically arises from the calibration model having no similar catchments locally. There is no way of adjusting FCS2 to rectify this at present (national recalibration would be necessary).
- The solution proposed by the national FCS2 leads is simply for the High classification to be discounted on the basis of local knowledge and evidence. A further measure will be to include a third sample site, Horrington, to represent the intermediate habitat quality.

**Mitigation Measures:** All feasible mitigation measures need to be put in place to achieve good potential. All mitigation measures will be assessed to ensure all appropriate mitigation measures are implemented. Where possible this will be implemented as part of the second round of the better rivers programme. There are twelve mitigation measures assessments for this waterbody, only one is currently in place.

**Quantity and Dynamics of Flow:** The hydrology in the Eastern Yar has been assessed as not supporting good status. A water resources investigation is planned which will identify relevant actions to improve the hydrology in the stream (**Action NA2**). This stretch of the Eastern Yar runs over almost every single geology we find in Southern Region, from the oldest to the youngest. There will be a great variation in the amount of groundwater in the river along the stretch, and hence the effect on quality will also be very variable.

## Situation

### WATER RESOURCES =

WR WFD Stage 1 is a desktop study to confirm the flow compliance result is correct and ascertain whether the ecological monitoring sites are suitable for assessing abstraction impacts. The ecological status of suitable monitoring sites are noted. Those where flow non-compliance is confirmed and the ecological assessment indicates there is a potential hydroecological problem, progress to WR WFD Stage 2. WR WFD Stage 2 assesses the reasons for the failure and the water resource abstraction pressure upon the failing ecology.

### Water Resource WFD Stage 1=

The flow compliance result in this waterbody has now been confirmed as indicating failing to support 'Good' status. The ecology has also been assessed as failing.

### WR WFD investigations Stage2 (Identify cause of failure)

Complete - no need to move onto stage 3

**ACTIONS TO REACH GOOD ECOLOGICAL STATUS/POTENTIAL** – The Stage 3 Investigation process uses the evidence on the causes of failure within the waterbody to generate actions which, once implemented, will move the waterbody to Good Ecological Status/Potential. These Stage 3 actions will build upon the improvements which the RBMP Actions are currently delivering. See the table below for RBMP Actions, and Stage 3 Actions. This table of actions is not a finite list of actions that maybe required, and as our evidence and understanding of the waterbody continues to improve; actions may be changed, removed or replaced.

The poor water quality of the Arreton Stream is solely responsible for dragging down the classification of the entire waterbody. Inverts failing for a number of reasons including, agricultural diffuse pollution, impact of a number of septic discharges and Arreton and Hazely Combe STWs. Physical alterations to the stream have also had an impact. Actions including Catchment Sensitive Farming visits, investigations of STWs and septic tank discharges have been identified.

To address Mitigation Measures along the length of this large waterbody a number of actions have been identified including: bank rehabilitation / re-profiling; enable fish passage (e.g. fish pass); control and eradication of selected high risk species; removal of sediment; undertake geomorphological assessment; and share best practice on partnership working.

Eastern Yar River Restoration group has been formed (E Wight Water Environment Group), with members from EA, RSPB, AONB, NE, HWT and IoW. The aim of this group will be to take a strategic overview to look at existing evidence and advice on projects to be implemented. Develop a prioritised plan, probably based on ease of implementation, cost and who would be best to lead.

For Water Resources, although there is Southern Water abstraction at Burnt House, there is no evidence that this is having an impact on the ecology of the Stream.

Project ideas are being developed for the East Wight Partnership bid, to restore and enhance the management of sections of the watercourses for wildlife and public enjoyment and understanding.

Action ID	Action Description	Progress	Team / Organisation
<b>RBMP Actions (Assigned in the South East RBMP)</b>			
SEO112	Improvements to water company assets at 7 locations in the Isle of Wight Catchment, to deliver benefits against the pressures identified or investigate the need for further investment	Brading STW, Completion Date 31/03/2015. Eastern Yar GB107101005970  Roud WWTW, Completion Date 31/03/2015, Eastern Yar GB107101006220	Southern water
SE0119	Flood/Coastal Erosion Risk Management Measure - Appropriate channel maintenance strategies and techniques e.g. remove woody debris only upstream of, or within, areas of urban flood risk	Should be considered with mitigation measures (40 &39)	FCRM

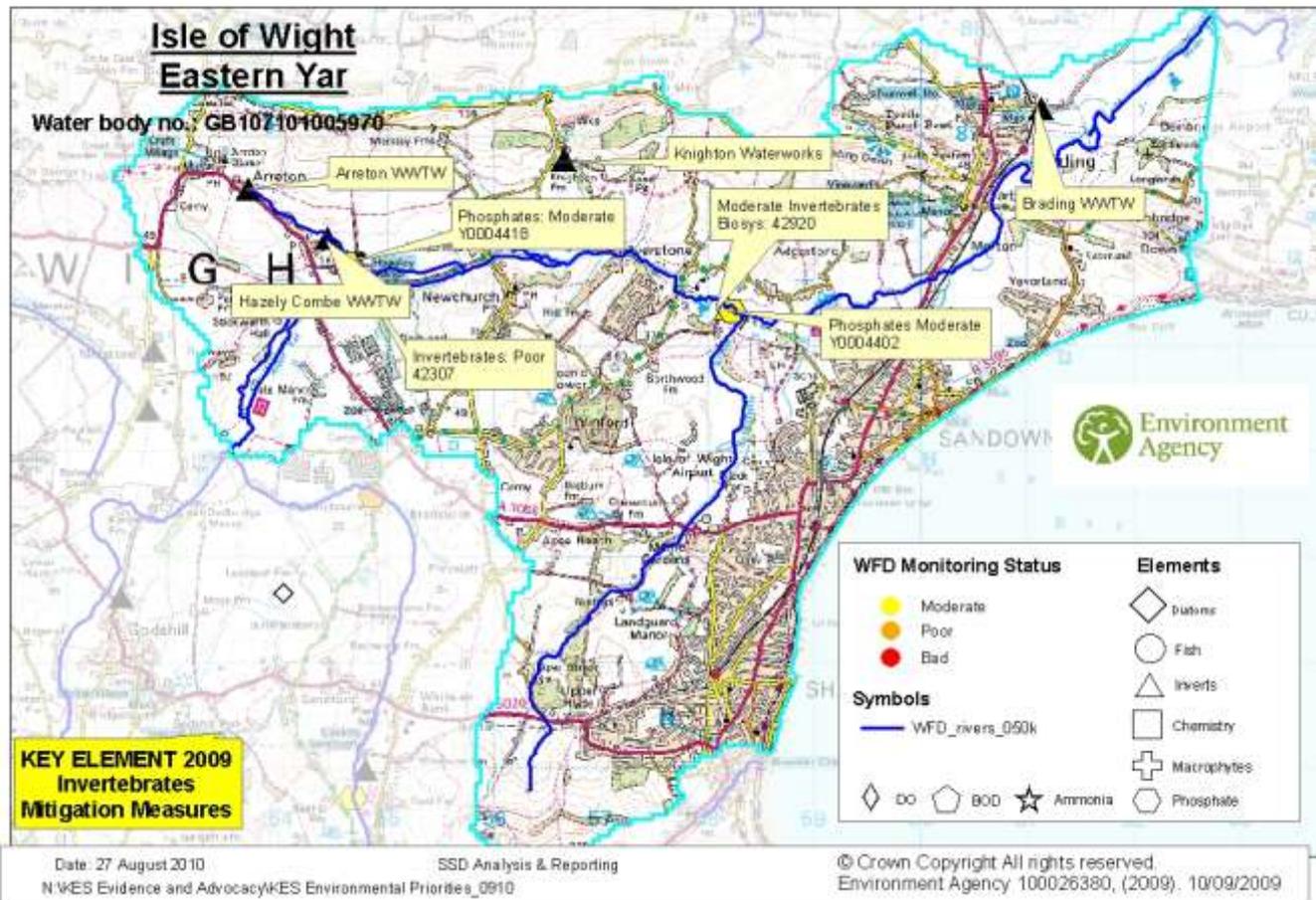
Action ID	Action Description	Progress	Team / Organisation
	minimise disturbance to channel bed and margins		
SE0124	Flood/Coastal Erosion Risk Management Measure - Appropriate water level management strategies, including timing and volume of water moved	Should be considered with mitigation measures (41)	In Place
SE0199	Carry out investigative riverine and land based field work into the origins, causes and solutions to sedimentation. Outcome: Improve our understanding of problems, in order to take effective action to address them.	Completed, sedimentation not having negative on inverts.	Hampshire & loW Wildlife Trust, EA
SE0233	Identify priorities for second round of 'Regional Better Rivers Programme'. Outcome: Second planning cycle schemes improve habitat and ecology in waters agreed from a pool of 53 candidates totalling 545 km, building on monitoring and lessons from the first round.	Dormant	SEP (Ecol) EA
SE0306	Work with Natural England to target Catchment Sensitive Farming type activities and agri-environment schemes to ensure adoption best farming practices. Outcome: Reduce diffuse pollution sources from agriculture within water bodies identified as being impacted or at risk.	Ongoing	Hampshire & loW Wildlife Trust, EA
<b>Sub Actions</b>			
SE0199-1	Work with EM Team to design monitoring programme to identify origin of sedimentation.	Implemented	ART, EA
<b>WB Add on RBMP</b>			
SE0200	Carry out investigative riverine and land based field work into the origins, causes of and solutions to pollution where we need to improve certainty. Outcome: Improve our understanding of problems, in order to take effective action to address them.	Complete	EM, EA
SE0198	Carry out additional riverine sampling into the origins, causes of and solutions to pollution where we need to improve certainty. Outcome: Improve our understanding of problems, in order to take effective action to address them.	Complete	ART, EA
<b>WB Add on RBMP Action(Sub Actions)</b>			
SE0200-1	Carry out additional phys-chem surveys to establish the causes and location of the water quality problem	Complete	S&C EA
SE0200-2	Analyse data from the phys-chem survey.	Complete	ART EA
SE0200-3	Take action to resolve any issues identified in spatial water quality investigation	Complete	EM, EA
SE0198-1	Calculate indicative classification for phys-chem	Complete	ART, EA
SE0198-2	Collect spring and autumn invertebrate sample from 42307, Arreton Stream, Haseley Manor	Complete	S&C EA
SE0198-3	Reclassify above site	Complete	ART, EA
SE0198-4	Collection of Spring and Autumn invertebrate samples from new site '158493' and in summer collect physical environment data	Complete	S&C, EA
SE0198-5	Calculate indicative classification for above site	Complete	ART, EA
<b>New Actions</b>			
NA1	Correct the waterbody mapping area to include waterbodies GB107101005970 and GB107101006010 together.	Done through Waterbody Review	ART EA
NA2	Carry out a water resources investigation for the waterbody.	No ecological impact. New site now in place, so further assessment underway	ART EA
NA3	Consider what actions to take to improve Arreton and Hazely Combe STW effluent quality, with an aim to enhance the sanitary conditions of the watercourse downstream.	Action now under SSD-IW-024 SSD-IW-028	Land & Water
<b>Redundant RBMP Actions (Of those listed above)</b>			
SEO120	Flood/Coastal Erosion Risk Management Measure - Appropriate techniques (invasive species)	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
SEO122	Flood/Coastal Erosion Risk Management Measure - Appropriate	Having spoken to	FCRM

Action ID	Action Description	Progress	Team / Organisation
	timing (vegetation control)	relevant colleagues in FCRM the action is not currently appropriate.	
SEO123	Flood/Coastal Erosion Risk Management Measure - Appropriate vegetation control technique	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
SEO131	Flood/Coastal Erosion Risk Management Measure - Operational and structural changes to locks, sluices, weirs, beach control, etc	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
SEO132	Flood/Coastal Erosion Risk Management Measure - Preserve (e.g. fencing) and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
SEO133	Flood/Coastal Erosion Risk Management Measure - Preserve and where possible enhance ecological value of marginal aquatic habitat, banks and riparian zone	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
SEO134	Flood/Coastal Erosion Risk Management Measure - Preserve and, where possible, restore historic aquatic habitats	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
SEO140	Flood/Coastal Erosion Risk Management Measure - Selective vegetation control regime	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
SEO138	Flood/Coastal Erosion Risk Management Measure - Retain marginal aquatic and riparian habitats (channel alteration)	Having spoken to relevant colleagues in FCRM the action is not currently appropriate.	FCRM
<b>Stage 3 Actions (the Pathway to good Ecological Status)</b>			
SSD-IW-024	Invertebrates - actions to take to improve Arreton STW effluent quality		Land & water and Region
SSD-IW-026	Focus EM and CSF work around Arreton Stream.		Land & Water
SSD-IW-027	Investigate the septic tank discharges into the Arreton Stream		Land & Water
SSD-IW-028	Consider what actions to take to improve Arreton and Hazely Combe STW effluent quality, with an aim to enhance the sanitary conditions of the watercourse downstream. Gathering Evidence for AMP.		Land & Water Region
SSD-IW-029	Encourage riparian land owners to leave a buffer strip adjacent to the river in an attempt to halt sediments getting washed into the watercourse. Focus on Arreton Stream. Invertebrates - actions to take to improve diffuse pollution		Land & Water
SSD-IW-030	New development, 5.3 hectare site south of Hazeley Combe, Arreton. Identify / ensure sewage is discharged to, an appropriate site.		Land & Water & SP
SSD-IW-092	Horringford invert site does get impacted by high flow as the channel here is very straight. The flow in the more natural adjacent channel is very low. If flow was restored to this meandering channel then this would provide a better invert sampling point.		ART
SSD-IW-100	Pollution prevention visit to College Close industrial area in Sandown to identify any activities that could be having a negative impact of the Eastern Yar and providing guidance to ensure this is stopped.		Land & Water

Mitigation Measures (MM) – Not In Place				
MM ID	MM Description	Action ID	Actions to Implement MM	Progress
2	Remove obsolete structure	SSD-IW-025	Recommendations in 'East Wight Watercourses; 'Review and Project Identification', which includes: Remove artificial obstructions to flow such as weirs and culverts.	
		SSD-IW-032	Actions identified by APT from walkover on main Eastern Yar: Remove weir or modify to facilitate fish passage; and removing sluice structures	
6	Increase in-channel morphological diversity	SSD-IW-025	Recommendations in 'East Wight Watercourses; 'Review and Project Identification', which includes: River Restoration	
		SSD-IW-031	Commission a similar report to that done on the Medina, "River Medina Habitat Assessment", to identify options on how and where to implement this mitigation measure, and all others which are not in place.	
		SSD-IW-032	Actions identified by APT from walkover on main Eastern Yar: De-silting and formalising flow splits; Marginal Planting; Vegetation management; River restoration; and Adding substrate on top of concrete bed	
		SSD-IW-033	Actions identified by APT from walkover on Arreton Stream: Remove artificial bank; Selective arboricultural; and Selective vegetation management	
		SSD-IW-034	Actions identified by APT from walkover on Scotchells Brook: Vegetation and arboricultural management	
		SSD-IW-035	A project is being developed which will identify and explore a number of possible options to improve habitat at Sandown Meadows near Alverstone.	
		SSD-IW-036	Geomorphological assessment undertaken	
		SSD-IW-037	Output from Eastern Yar River Restoration group formed. Taking a strategic overview to look at existing evidence and advice on projects to be implemented.	
SSD-IW-038	The Yar Banks project: produce a riverbank management plan from which to prioritize bankside works - fell, coppice, pollard, clear, remove, fence, bund, ditch, etc			

		SSD-IW-108	Project ideas are being developed for the East Wight Partnership bid. Restoring and enhancing the management of sections of the watercourses for wildlife and public enjoyment and understanding.	
8	Re-opening existing culverts	SSD-IW-032	Actions identified by APT from walkover on main Eastern Yar: Culvert blocked or partially collapsed; repair or remove	
16	Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works	SSD-IW-032	Actions identified by APT from walkover on main Eastern Yar: Remove wire or modify to facilitate fish passage	
		SSD-IW-034	Actions identified by APT from walkover on Scotchells Brook: Modify weirs to allow fish access	
		SSD-IW-107	Fish passage and fish schemes being proposed under requirements of eel regs on EA owned structures. Fish pass at Bembridge Weir.	
20	Operational and structural changes to locks, sluices, weirs, beach control, etc	SSD-IW-032	See Actions Under MM 16	
		SSD-IW-034	See Actions Under MM 16	
		SSD-IW-107	See Actions Under MM 16	
33	Selective vegetation control regime		Vegetation management undertaken by a contractor, appropriate techniques and management already in place	
34	Appropriate vegetation control technique		Vegetation management undertaken by a contractor, appropriate techniques and management already in place	
35	Appropriate timing (vegetation control)		Vegetation management undertaken by a contractor, appropriate techniques and management already in place	
36	Appropriate techniques (invasive species)	SSD-IW-032	Actions identified by APT from walkover on main Eastern Yar: Crassula treatment	
		SSD-IW-033	Actions identified by APT from walkover on Arreton Stream: Invasive species treatment	
		SSD-IW-018	Pulling/ spraying non-invasive species Continued management of invasive species, specifically targeting Himalayan Balsam and Japanese Knotweed. This currently involves manual removal and/or spraying.	
37	Retain marginal aquatic and riparian habitats (channel alteration)		Vegetation management undertaken by a contractor, appropriate techniques and management already in place	
38	Sediment management strategies (develop and revise)	SSD-IW-025	Recommendations in 'East Wight Watercourses; 'Review and Project Identification', which includes: Raise bed levels using re-cycled bed gravels	
		SSD-IW-036	Geomorphological assessment undertaken: Sediment no longer dredged, potential to use gravels that were previously taken out to raise bed levels. Sediment on the banks has to be managed.	
41	Appropriate water level management strategies, including timing and volume of water moved		In Place	
54	Educate landowners on sensitive management practices (urbanisation)	SSD-IW-038	The Yar Banks project: produce a riverbank management plan from which to prioritize bankside works - fell, coppice, pollard, clear, remove, fence, bund, ditch, etc	

## Map of Catchment –



### Glossary

A&R	Analysis and reporting team
ASPT	Average Score Per Taxa
BIOSYS	Our main database for storing, manipulating and reporting data from freshwater and marine biological surveys at any taxonomic level
BMWP	Biological Monitoring Working Party
CEO	Combined emergency overflow
CSF	Catchment sensitive farming
CSM	Customer Self Monitoring (of STPs/WIMS sampling points)
CSO	Combined sewer overflow
D/S	Downstream
DO	Dissolved oxygen
EM	Environment management team
EP	Environmental planning team
FCS2	Fisheries Classification Scheme version 2
FRB	Fisheries recreation and biodiversity team
HEVI	HydroEcological Validation tool
LIFE	Lotic Invertebrate index for Flow Evaluation
NFPD	National Fish ... Database
NTAXA	Number of taxa
P	Phosphate
RIVPACS	River InVertebrate Prediction and Classification System
RIVPACS	predicts the macro-invertebrate fauna at any site on a river from a small number of environmental parameters derived from maps or measured at the site.
SERBMP	South East River Basin Management Plan
SS	Suspended solids
STP	Sewage treatment plant
STW	Sewage Treatment works
U/S	Upstream
WB	Waterbody
WQIP	Water Quality Improvement Plan
WWTW	Waste water treatment works