Option	SWS_KTZ_HI-DES_ALL_ALL_tha20	Desalination (KTZ): East Thanet (20Ml/d) (and variants of this option)
Water body type		Coastal
Hydromorph designation		Heavily modified
Water body ID		GB650704510000
Water body name		Kent North

Option description and potential effects:

New desalination plant constructed near to the North Thanet Coast, and would supply potable desalinated water to the Kent Thanet WRZ. The desalination plant would require abstraction of seawater and discharge of hypersaline effluent - these activities could impact on fish via impingement and on water quality when discharged.

Designated sites identified in Catchment Data Explorer:
- Thanet Coast & Sandwich Bay SPA and Ramsar
- Outer Thames Estuary SPA
- Sandwich Bay SAC (screened out of HRA)
- Thanet Coast SAC
- Margate and Long Sands SAC

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton				The discharge of hypersaline water into the coastal water body could impact on water quality and affect biological compliance parameters. Water quality modelling will be required to determine the potential effects on biological compliance parameters and protected areas. Whilst fish is not a parameter monitored under coastal water bodies, the potential impacts on fish resulting from a plume of hypersaline water could give rise to an impact on nearby transitional water bodies, e.g. by creating a barrier to population movements. Construction of new infrastructure to support this option could impact on both water quality and biology if significant seabed disturbance is required. Sediment sampling will be required to confirm whether there is sufficient risk to water quality to affect biological parameters.	Non-compliant (low conf.)	Non-compliant (low conf.)
Angiosperms					Non-compliant (low conf.)	Non-compliant (low conf.)
Macroalgae					Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates					Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)				Water quality modelling will be required to determine potential effects on water quality associated with the discharge, which would then determine the potential effects on biological compliance parameters and protected areas. Construction of new infrastructure to support this option could impact on both water quality and biology if significant seabed disturbance is required. Sediment sampling will be required to confirm whether there is a risk to water quality.	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals			Fail for mercury and its compounds and polybrominated diphenyl ethers (PBDEs).	It is not predicted that the discharge would contain any chemicals supporting chemical status. However, seabed disturbance during construction could give rise to the release of sediment bound chemicals. Sediment sampling will therefore be required to confirm whether there is a risk to water quality.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			Heavily modified use: Coastal Protection Structural modification - 19. Enhance ecology, 16. Fish passes NOT IN PLACE. Operations and maintenance - 21. Avoid the need to dredge, 22. dredging disposal strategy, 23. Reduce the impact of dredging, 24. reduce sediment suspension, 25. Retime dredging or disposal 26. Sediment management and 27. Dredge disposal site selection, 28. Manage disturbance NOT IN PLACE. Working with physical form and function - 13. Realign flood defence, 4. remove or soften hard bank, 7. Bank rehabilitation. ALL NOT IN PLACE.	Dredging or construction techniques which disturb the seabed may be required to install the abstraction and discharge structures. However, these activities would be short term and limited to the construction period. Therefore in the long term, mitigation measures associated with sediment disturbance would not be impacted.	Compliant (low conf.)	Compliant (low conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_KMW_HI-RSR_RE1_ALL_rab1	Storage (SHZ): Raising Bewl Reservoir 0.4m (3Ml/d)	Option description and potential effects:
Water body type		Lake	The scheme involves the raising of Bewl Water, by 0.4m to increase storage and yield. The major works for raising Bewl to higher TWL levels will include: • Raise the dam crest and build new wave wall;• Raise overflow and valve chamber shafts; and • Many ancillary works around the perimeter of the reservoir. New reservoir extent will flood existing stream environments (upstream), and may alter the downstream flow regime. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		heavily modified	
Water body ID		GB30644398	
Water body name		Bewl Water	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton				Raising the reservoir will alter the hydro-morphology of the reservoir, with likely temporary impacts on marginal vegetation and water quality, although it is expected that this would equilibrate over time. Longer-term impacts on water quality could occur, as described below, which would have potential implications for biology.	n/a	n/a
Invertebrates					n/a	n/a
Macrophytes/ phytobenthos	Poor	Poor			Uncertain	Uncertain
Phys-chem water quality (in support of ecological status)	Poor	Poor	Total phosphorus - point source sewage discharge - responsible sector water industry (confirmed)	Raising the reservoir will alter the hydro-morphology of the reservoir. It is likely to have short-term impacts on water quality associated with the flooded margins, and potential longer-term changes as a result of changes to water depths, storage times and mixing. Modelling would be required to determine whether this would be a positive or a negative change.	Uncertain	Uncertain
Chemicals			Fails for Mercury and Its Compounds, Perfluorooctane sulphonate (PFOS) and Polybrominated diphenyl ethers (PBDE)	There will be no change to the sources of water in the reservoir as a direct result of this option, and therefore likely to be no changes to the status of chemical elements	Compliant (low conf.)	Compliant (low conf.)
RBMP2 water body measures			Heavily modified for drinking water supply and water regulation (i, ii) Working with physical form and function - 3. Re-engineer river IN PLACE. Water management - 42. Access to feeder-streams, 45. Good downstream DO levels, 46. Good downstream temperature, 43. Downstream flow regime. ALL IN PLACE WITH THE EXCEPTION OF 43. Structural modification - 18. Reduce fish entrainment. IN PLACE	It is assumed that current release arrangements from the reservoir would be retained. However, the increased storage is likely to result in delayed refill and associated spills, and potentially reduced total spills. This could be an impediment to the improvement of measure 43 (downstream flow regime)	Non-compliant (low conf.)	Non-compliant (low conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (med. conf.)	

Option	SWS_KMW_HI-RSR_RE1_ALL_rab1	Storage (SHZ): Raising Bewl Reservoir 0.4m (3M	Option description and potential effects:
Water body type		River	The scheme involves the raising of Bewl Water, by 0.4m to increase storage and yield. The major works for raising Bewl to higher TWL levels will include: • Raise the dam crest and build new wave wall;• Raise overflow and valve chamber shafts; and • Many ancillary works around the perimeter of the reservoir. New reservoir extent will flood existing stream environments (upstream), and may alter the downstream flow regime. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		heavily modified	
Water body ID		GB106040018500	
Water body name		Bewl	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	Poor	Good						Upstream: - Increasing height of dam wall will lead to flooding of short reaches of existing feeding streams, although this will be minor in relation to the water body length. - Raising the level of the reservoir may impact biological connectivity to feeder streams upstream of the reservoir Downstream: - Increased storage will delay spills from the reservoir and could reduce the overall amount of spills. This may alter the hydromorphology downstream, with associated impacts to habitat	Non-compliant (low conf.)	
Invertebrates	Good	Good							Non-compliant (low conf.)	
Macrophytes/ phytobenthos	n/a	n/a							n/a	
Phys-chem water quality (in support of ecological status)	Good	Good						Changes to storage and associated changes to depth, mixing and retention times may affect water quality in the reservoir and therefore could affect downstream water quality.	Uncertain	
Chemicals	Good	Bad	Confirmed - Mercury, PBDE, reason not determined					There will be no change to the sources of water in the reservoir as a direct result of this option, and therefore likely to be no changes to the status of chemical elements, either within the reservoir or downstream	Compliant (med. conf.)	
RBMP2 water body measures			not known at water body scale						n/a	
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_IOW_HI-REU_RE1_ALL_sey9	Recycling (IOW): Sandown (8.5Ml/d)
Water body type		River
Hydromorph designation		Heavily modified
Water body ID		GB107101005971
Water body name		Eastern Yar (lower)

Option description and potential effects:

This option proposes the transfer of treated effluent from Sandown WwTW (currently discharged to sea), to support flows in the Eastern River Yar upstream of the Sandown WSW abstraction at Alverstone . Treated water in excess of the local demand will be transferred through a new transfer pipeline to the Alvington High Level WSR, near Newport, for supply to much of the island.This option is reliant on the WSR enlargements carried out in IZT_CSM Cross-Solent upgrade. (2) Option 2 also includes upgrades to Sandown WSW to achieve the extra flow. Potential impacts could occur as a result of the construction of new in-channel infrastructure, and the discharge of treated effluent during operation.

Designated sites identified in Catchment Data Explorer:
- Solent and Dorset Coast SPA (screened out of HRA)
- Solent & Southampton Water SPA and Ramsar (screened out of HRA)
- Solent & Isle of Wight Lagoons SAC (screened out of HRA)

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	High	High		Probable				The new discharge to the Eastern Yar could affect physico-chemistry, potentially including concentrations of dissolved oxygen and nutrients, and water temperature. However the increase in flow, conversely, may be beneficial, particularly considering the pressure on flows in the catchment (ALS has water available only at Q30). Further investigations are required to determine whether any changes to flow and physico-chemistry could result in impacts upon biological quality elements, and therefore a precautionary conclusion of potentially non-compliant has been drawn.	Non-compliant (low conf.)	n/a
Invertebrates	High						High to good status deterioration - No sector responsible		Non-compliant (low conf.)	n/a
Macrophytes/ phytobenthos										
Phys-chem water quality (in support of ecological status)					Historical iron issues allocated to point source - water industry.			The new discharge could affect physico-chemistry, potentially including concentrations of dissolved oxygen and nutrients, and water temperature. Further investigations are required to determine whether any changes to physico-chemistry could result in impacts upon biological quality elements.	Non-compliant (low conf.)	na
Chemicals			Fail due to Perfluorooctane sulphonate (PFOS) and Polybrominated diphenyl ethers (PBDE)					It is possible that a new discharge of treated effluent could introduce new chemicals or increase the loading of chemicals currently present in the water body.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			Heavily modified use - Flood protection Physical form and function - 2.remove obsolete structures, 6 In channel morph diversity, 8.Re-opening culverts ALL NOT IN PLACE. 10 Flood bunds, 12. Floodplain connectivity. 4 Remove or soften hard bank ALL IN PLACE					It is expected that this option would be beneficial to RBMP measures, by retaining more flow in the river	Compliant (low conf.)	Compliant (low conf.)
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_SNZ_HI-RSR_RE1_ALL_bla	Storage (SNZ): River Adur Offline Reservoir (19.5Ml/d)	Option description and potential effects:
Water body type		River	The option involves the construction of an earth embankment reservoir - River Adur offline Reservoir - with a proposed storage capacity of up to 4,600 Ml. The option will allow treated water to enter the distribution network to supply either the Sussex coastal block or the Pulborough area. The reservoir will be filled with water pumped from the eastern branch of the river Adur. The abstraction of raw water from the river to the reservoir would have a maximum flow of 30Ml/d. Additional abstraction may affect flows. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not designated artificial or heavily modified	
Water body ID		GB107041012900	
Water body name		Adur East (Sakeham)	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	Mod	Poor		Confirmed	Probable			Increase in abstraction may affect flow in nearby River Adur. Adur E at Sakenham (41012) has Q95 of 0.161 m3/s, mean flow 1.368 m3/s. The abstraction could therefore be a substantial proportion of flow. ALS shows there is water available at Q95, Q70, Q50, Q30 and streams are discharge rich. However, the flow reductions could potentially result in changes to the hydrological regime, river continuity and morphological conditions that could impact fish and invertebrate populations. Impacts on water quality (considering this is a discharge-rich catchment and current influence of point source discharges) could also have an impact on biology.	Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates	High	High							Compliant (low conf.)	
Macrophytes/ phytobenthos	Mod	Mod			Probable	Probable			Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)	Mod	Mod			Confirmed - sewage discharge Phosphate			Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status. The CDE indicate that Phosphate contributions and poor DO are a key RNAG, associated with point source discharges. Flow reductions could exacerbate this issue by reducing dilution.	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals	Good	Bad	Confirmed - Mercury, PBDE, Benzo(g-h-i)perylene reason not determined					The option would not introduce new priority or priority hazardous chemicals. While lower flows could result in a reduction in dilution of chemicals from point source discharges, this is relatively unlikely to result in a change to status, particularly for ubiquitous pollutants.	Compliant (low conf.)	Compliant (low conf.)
RBMP2 water body measures			not known at water body scale						n/a	
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_KME_HI-DES_ALL_ALL_ios20	Desalination (KME): Isle of Sheppey 20Ml/d (and variants of this option)
Water body type		Transitional
Hydromorph designation		Heavily modified
Water body ID		GB530604002300
Water body name		Medway

Option description and potential effects:

This option proposes a 20Ml/d desalination plant to meet demand on the Isle of Sheppey. Locating a desalination plant on the Isle of Sheppey has a clear advantage: it would meet local demand while significantly reducing the need for transfers along the main from Deans Hill BPT. This option could be enhanced to transfer treated water from the Isle of Sheppey to the wider Kent-Meday WRZ.A number of sites for a desalination plant were investigated and the most suitable would be located on land south of Sheerness Docks, currently used for storage of car imports. Water treated at this site would then be pumped to Southdown WSR and Kins Borough WSR on the island for distribution to customers. This site will be investigated further in the feasibility appraisal.

Designated sites listed in Catchment Data Explorer:
- Outer Thames Estuary SPA
- Thames Estuary & Marshes SPA and Ramsar
- Medway Estuary & Marshes SPA and Ramsar

	Baseline Status			**Assessment of option**		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	High	High		The discharge of hypersaline water into the transitional water body could impact on water quality and affect biological habitats. Water quality modelling will be required to determine the potential effects on biological compliance parameters and protected areas. Construction of new infrastructure to support this option could impact on both water quality and biology if significant seabed disturbance is required. Sediment sampling will be required to confirm whether there is sufficient risk to water quality to affect biological parameters. The new abstraction could impinge fish and phytoplankton.	Non-compliant (low conf.)	Non-compliant (low conf.)
Angiosperms					Non-compliant (low conf.)	Non-compliant (low conf.)
Macroalgae					Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates	High		High to good deterioration - no sector responsible		Non-compliant (low conf.)	Non-compliant (low conf.)
Fish					Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)			Dissolved inorganic nitrogen - investigation into classification status in 2016 indicated 'certain there is not a problem'. Nothing listed in RNAG table	The discharge of hypersaline water into the transitional water body could impact on water quality and affect habitats for biological parameters. Water quality modelling will therefore be required. Construction of new infrastructure to support this option could impact on both water quality and biology if significant bed disturbance is required. Sediment sampling will be required to confirm whether there is a risk to water quality.	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals			Benzo(g,h,i)perylene, mercury and its compounds, Polybrominated diphenyl ethers (PBDE), Dichlorvos, tributyl tin compounds	It is not predicted that the discharge would contain any chemicals supporting chemical status. However, bed disturbance during construction could give rise to the release of sediment bound chemicals. Sediment sampling will therefore be required to confirm whether there is a risk to water quality.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			Heavily modified use - flood protection Working with form and function - 2.Remove obsolete structure, 4. Remove or soften hard bank, 1. Modify channel, 7. Bank rehabilitation, 13.	The proposed option would not impact on any of these measures given that the infrastructure required would cover a small area compared to the water body as a whole.	Compliant (low conf.)	Compliant (low conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_KME_HI-DES_ALL_ALL_ios20	Desalination (KME): Isle of Sheppey 20Ml/d (and variants of this option)
Water body type		Transitional
Hydromorph designation		Heavily modified
Water body ID		GB530604011500
Water body name		Swale

Option description and potential effects:

This option proposes a 20Ml/d desalination plant to meet demand on the Isle of Sheppey. Locating a desalination plant on the Isle of Sheppey has a clear advantage: it would meet local demand while significantly reducing the need for transfers along the main from Deans Hill BPT. This option could be enhanced to transfer treated water from the Isle of Sheppey to the wider Kent-Meday WRZ.A number of sites for a desalination plant were investigated and the most suitable would be located on land south of Sheerness Docks, currently used for storage of car imports. Water treated at this site would then be pumped to Southdown WSR and Kins Borough WSR on the island for distribution to customers. This site will be investigated further in the feasibility appraisal.

Designated sites listed in Catchment Data Explorer:
- Outer Thames Estuary SPA
- The Swale SPA and Ramsar
- Medway Estuary & Marshes SPA and Ramsar

	Baseline Status			**Assessment of option**		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	High	High		The discharge of hypersaline water into the transitional water body could impact on water quality and affect biological habitats. Water quality modelling will be required to determine the potential effects on biological compliance parameters and protected areas. Construction of new infrastructure to support this option could impact on both water quality and biology if significant seabed disturbance is required. Sediment sampling will be required to confirm whether there is sufficient risk to water quality to affect biological parameters. The new abstraction could impinge fish and phytoplankton.	Non-compliant (low conf.)	Non-compliant (low conf.)
Angiosperms					Non-compliant (low conf.)	Non-compliant (low conf.)
Macroalgae					Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates	High		High to Good deterioration - no sector identified as being responsible		Non-compliant (low conf.)	Non-compliant (low conf.)
Fish					Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)			Dissolved inorganic nitrogen - investigation into classification status in 2016 indicated 'certain there is not a problem'. Nothing listed in RNAG table	The discharge of hypersaline water into the transitional water body could impact on water quality and affect habitats for biological parameters. Water quality modelling will therefore be required. Construction of new infrastructure to support this option could impact on both water quality and biology if significant bed disturbance is required. Sediment sampling will be required to confirm whether there is a risk to water quality.	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals			Mercury and its compounds, Polybrominated diphenyl ethers (PBDE)	It is not predicted that the discharge would contain any chemicals supporting chemical status. However, bed disturbance during construction could give rise to the release of sediment bound chemicals. Sediment sampling will therefore be required to confirm whether there is a risk to water quality.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			Heavily modified use - Flood protection Working with physical form and function - 4. Remove or soften hard bank, 7. Bank rehabilitation, 13. Realign flood defence. ALL NOT IN PLACE Operations and maintenance - 37. Retain habitats. NOT IN PLACE.	The proposed activities would not impact on any of these measures given they don't include introducing new banks or flood defence structures. It is anticipated that the construction would just give rise to temporary and localised effects which following completion would cease. Therefore no effect on these measures being put in place is predicted.	Compliant (low conf.)	Compliant (low conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_KME_HI-GRW_ALL_ALL_nw_gwa_win_eastn	Groundwater (KME): Recommission Gravesend (2.7Ml/d)	Option description and potential effects:
Water body type		River	Gravesend source is a well and adit system that was decomissioned in 2007 due to high nitrate levels. A new nitrate treatment plant was constructed on site in 2006. A Source Investigation & Optimisation Study (SIOS) by Atkins in 2008 suggests that the nitrate problem was likely to be a faulty nitrate monitor. The report recommends a) Undertake a long-term step test with steps of seven days duration at rates of 3.0Ml/d, 3.3Ml/d and maximum pump capacity (approximately 3.66Ml/d) subject to stabilisation of pumping water levels during each step b) Recalibrate or repair the online raw water nitrate monitor, c) Modify the cover to the satellite well chamber to facilitate improved access Refurbishment of the exsitng nitrate plant will be required. Scheme Output: 5Ml/d. Increasing deployable output is expected to increase RA abstraction. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		HMWB	
Water body ID		GB106040024190	
Water body name		Ebbsfleet	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 interim status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish								This waterbody is a HMWB and is not classified for any biological or phys-chem elements (only HMWB mitigation measures). The assessment has been undertaken in relation to whether the option could cause an impediment to effective implementation of MMs. The Medway ALS (from 2013) does not include an AP in the Ebsfleet catchment, but indicates restricted water available (Q30 only). The ALS states a desire to "seek to secure downward variations of existing licences" from the Chalk. This licence is also included in the ongoing North Kent Marshes WINEP investigation. Therefore this option may be considered to risk non-compliance		Non-compliant (low conf.)
Invertebrates										
Macrophytes/ phytobenthos										Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)										Non-compliant (low conf.)
Chemicals			Does not require assessment							
RBMP2 water body measures									n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_KME_HI-GRW_ALL_ALL_nw_gwa_win_eastn	Groundwater (KME): Recommission Gravesend (2.7Ml/d)	Option description and potential effects:
Water body type		Groundwater	Gravesend source is a well and adit system that was decomissioned in 2007 due to high nitrate levels. A new nitrate treatment plant was constructed on site in 2006. A Source Investigation & Optimisation Study (SIOS) by Atkins in 2008 suggests that the nitrate problem was likely to be a faulty nitrate monitor. The report recommends a) Undertake a long-term step test with steps of seven days duration at rates of 3.0Ml/d, 3.3Ml/d and maximum pump capacity (approximately 3.66Ml/d) subject to stabilisation of pumping water levels during each step b) Recalibrate or repair the online raw water nitrate monitor, c) Modify the cover to the satellite well chamber to facilitate improved access Refurbishment of the exsitng nitrate plant will be required. Scheme Output: 5Ml/d. Increasing deployable output is expected to an increase in drawdown. Designated sites listed in Catchment Data Explorer: - Thames Estuary & Marshes SPA and Ramsar - Peters Pit SAC
Water body ID		GB40601G500300	
Water body name		North Kent Medway Chalk	

	Baseline Status			Assessment of option		
Status element	2019 interim status	2022 status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Poor	Poor	Natural conditions- no sector responsible	The Medway ALS (from 2013) does not include an AP in the Ebsfleet catchment, but indicates restricted water available (Q30 only), with similarly restricted water availability in other nearby surface water bodies. The ALS states a desire to "seek to secure downward variations of existing licences" from the Chalk. This licence is also included in the ongoing North Kent Marshes WINEP investigation. Therefore this option may be considered to risk non-compliance	Non-compliant (low conf.)	Non-compliant (low conf.)
Ground water dependent terrestrial ecosystem test	Good	Good		Licences in this area are being considered as part of the North Kent Marshes WINEP investigation. Therefore it may be considered that, although the GWDTE test currently passes, any increase increase in abstraction may be considered a risk to status (although this could change dependent on the outcome of the WINEP investigation).	Non-compliant (low conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer as a result of the option is considered to be low, since the status of this test is Good (in RBMP cycles 1, 2 and 3), and the abstraction has previously been used at higher rates.	Compliant (high conf.)	
Water balance	Poor	Poor	Natural conditions- no sector responsible	The ALS highlights the vulnerability of the aquifer and associated abstractions to drought, and the potential influence on groundwater sources. While the RNAGs on the Catchment Data Explorer attribute the Poor status to natural conditions, from the ALS it can be presumed that abstraction contributes to the water balance failures. The ALS states a desire to "seek to secure downward variations of existing licences" from the Chalk. Therefore it may be concluded that an increase in abstraction, even within licence, would be considered to fail the water balance test.	Non-compliant (med. conf.)	Non-compliant (med. conf.)
Chemical (overall)	Poor	Poor	Chemical Drinking Water Protected Area, and General Chemical Test. RNAGs include poor soil management, poor nutrient management, transport drainage, contaminated land, poor pesticide management, poor livestock management, leaking utility sewers	The water body still fails the drinking water protected area test. If the measured high nitrate levels were due to a faulty monitor, this may not be relevant to the Gravesend source. However there is also potential of poor water quality from wastewater leakage in this area (pers. comm. from North Kent Marshes investigations). Further investigations will be required to confirm, and a conclusion of Non-compliant has been applied until those investigations are completed.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (med. conf.)	

Option	SWS_HRZ_HI-GRW_ALL_ALL_nw_gwa_tim_westi	Groundwater (HRZ): New boreholes at Romsey (4.8Ml/d)	Option description and potential effects:
Water body type		River	The existing boreholes and well/adits that supply Romsey WSW are either out of service or operating below their full capacity due to quality issues. This option proposes 3 replacement boreholes to increase DO on site. Scheme output is 13.7Ml/d. No additional treatment is required.Replacement borehole locations are distant from existing borehole locations and require new pipelines to connect to WSW. Increasing deployable output is expected to increase RA abstraction. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		heavily modified	
Water body ID		GB107042016460	
Water body name		Test - conf Dun to Tadburn Lake	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	Poor	Poor		Confirmed				Increase in abstraction within licence limits may affect flow in nearby River Test. ALS shows there is restricted water available at Q95 with water available at Q70, Q50, Q30. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish and invertebrate populations. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	
Invertebrates	High	High							Compliant (low conf.)	
Macrophytes/ phytobenthos	n/a	n/a							n/a	
Phys-chem water quality (in support of ecological status)	High	Good						Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	
Chemicals	Good	Bad	Confirmed - Mercury, PBDE reason not determined					The option would not introduce new priority or priority hazardous chemicals, although lower flows could result in a reduction in dilution of chemicals already present in the River Test. This is unlikely to result in non-compliance	Compliant (low conf.)	
RBMP2 water body measures			not known at water body scale						n/a	
								Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_KME_HI-GRW_ALL_ALL_nw_gw a_win_east n	Groundwater (HRZ): New boreholes at Romsey (4.8Ml/d)	Option description and potential effects:
Water body type		Groundwater	The existing boreholes and well/adits that supply Romsey WSW are either out of service or operating below their full capacity due to quality issues. This option proposes 3 replacement boreholes to increase DO on site. Scheme output is 13.7Ml/d. No additional treatment is required.Replacement borehole locations are distant from existing borehole locations and require new pipelines to connect to WSW. Increasing deployable output is expected to increase RA abstraction. Designated sites listed in Catchment Data Explorer: None
Water body ID		GB40701G501200	
Water body name		River Test Chalk	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		Increase in abstraction within licence limits may affect flow in nearby River Test. ALS shows there is restricted water available at Q95 with water available at Q70, Q50, Q30. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish and invertebrate populations. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		No GWDTEs are likely to be affected by this option	Compliant (med. conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the distance from the coast and the lack of saline intrusion at this source historically.	Compliant (high conf.)	
Water balance	Good	Good		Increased abstraction will reduce the surplus in the water balance, although as the increase in abstraction will be within the current licence, it is relatively unlikely to result in deterioration of status.	Compliant (low conf.)	
Chemical (overall)	Poor	Poor	Drinking Water Protected Area and General Chemical Test: Natural conditions- groundwater status recovery time	The option will not introduce any new chemicals to the groundwater body, and will not influence the reasons for Poor status	Compliant (med. conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (med. conf.)	

Option	SW035	Groundwater (HSW): Test MAR (5.5Ml/d)	Option description and potential effects:
Water body type		Groundwater	Managed Aquifer Recharge (MAR). Recharge of the confined chalk aquifer from mains water in winter months, with subsequent onsite abstraction from the same aquifer ins summer/autumn critical low flow periods. Treatment is avaibable on site and it is assumed that there is sufficient treatment capacity for the abstracted water. The scheme assumes an extended pilot trial period, with subsequent development of the MAR scheme. Expected DO from the developed scheme is 15Ml/d.Pilot Scheme assumes 1no abstraction/recharge borehole and 1no monitoring borehole, each 250m deep. For the duration of the trial, abstracted water will run to waste (River Test). The developed scheme will comprise a total of 5no boreholes at 250m depth; 3no abstraction/recharge boreholes and 2no monitoring boreholes, inclusive of those used in the pilot scheme. Abstracted water from the developed scheme will be treated onsite as required, before entering supply.The suggested WTW site boundary may not support a DO of 15Ml/d. It is understood that SWS own adjacent land to the north of the River Test, and it is proposed that 1no abstraction/recharge borehole and 1no. monitoring borehole be located on this land in order to achieve the desired scheme DO.Groundwater from the confined chalk aquifer is expected to be under artesian pressure and therefore gate valves would be required on all boreholes. Pumped recharge from mains water supply would also be required to overscome artesian pressure. Designated sites listed in Catchment Data Explorer: None
Water body ID		GB40701G501200	
Water body name		River Test Chalk	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	**Assessment**	**Potential for deterioration**	**Potential for introduction of impediments**
Dependent surface water body status	Good	Good		There are no WFD surface waterbody receptors in proximity/connectivity to confined aquifer	Compliant (med. conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		There are no GWDTE present in the vicinity of the abstraction locations which are likely to have good hydraulic connection to the groundwater body.	Compliant (med. conf.)	
Saline intrusion	Good	Good		Both Quantitative Saline Intrusion test and Chemical Saline instrusion test WFD status' good.	Compliant (high conf.)	
Water balance	Good	Good		Recharge of the confined chalk. Scheme is designed to maintain water balance.	Compliant (med. conf.)	
Chemical (overall)	Poor	Poor	Confirmed - Diffuse Source (agriculture and rural land management)	The option will not introduce any new chemicals to the groundwater body. Recharge water will be pre-treated.	Compliant (high conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (med conf.)	

Option	SWS_SHZ_HI-GRW_ALL_ALL_ass_br_bre_eastn	Groundwater (SHZ): Reconfigure Rye Wells (1.5Ml/d)
Water body type		River
Hydromorph designation		not designated artificial or heavily modified
Water body ID		GB107040013550
Water body name		Brede

Option description and potential effects:

Brede groundwater source is a well & adit system that is over 100 years old, and has reached the end of its asset life. It abstracts from the Ashdown Beds.Operational wells 1 and 3 are to be replaced by boreholes. Additional land may be required for at least one of the boreholes due to space constraints on site. Wells 2 and 4 are out of service and do not require replacement.Scheme output is 1.5Ml/dThere is an existing surface water WSW on site and no further treatement is required.

Due to limited information, the assessment has assumed that Increasing deployable output will increase RA abstraction, but that the licensed quantity will not change.

Designated sites listed in Catchment Data Explorer:
- Dungeness, Romney Marsh and Rye Bay SPA and Ramsar
- Dungeness SAC (screened out of HRA)

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 interim status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	Mod	Good		Yes				Increase in abstraction could potentially affect flow in nearby River Brede, although the Rother ALS (most recent from 2013) notes that at a "broad scale... only in the upper reaches of the Rother, are existing licensed groundwater abstractions likely to have the potential to significantly reduce baseflow in our surface watercourses". The ALS also states that there is a "theoretical surplus of water within this groundwater management unit", although notes that the situation can vary locally due to the heterogeneity of the geology. For surface water, the ALS shows there is restricted water available at Q95 and Q70 on the Brede, with water available at Q50 and Q30. As this is an existing licence, with potentially limited connectivity to the river, then a tentative conclusion of compliant (low conf.) has been drawn.	Compliant (low conf.)	
Invertebrates	Good	Good							Compliant (low conf.)	
Macrophytes/ phytobenthos	Poor	Poor		Yes	Yes	Yes			Compliant (low conf.)	Compliant (low conf.)
Phys-chem water quality (in support of ecological status)	Mod	Mod			Phosphate- nutrient management, livestock management, riparian/in-river activities, sewage discharge				Compliant (low conf.)	Compliant (low conf.)
Chemicals	Good	Bad	Confirmed - Mercury, PBDE No sector responsible					The option would not introduce new priority or priority hazardous chemicals. Failing chemicals are from historic sources, not current point sources, so any change in flow would have little influence on chemical concentrations in the water body.	Compliant (med. conf.)	Compliant (med. conf.)
RBMP2 water body measures			not known at water body scale						n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_KME_HI-GRW_ALL_ALL_nw_gwa_win_eastn	Groundwater (SHZ): Reconfigure Rye Wells (1.5Ml/d)	Option description and potential effects:
Water body type		Groundwater	Brede groundwater source is a well & adit system that is over 100 years old, and has reached the end of its asset life. It abstracts from the Ashdown Beds.Operational wells 1 and 3 are to be replaced by boreholes. Additional land may be required for at least one of the boreholes due to space constraints on site. Wells 2 and 4 are out of service and do not require replacement.Scheme output is 1.5Ml/dThere is an existing surface water WSW on site and no further treatement is required. Due to limited information, the assessment has assumed that Increasing deployable output will increase RA abstraction, but that the licensed quantity will not change. Designated sites listed in Catchment Data Explorer: - Dungeness, Romney Marsh and Rye Bay SPA and Ramsar - Dungeness SAC (screened out of HRA) - Hastings Cliffs SAC (screened out of HRA)
Water body ID		GB40702G502200	
Water body name		Kent Weald Eastern- Rother	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		Increase in abstraction could potentially affect flow in nearby River Brede. The Rother ALS (most recent from 2013) notes that at a "broad scale... only in the upper reaches of the Rother, are existing licensed groundwater abstractions likely to have the potential to significantly reduce baseflow in our surface watercourses", but this would need more local understanding/investigation to confirm for Rye . ALS (most recent from 2013) shows there is no water available at Q95 and Q70 on the Brede, with water available at Q50 and Q30. There is a relatively high existing HOF that would limit abstraction at lower flows (reflecting the level of water availability). While further clarification is required of if/how the HOF applies to a groundwater abstraction, the HOF will still manage/avoid impacts at lower flows. Therefore it is unlikely that this option, assuming within licence, would result in non-compliance.	Compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		There are no GWDTEs identified in the vicinity of the abstraction, although at the downstream end of the catchment is the Dungeness, Romney Marsh and Rye Bay SSSI. Impacts are relatively unlikely, since the GWDTE test is currently Good and the abstraction is within licence.	Compliant (low conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the lack of saline intrusion at this source historically.	Compliant (med. conf.)	
Water balance	Good	Good		Increased abstraction will reduce the surplus in the water balance, although as the increase in abstraction is assumed to be within the current licence, it is relatively unlikely to result in deterioration of status.	Compliant (low conf.)	
Chemical (overall)	Poor	Poor	Chemical dependent surface water body status: point source- contaminated land	The option will not introduce any new chemicals to the groundwater body. Changed groundwater flow patterns due to the increased abstraction could potentially result in migration of pollutants. Without further detail of the location of contaminated land that is contributing to the Poor status, in relation to the abs, there is a low level of	Compliant (low conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_SNZ_HI-REU_RE1_ALL_env_cu_chu2_conj u	Recycling (SNZ): Horsham with storage at Pulborough (6.8Ml/d)	Option description and potential effects:
Water body type		River	New resource. This option is a new 9.5Ml/d water recycling plant producing a DO of 6.8Ml/d near Horsham WwTW and a transfer of the treated effluent to Church Farm reservoir, which feeds into Pulborough WSW. Process losses have been included.A reduction in flow from Horsham WwTW could potentially affect the hydromorphology, physico-chemistry and biology of the water body.
Hydromorph designation		not designated artificial or heavily modified	Designated sites listed in Catchment Data Explorer: None
Water body ID		GB107041012310	
Water body name		Arun Horsham	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 interim status	RBMP3 (2022) status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish								A reduction in discharges from the WwTW will reduce the total flow in the River Arun, and will reduce the input of nutrients from effluent in to the river. The Arun is discharge rich, which supports flows above natural at low flows. Therefore it may be assumed that a reduction in discharge would not be detrimental to the Arun, and may provide a beneficial change to water quality, particularly since sewage discharge is identified as an RNAG for invertebrates and macrophytes/ phytobenthos	Compliant (low conf.)	n/a
Invertebrates					Confirmed		Sewage discharge		Compliant (low conf.)	Compliant (low conf.)
Macrophytes/ phytobenthos					Confirmed		Sewage discharge		Compliant (low conf.)	Compliant (low conf.)
Phys-chem water quality (in support of ecological status)					Phosphate from water industry - continuous discharge (confirmed). Poor soil management - agriculture and rural land management (suspected)			A reduction in discharges from the WwTW will reduce the total flow in the River Arun, and will reduce the input of nutrients from effluent in to the river. The Arun is discharge rich, which supports flows above natural at low flows. Therefore it may be assumed that a reduction in discharge would not be detrimental to the Arun, and may provide a beneficial change to water quality, particularly since sewage discharge is identified as an RNAG for phosphate	Compliant (low conf.)	Compliant (low conf.)
Chemicals			Fails for Benzo(g-h-i)perylene, Mercury and Its Compounds, Perfluorooctane sulphonate (PFOS), Polybrominated diphenyl ethers (PBDE)					It is not predicted that the discharge would contain any chemicals supporting chemical status.	Compliant (low conf.)	Compliant (low conf.)
RBMP2 water body measures			N/A as not heavily modified						n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_KMW_HI-DES_ALL_ALL_swa20	Desalination (KMW): Thames Estuary (20Ml/d) (and variants of this option)	Option description and potential effects:
Water body type		Transitional	This option proposes the development of a desalination plant on the Swanscombe Peninsula, which would be capable of producing 20Ml/d, and would combine discharge with Swanscombe WwTW's existing outfall. Treated water would be transfered to Singlewell WSR for distribution to the Kent Medway WRZ. Designated sites listed in Catchment Data Explorer: - Thames Estuary & Marshes SPA and Ramsar
Hydromorph designation		Heavily modified	
Water body ID		GB530603911402	
Water body name		Thames Middle	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	High		High to good deterioration - no sector identified as being responsible	The discharge of hypersaline water into the transitional water body could impact on water quality and affect habitats for biological parameters. Water quality modelling will be required to determine potential effects on water quality, which would then determine the potential effects on biological compliance parameters and protected areas. The new abstraction could impinge fish and phytoplankton.	Non-compliant (low conf.)	Non-compliant (low conf.)
Angiosperms			Physical modification - land drainage structures - sector local and central government		Non-compliant (low conf.)	Non-compliant (low conf.)
Macroalgae					Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates					Non-compliant (low conf.)	Non-compliant (low conf.)
Fish					Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)			Dissolved inorganic nitrogen and zinc- Unknown (pending investigation)	The discharge of hypersaline water into the transitional water body could impact on water quality and affect habitats for biological parameters. Water quality modelling will be required.	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals			Benzo(b)fluoranthene, Benzo(g,h,i)perylene, mercury and its compounds, Perfluorooctane sulphonate (PFOS), Polybrominated diphenyl ethers (PBDE), Tributyltin Compounds	It is not predicted that the discharge would contain any chemicals supporting chemical status.	Compliant (low conf.)	Compliant (low conf.)
RBMP2 water body measures			Heavily modified for coastal and flood protection. Operations and maintenance - 37. Retain habitats, 21. Avoid the need to dredge, 22. Dredging	Given that this option does not require marine construction, effects on these measures are not predicted.	Compliant (low conf.)	Compliant (low conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_IOW_HI-GRW_ALL_ALL_nw_gwa_kni_westi	Groundwater (IOW): New boreholes at Newchurch (LGS) (1.9Ml/d)
Water body type		River
Hydromorph designation		Heavily modified
Water body ID		GB107101005971
Water body name		Eastern Yar (Lower)

Option description and potential effects:

Replacing all 3 Lower Greensand boreholes on site so that the source can operate to its licenced capacity.Currently BH4 is non-operational. BH1 and BH2 are operational but at reduced capacity due to screen-dewatering. No additional treatment is proposed. Increasing deployable output to licensed quantity is expected to increase RA abstraction.

Designated sites listed in Catchment Data Explorer:
- Solent and Dorset Coast SPA (screened out of HRA)
- Solent & Southampton Water SPA and Ramsar
- Solent & Isle of Wight Lagoons SAC

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 interim status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	High	Good		Probable				The Isle of Wight ALS (2019) shows limited water available in the Eastern Yar catchment (Q30 only). Geology indicates likely connectivity between groundwater and surface water. Therefore the increased rate of abstraction could result in changes to the hydrological regime in the Eastern Yar. DO of the scheme is 4.5 Ml/d, and Q95 in the Eastern Yar at Alverstone is 0.05 m3/s (4.3 Ml/d). Therefore if all impact were felt on the river, at low flows this would constitute a significant impact on flows. Augmentation at Eastern Yar3 is used to support flows in the river, so inclusion of that option would help to offset impact. These reductions in flow could have resulting impacts on biology. This option should be concluded as non-compliant, subject to further investigation.	Non-compliant (low conf.)	
Invertebrates	Good	Good					Note 2014-2016 status was High		Non-compliant (low conf.)	
Macrophytes/ phytobenthos	Poor	Poor							Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)	Good	Mod						Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status.	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals	Bad	n/a	Confirmed - PFOS, PBDE		No sector responsible			The option would not introduce new priority or priority hazardous chemicals. The failing chemicals are not from current point sources, so a reduction in flow would not be expected to change the concentrations of those chemicals	Compliant (med. conf.)	Compliant (med. conf.)
RBMP2 water body measures			not known at water body scale						n/a	
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_IOW_HI-GRW_ALL_ALL_nw_gwa_kni_westi	Groundwater (IOW): New boreholes at Newchurch (LGS) (1.9Ml/d)	Option description and potential effects:
Water body type		Groundwater	This option proposes replacing all 3 Lower Greensand boreholes on site so that the source can operate to its licensed capacity. Currently BH4 is non-operational. BH1 and BH2 are operational but at reduced capacity due to screen-dewatering.No additional treatment is proposed. As the borehole is out of service the RA abstraction is expected to increase leading to an increase in drawdown. Designated sites listed in Catchment Data Explorer: - Solent and Dorset Coast SPA (screened out of HRA) - South Wight Maritime SAC (screened out of HRA) - Solent & Southampton Water SPA and Ramsar - Solent & Isle of Wight Lagoons SAC - Isle of Wight Downs SAC (screened out of HRA)
Water body ID		GB40701G502900	
Water body name		IOW Lower Greensand	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	RBMP3 (2019) status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		Connectivity between the aquifer and overlying surface waters is likely to be high due to the permeable nature of the solid and superficial geology, and the proximity of watercourses. The ALS indicates that there is no water available in the overlying surface water body, other than at Q30, meaning flows are already lower than the requirement to support GES. The groundwater has restricted water availability. Therefore further abstraction could potentially result in deterioration	Non-compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		The Alverstone Marshes SSSI in the vicinity of the abstraction locations are identified as a GWDTE. Although characterised by deep peat, they may be in connectivity to the groundwater body. The risk of impact on the marshes should be considered possible and requiring further investigation.	Non-compliant (low conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the distance from the coast and the lack of saline intrusion at this source historically.	Compliant (high conf.)	
Water balance	Good	Good		Increased abstraction will reduce the surplus in the water balance potentially leading to deterioration.	Non-compliant (low conf.)	
Chemical (overall)	Good	Good		The option will not introduce any new chemicals to the groundwater body	Compliant (low conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_HKZ_HI-ROC_ALL_ALL_ewo	Groundwater (HKZ): Remove constraints at Newbury to increase yield (1.2Ml/d)	Option description and potential effects:
Water body type		Groundwater	The scheme is located within the Hampshire Kingsclere WRZ (which consists of and is served by Kingsclere and Newbury WSWs). The scheme will increase the yield of the Newbury source within the existing licence by removing the present constraint imposed by mains leaving the site. This option will involve the construction of a dedicated, 7.1 km 300mm DN300 pipe from Newbury water supply works (WSW) and additional pumps and treatment facilities to increase the supply to Beacon Hill WSR. Additional high-lift pumping capacity would be required at Newbury WSW abstracts water from the underlying chalk aquifer.
Water body ID		GB40601G600900	Designated sites identified in Catchment Data Explorer: - Kennet & Lambourn Floodplain SAC (screened out of HRA) - River Lambourn SAC (screened out of HRA) - Kennet Valley Alderwoods SAC (screened out of HRA)
Water body name		Berkshire Downs Chalk	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	RBMP (2019) status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Poor	Poor	Groundwater abstraction- water industry	The overlying surface water body in the vicinity of Newbury is the Enborne, which is isolated from the Chalk aquifer by the London Clay. No impacts on the Enbourne are therefore anticipated. It is also assumed, with lower certainty, that there would be no impact on any other nearby surface water bodies where the Chalk is unconfined, since the abstraction is downgradient of the unconfined aquifer.	Compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		While there are GWDTEs to the south of the abstraction (Highclere Park SSSI and Burghclere Beacon SSSI), these are not in direct connectivity to the abstraction. The GWDTE test is currently Good, and it is unlikely that an increase in abstraction at this location would change the conclusion.	Compliant (low conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the distance from the coast and the lack of saline intrusion at this source historically.	Compliant (high conf.)	
Water balance	Good	Good		Increased abstraction will reduce the surplus in the water balance potentially leading to deterioration.	Compliant (low conf.)	
Chemical (overall)	Poor	Poor	Poor nutrient management. Private sewage treatment	The option will not introduce any new chemicals to the groundwater body. Changed groundwater flow patterns due to increased abstraction could potentially result in migration of pollutants, but this is not considered to pose a significant risk to the chemical status.	Compliant (low conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (med. conf.)	

Option	SWS_SNZ_HI-ROC_RE1_ALL_hsb-rcm	Groundwater (SNZ): New borehole at Petworth (4Ml/d)	Option description and potential effects:
Water body type		River	Return WSW to service with a new borehole c. 700m south of main WSW. The option is to drill a new replacement borehole for Petworth WSW in Sussex North Area. As the borehole is out of service the RA abstraction is expected to increase. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not designated artificial or heavily modified	
Water body ID		GB107041012780	
Water body name		Petworth Stream	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	Good	Good						Increase in abstraction within licence limits may affect flow in nearby stream discharging to the River Rother. ALS shows there is no water available at Q95 and Q70. Restricted water available at Q50. Geology indicates likely high degree of continuity between groundwater and surface water. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish, invertebrate and macrophyte/phytobenthos populations.	Non-compliant (low conf.)	
Invertebrates	Good	Good							Non-compliant (low conf.)	
Macrophytes/ phytobenthos	Mod	Mod				Probable			Non-compliant (low conf.)	
Phys-chem water quality (in support of ecological status)	Mod	Mod			Probable - Diffuse Pollution - Phosphate, Dissolved Oxygen			Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status. The CDE indicate that Phosphate contributions and poor DO are a key RNAG, flow reductions could exacerbate this issue.	Non-compliant (low conf.)	
Chemicals	Good	Bad	Confirmed - Mercury, PBDE					The option would not introduce new priority or priority hazardous chemicals but lower flows could result in a reduction in dilution of chemicals already present in the River Rother, and potentially further deterioration in status.	Non-compliant (low conf.)	
RBMP2 water body measures			not known at water body scale						n/a	
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_SNZ_HI-ROC_RE1_ALL_hsb-rcm	Groundwater (SNZ): New borehole at Petworth (4Ml/d)
Water body type		River
Hydromorph designation		not designated artificial or heavily modified
Water body ID		GB107041012810
Water body name		Western Rother

Option description and potential effects:

Return WSW to service with a new borehole c. 700m south of main WSW. The option is to drill a new replacement borehole for Petworth WSW in Sussex North Area. As the borehole is out of service the RA abstraction is expected to increase.

Designated sites listed in Catchment Data Explorer: None

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	Mod	Mod		Probable		Probable	Probable - diffuse source Poor soil management	Increase in abstraction within licence limits may affect flow in nearby stream discharging to the River Rother. ALS shows there is no water available at Q95 and Q70. Restricted water available at Q50. Geology indicates likely high degree of continuity between groundwater and surface water. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish, invertebrate and macrophyte/phytobenthos populations.	Non-compliant (low conf.)	
Invertebrates	High	Good							Non-compliant (low conf.)	
Macrophytes/ phytobenthos	Mod	Good							Non-compliant (low conf.)	
Phys-chem water quality (in support of ecological status)	Mod	Mod			Confirmed - Phosphate			Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status. The CDE indicate that Phosphate contributions are a key RNAG, flow reductions could exacerbate this issue.	Non-compliant (low conf.)	
Chemicals	Good	Bad	Confirmed - Mercury, PFOS, PBDE					The option would not introduce new priority or priority hazardous chemicals but lower flows could result in a reduction in dilution of chemicals already present in the River Rother, and potentially further deterioration in status.	Non-compliant (low conf.)	
RBMP2 water body measures			not known at water body scale						n/a	

Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)

Option	SWS_SNZ_HI-ROC_RE1_ALL_hsb-rcm	Groundwater (SNZ): New borehole at Petworth (4Ml/d)	Option description and potential effects:
Water body type		Groundwater	Return WSW to service with a new borehole c. 700m south of main WSW. The option is to drill a new replacement borehole for Petworth WSW in Sussex North Area. As the borehole is out of service the RA abstraction is expected to increase leading to an increase in drawdown. Designated sites listed in Catchment Data Explorer: - Arun Valley SPA, SAC and Ramsar
Water body ID		GB40701G503100	
Water body name		Lower Greensand Arun & Western Streams	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		Connectivity between the aquifer and overlying surface waters is likely to be high due to the permeable nature of the solid and superficial geology, and the proximity of watercourses. The ALS indicates that there is no water available in the overlying surface water body below Q50, meaning flows are already lower than the requirement to support GES. The GWMU has restricted water availability.	Non-compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		Low risk of impact on GWDTEs, since the GWDTE test is currently Good and abstraction is within licence	Compliant (low conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the distance from the coast and the lack of saline intrusion at this source historically.	Compliant (high conf.)	
Water balance	Good	Good		Increased abstraction will reduce the surplus in the water balance potentially leading to deterioration.	Non-compliant (low conf.)	
Chemical (overall)	Poor	Poor	Confirmed - Diffuse Source, poor nutrient management	The option will not introduce any new chemicals to the groundwater body. Changed groundwater flow patterns due to the increased abstraction could potentially result in migration of pollutants. Since the source had previously experienced rising nitrate levels and elevated iron, it is possible that this could contribute to the poor status.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_IOW_HI-GRW_ALL_ALL_br_less	Groundwater (IOW): New borehole at Eastern Yar3 (1.5Ml/d)
Water body type		River
Hydromorph designation		not designated artificial or heavily modified
Water body ID		GB107101006210
Water body name		Wroxall Stream

Option description and potential effects:

The option is to drill a new replacement borehole, 100m deep, for Eastern Yar3 Augmenation well on the Isle of Wight. The existing Eastern Yar3 borehole has c. 90%+ loss in performance, and previous well rehabilitation and cleaning has not provided a notable improvement. A replacement well is required to regain resilience within the augmenation well field.
As the borehole has c. 90%+ loss in performance, hence yield, the RA abstraction is expected to increase.

Designated sites listed in Catchment Data Explorer:
- Isle of Wight Downs SAC (screened out of HRA)

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	n/a	n/a						The IOW ALS shows there is no water available in Wroxall Stream at Q95, Q70, Q50, Q30. Geology indicates likely high degree of continuity between groundwater and surface water. However, the source is only used intermittently, and is used to augment the Yar, thereby offsetting any flow impacts. As a result of being used only intermittently, it is expected that this source will be excluded from ongoing No Deterioration investigations on the IOW. Taking these factors in to account, it is reasonable to include that reinstating the ability to use the augmentation source effectively will not result have an impact on biology or water quality in Wroxall Stream, and hence not result in WFD non-compliance.	Compliant (low conf.)	
Invertebrates	Good	Good							Compliant (low conf.)	
Macrophytes/ phytobenthos	Poor	Poor				Probable	Suspected, urban runoff		n/a	
Phys-chem water quality (in support of ecological status)	Mod	Mod			Confirmed - phosphate	Probable			Compliant (low conf.)	
Chemicals	Bad	n/a	Confirmed - PBDE		No sector responsible				Compliant (med. conf.)	
RBMP2 water body measures			not known at water body scale						n/a	

Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)

Option	SWS_IOW_HI-GRW_ALL_ALL_br_less	Groundwater (IOW): New borehole at Eastern Yar3 (1.5Ml/d)	Option description and potential effects:
Water body type		Groundwater	The option is to drill a new replacement borehole, 100m deep, for Eastern Yar3 Augmenation well on the Isle of Wight. The existing Eastern Yar3 borehole has c. 90%+ loss in performance, and previous well rehabilitation and cleaning has not provided a notable improvement. A replacement well is required to regain resilience within the augmenation well field. As the borehole has c. 90%+ loss in performance, hence yield, the RA abstraction is expected to increase leading to an increase in drawdown. Designated sites identified in Catchment Data Explorer: - Solent and Dorset Coast SPA (screened out of HRA) - South Wight Maritime SAC (screened out of HRA) - Solent & Southampton Water SPA and Ramsar (screened out of HRA) - Solent & Isle of Wight lagoons SAC (screened out of HRA) - Isle of Wight Downs SAC (screened out of HRA)
Water body ID		GB40701G502900	
Water body name		IOW Lower Greensand	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		Connectivity between the aquifer and overlying surface waters is likely to be high due to the permeable nature of the solid and superficial geology, and the proximity of watercourses. The ALS indicates that there is no water available in the overlying surface water body. However, the abstraction is only expected to be used occasionally, and when it is used, will augment flows in the river (location of the discharge is not known, but is assumed to be in the vicinity of the abstraction, i.e. to the Wroxall Stream). Therefore there is not expected to be an impact on dependent surface water body test	Compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		There are no GWDTE present in the vicinity of the abstraction locations which are likely to have good hydraulic connection to the groundwater body, and the occasional nature of the abstraction means that it is unlikely to have an impact on any sites (e.g. Alverstone Marshes) at a distance.	Compliant (med. conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the distance from the coast and the lack of saline intrusion at this source historically.	Compliant (high conf.)	
Water balance	Good	Good		The occasional use of this abstraction means that it is unlikely to have an impact on the water balance of the aquifer. It is expected that this source will be excluded from ongoing No Deterioration investigations on the Isle of Wight, due to its intermittent use.	Compliant (low conf.)	
Chemical (overall)	Good	Good		The option will not introduce any new chemicals to the groundwater body. Changed groundwater flow patterns due to the increased abstraction could potentially result in migration of pollutants, but given Chemical status is Good, and the source will only be used occasionally, this is not considered to pose a significant risk to the chemical status.	Compliant (med. conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_KMW_HI-REU_RE1_ALL_ecc18	Recycling (KMW): Medway WTW to lake (14Ml/d)	Option description and potential effects:
Water body type		Transitional	This option involves the transfer of 18Ml/d of treated effluent from Medway WWTW to near Rochester WSW's raw water storage reservoir Eccles Lake. The construction of new discharge infrastructure could affect hydromorphology, physico-chemistry and biology. The new discharge into the lake during the operation of the option could potentially affect the biology, physico-chemistry and chemistry of the water body, particularly in light of the current failure on account of phosphorus derived from the water industry. Designated sites listed in Catchment Data Explorer: - Outer Thames Estuary SPA (not assessed in HRA- outwith selection criteria) - Thames Estuary & Marshes SPA and Ramsar (not assessed in HRA- outwith selection criteria) - Medway Estuary & Marshes SPA and Ramsar
Hydromorph designation		Heavily modified	
Water body ID		GB530604002300	
Water body name		Medway	

	Baseline Status			Assessment of option		
Status element	2019 interim status	RBMP3 (2022) status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	High	High		The discharge from Medway WwTW is in to a transitional water body. The reduction in discharge is in the region of 6% of the upstream gauged flow (Q95 Len at Lenside 0.327 m3/s, plus Medway at Teston/East Farleigh 1.57 m3/s. Flow transfer of 18 Ml/d). However, as this discharges to the tidal reach, its mixing will be influenced by the tides, and beyond the extent of freshwater discharges, and therefore should not be incorporated in to resource availability.	Compliant (low conf.)	n/a
Angiosperms						
Macroalgae					Compliant (low conf.)	n/a
Invertebrates					Compliant (low conf.)	n/a
Fish						
Phys-chem water quality (in support of ecological status)			Dissolved inorganic nitrogen - investigation into classification status in 2016 indicated 'certain there is not a problem'. Nothing listed in RNAG table	Any impact on water quality should be positive, due to reduced loading to the water body.	Compliant (low conf.)	Compliant (low conf.)
Chemicals			Benzo(g,h,i)perylene, mercury and its compounds, PBDE, Dichlorvos, tributyl tin compounds	A reduction in discharge will reduce the loading of any chemicals present in the sewage effluent, thereby providing a minor positive change	Compliant (med. conf.)	Compliant (med. conf.)
RBMP2 water body measures			Heavily modified use - flood protection Working with form and function - 2.Remove obsolete structure, 4. Remove or soften hard bank, 1. Modify channel, 7. Bank rehabilitation, 13. Realign flood defence. ALL NOT IN PLACE	A reduction in discharge to the water body would not influence the effectiveness, or ability to implement, any of these measures	Compliant (med. conf.)	Compliant (med. conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_KMW_HI-REU_RE1_ALL_ecc18	Recycling (KMW): Medway WTW to lake (14Ml/d)
Water body type		Lake
Hydromorph designation		Artificial
Water body ID		GB30643117
Water body name		Eccles Lake

Option description and potential effects:

This option involves the transfer of 18Ml/d of treated effluent from Medway WWTW to near Rochester WSW's raw water storage reservoir Eccles Lake. The construction of new discharge infrastructure could affect hydromorphology, physico-chemistry and biology. The new discharge into the lake during the operation of the option could potentially affect the biology, physico-chemistry and chemistry of the water body, particularly in light of the current failure on account of phosphorus derived from the water industry.

Designated sites listed in Catchment Data Explorer: None

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton			High to Good deterioration - no sector identified as responsible	The new discharge of treated effluent could potentially result in physico-chemical effects that could impact on biological status elements (see water quality below). The status of phytoplankton reduced from High to Good between 2015 to 2019, so there is a risk of a deteriorating trend, which could be exacerbated by the option. The installation of new discharge infrastructure and the increase in inflow to the lake may have a minor influence on the hydromorphology of the water body, although this may be positive if it helps to maintain water levels during dry periods, so is expected to be compliant.	Non-compliant (med. conf.)	n/a
Invertebrates					n/a	n/a
Macrophytes/ phytobenthos					n/a	n/a
Phys-chem water quality (in support of ecological status)			Fails for total phosphorus (Bad status) - RNAG indicates point source from sewage discharge (intermittent). Sector responsible is water industry.	A new discharge into the reservoir could potentially change the physico-chemistry of the water body, for example by increasing nutrient concentrations, changing dissolved oxygen concentrations, and changing water temperature. Phosphate is classified as Bad, and there is a risk that the option could result in further deterioration, or prevent future improvements. This could, in turn, impact phytoplankton communities. This is particularly a risk if the option was used during drought periods, i.e. with low water levels and high temperatures. Further assessment is therefore required to consider the final characteristics of the new discharge and ensure that water quality is not compromised.	Non-compliant (med. conf.)	Non-compliant (med. conf.)
Chemicals			Fails for Mercury and Its Compounds, Perfluorooctane sulphonate (PFOS), Polybrominated diphenyl ethers (PBDE)	The discharge could introduce new or increased concentrations of chemicals in to the water body. This will require further review to determine the relative concentrations of chemicals in the discharge and receiving water.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures					n/a	n/a
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	WR180	Recycling (SHZ): Hastings to Darwell (15.3Ml/d)	Option description and potential effects:
Water body type		Lake	This option is a new 21.5Ml/d water recycling plant producing a DO of 15.3Ml/d near Bexhill and Hastings WwTW and a transfer of the treated effluent to Darwell reservoir, which feeds into the Hastings Area. Treated effluent from Hastings WWTW, currently being discharged to sea at Pebsham Gap, in order to augment storage in Darwell reservoir. This option includes tertiary treatment of Hastings wastewater, this may include Membrane Bio Reactors and Reverse Osmosis. Additional GAC and UV treatment may be required at Brede WSW. The requirement for a new discharge into the Darwell Reservoir during the operation of the option could potentially affect the biology, physico-chemistry and chemistry of the water body, whilst the construction of new discharge infrastructure could affect hydromorphology, physico-chemistry and biology. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		Heavily Modified	
Water body ID		GB30744955	
Water body name		Darwell Reservoir	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	High		High to good deterioration - no sector identified as being responsible	The new discharge of treated effluent could potentially result in physico-chemical effects that could impact on biological status elements (see water quality below). The status of phytoplankton reduced from High to Good between 2015 to 2019, so there is a risk of a deteriorating trend, which could be exacerbated by the option. The installation of new discharge infrastructure and the increase in inflow to the lake may have a minor influence on the hydromorphology of the water body, although this may be positive if it helps to maintain water levels during dry periods, so is expected to be compliant.	Non-compliant (med. conf.)	n/a
Invertebrates					n/a	n/a
Macrophytes/ phytobenthos					n/a	n/a
Phys-chem water quality (in support of ecological status)				A new discharge into the reservoir could potentially change the physico-chemistry of the water body, for example by increasing nutrient concentrations, changing dissolved oxygen concentrations, and changing water temperature. The water body has had previous issues due to phosphorus, as demonstrated in the 2015 status classification which for phosphorous was moderate. This could impact phytoplankton communities. This is particularly a risk if the option was used during drought periods, i.e. with low water levels and high temperatures. Further assessment is therefore required to consider the final characteristics of the new discharge and ensure that water quality is not compromised.	Non-compliant (med. conf.)	n/a
Chemicals			Fail for mercury and its compounds and polybrominated diphenyl ethers (PBDEs).	The discharge could introduce new or increased concentrations of chemicals in to the water body. This will require further review to determine the relative concentrations of chemicals in the discharge and receiving water.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			"Heavily modified use - Drinking water supply and Water Regulation (i, ii) Structural modification - 18. Reduce fish entrainment Water management - 42. Access to feeder streams, 43. Downsteam flow regime, 45. Good downstream DO levels, 46. Good downstream temperature. ALL IN PLACE "	It is assumed that the new discharge would be appropriately designed. The scheme could provide some benefit to these measures by helping to maintain water levels in the reservoir and thereby facilitating downstream flows.	Compliant (Low conf.)	Compliant (Low conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_SNZ_HI-REU_RE1_ALL_for20	Recycling (SNZ): Littlehampton WTW with river discharge (15Ml/d)
Water body type		River
Hydromorph designation		not designated artificial or heavily modified
Water body ID		GB107041012810
Water body name		Western Rother

Option description and potential effects:

This scheme proposes the transfer of treated effluent from Littlehampton WwTW to a new discharge point to the western River Rother upstream of the Pulborough WSW abstraction. This would support flows over the Pulborough weir as the MRF is approached, therefore prolong production at Pulborough during a drought. 20Ml/d represents the upper end of the reliable flow that could be expected from Littlehampton WwTW. Once abstracted at Pulborough WSW this water would be used to meet demand in the Sussex North WRZ. This option would require the construction on new in-channel infrastructure, and a new discharge into the River Rother.

Designated sites listed in Catchment Data Explorer: None

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish				Probable		Probable	Diffuse - source poor soil management	The installation of new discharge infrastructure and increase in flows in the river could potentially alter the hydromorphology of the water body and change aquatic habitats. However, conversely, increased river flows could also potentially benefit the downstream Arun Valley Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar. The new discharge of treated effluent could potentially result in physico-chemical effects that could impact on biological status elements (see water quality below).	Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates	High								Non-compliant (low conf.)	n/a
Macrophytes/ phytobenthos									Non-compliant (low conf.)	n/a
Phys-chem water quality (in support of ecological status)					Phosphate - Point source water industry. Confirmed. Also Diffuse - source poor soil management			A new discharge into the river could potentially change the physico-chemistry of the water body, for example by increasing nutrient concentrations, changing dissolved oxygen concentrations, and changing water temperature. The water body is currently failing to achieve status targets due to phosphate, and any increases could result in further deterioration or make future improvements more challenging. Further assessment is therefore required to consider the final characteristics of the new discharge and ensure that water quality is not compromised, particularly given the likely connectivity between the river and the Arun Valley SAC, SPA and Ramsar.	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals			Fails due to Mercury and Its Compounds, Perfluorooctane sulphonate (PFOS), Polybrominated diphenyl ethers (PBDE)					In theory the discharge could introduce new chemicals to this waterbody, or increase loading of chemicals already present. This would need further assessment.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			N/A as not designated heavily modified						n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_KME_HI-REU_RE1_ALL_sit8	Recycling (KME): Sittingbourne Industrial Water Reuse (7.5Mld)
Water body type		Transitional
Hydromorph designation		Heavily modified
Water body ID		GB530604011500
Water body name		Swale

Option description and potential effects:

This option is to use the reuse scheme to free up additional volume from an industrial user to increase the scope of the licence trading. The indistrial user utilises the groundwater in its processes. It has been assumed at this stage that the RO wastewater can be discharged through Sittingbourne WwTW existing outfall.

It is assumed that this option will result in no net change to groundwater abstraction (reduced groundwater abstraction from industrial user offset by increased use by SWS). The replacement water for the industrial user would come from reuse of effluent, which would therefore reduce the quantity of effluent being discharged from Sittingbourne WwTW.

Designated sites listed in Catchment Data Explorer:
- Outer Thames Estuary SPA (screened out of HRA)
- Medway Estuary & Marshes SPA and Ramsar
- The Swale SPA and Ramsar

	Baseline Status			**Assessment of option**		
Status element	RBMP2 status (2015)	RBMP3 (2022) status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	High			The option will result in reduced discharge from Sittingbourne WwTW to the Swale. The North Kent & Swale ALS (2013) shows restricted water available (Q30 only) for the lower Swale catchment. As the discharge is to the tidal Milton Creek, shortly upstream of the Swale SPA boundary, and considering the perceived sensitivity of freshwater flows to estuaries, potential non-compliance has been concluded on a precautionary basis. However, this requires further assessment.	Non-compliant (low conf.)	n/a
Angiosperms						
Macroalgae					Non-compliant (low conf.)	n/a
Invertebrates	High		High to Good deterioration - no sector identified as being responsible		Non-compliant (low conf.)	n/a
Fish						
Phys-chem water quality (in support of ecological status)			Dissolved inorganic nitrogen - investigation into classification status in 2016 indicated 'certain there is not a problem'. Nothing listed in RNAG table	The option will result in reduced discharge from Sittingbourne WwTW. This will reduce loading to Milton Creek, but will also reduce the total flow in the creek. It is assumed that it is more likely to have a positive effect overall, but further assessment would be required to confirm this	Compliant (low conf.)	Compliant (low conf.)
Chemicals			Mercury and its compounds, Polybrominated diphenyl ethers (PBDE)	As the option will result in reduced discharge from Sittingbourne WwTW, it will reduce the loading of any chemicals found in the effluent discharge. However it would also reduce dilution of any other chemicals found in the Milton Channel. On balance, a change to status of any elements is unlikely	Compliant (low conf.)	Compliant (low conf.)
RBMP2 water body measures			Heavily modified use - Flood protection Working with physical form and function - 4. Remove or soften hard bank, 7. Bank rehabilitation,	The proposed activities would not impact on any of these measures given they do not include the introduction of new banks or flood defence structures.	Compliant (low conf.)	Compliant (low conf.)

Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)

Option	WR_PWR_Bew3_CONJU	Recycling (SHZ): Tonbridge to Bewl (5.7Ml/d)	Option description and potential effects:
Water body type		Lake	New resource. This option is a new 8Ml/d water recycling plant producing a DO of 5.7Ml/d near Tunbridge WwTW and a transfer of the treated water to Bewl reservoir, which feeds into Darwell reservoir. Process losses have been included. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		heavily modified	
Water body ID		GB30644398	
Water body name		Bewl Water	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton				The new discharge of treated effluent could potentially result in physico-chemical effects that could impact on biological status elements (see water quality below). Macrophytes are already at Poor status, and the option could make it more difficult to achieve future improvements. The installation of new discharge infrastructure and the increase in inflow to the lake may have a minor influence on the hydromorphology of the water body, although this may be positive if it helps to maintain water levels during dry periods, so is expected to be compliant.	n/a	n/a
Invertebrates					n/a	n/a
Macrophytes/ phytobenthos	Poor	Poor			Non-compliant (med. conf.)	Non-compliant (med. conf.)
Phys-chem water quality (in support of ecological status)	Poor	Poor	Total phosphorus - point source sewage discharge - responsible sector water industry (confirmed)	A new discharge into the reservoir could potentially change the physico-chemistry of the water body, for example by increasing nutrient concentrations, changing dissolved oxygen concentrations, and changing water temperature. The water body already fails for phosphate, which is at Poor status, and the introduction of treated effluent (depending on the final discharge quality) could worsen this or prevent future improvements. This is particularly a risk if the option was used during drought periods, i.e. with low water levels and high temperatures. Further assessment is therefore required to consider the final characteristics of the new discharge and ensure that water quality is not compromised.	Non-compliant (med. conf.)	Non-compliant (med. conf.)
Chemicals			Fails for Mercury and Its Compounds, Perfluorooctane sulphonate (PFOS) and Polybrominated diphenyl ethers (PBDE)	The discharge could introduce new or increased concentrations of chemicals in to the water body. This will require further review to determine the relative concentrations of chemicals in the discharge and receiving water.	Non-compliant (low conf.)	Non-compliant (low conf.)
RBMP2 water body measures			Heavily modified for drinking water supply and water regulation (i, ii) Working with physical form and function - 3. Re-engineer river IN PLACE. Water management - 42. Access to feeder-streams, 45. Good downstream DO levels, 46. Good downstream temperature, 43. Downstream flow regime. ALL IN PLACE WITH THE EXCEPTION OF 43. Structural modification - 18. Reduce fish entrainment. IN PLACE	It is assumed that the new discharge would be appropriately designed. The scheme could provide some benefit to these measures by helping to maintain water levels in the reservoir and thereby facilitating downstream flows and access to feeder streams	Compliant (low conf.)	Compliant (low conf.)
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (med. conf.)	

Option	WR_PWR_Bew3_CONJU	Recycling (SHZ): Tonbridge to Bewl (5.7Ml/d)	Option description and potential effects:
Water body type		River	New resource. This option is a new 8Ml/d water recycling plant producing a DO of 5.7Ml/d near Tunbridge WwTW and a transfer of the treated water to Bewl reservoir, which feeds into Darwell reservoir. Process losses have been included. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not designated artificial or heavily modified	
Water body ID		GB106040018182	
Water body name		Mid Medway from Eden Confluence to Maidstone Water Body	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	RBMP2 status (2015)	RBMP3 status (2019)	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	High	Good						A reduction in discharges from the WwTW could potentially change the physico-chemistry of the water body. A reduction in nutrient supply is likely to result in beneficial impacts on biological quality elements. However, there is some potential for adverse impacts during periods of low flow as a result of overall reduced flow in the channel, including a reduction in dissolved oxygen concentrations and an increase in water temperature (i.e. due to shallow, sluggish flows).	Non-compliant (low conf.)	na
Invertebrates	High	High							Non-compliant (low conf.)	na
Macrophytes/ phytobenthos	Mod	Mod			Quite certain	Quite certain	Poor nutrient management, sewage discharge		Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)	Mod	Mod			Phosphate - poor nutrient management, sewage discharge			A reduction in discharges from the WwTW could potentially affect the physico-chemistry of the water body. Although nutrient reductions are likely to be generally positive, there is potential for adverse impacts during periods of low flow as a result of reduced overall flow in the river, e.g. a reduction in dissolved oxygen concentrations and an increase in water temperature (i.e. due to shallow, sluggish flows).	Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals	Pass	Fail	Fail for Mercury and Its Compounds, Perfluorooctane sulphonate (PFOS), Polybrominated diphenyl ethers (PBDE), Mercury and its compounds					A reduction in discharge will reduce the loading in the river of any chemicals contained in the effluent, although this is expected to be only a minor benefit since the failing chemicals are ubiquitous	Compliant (low conf.)	Compliant (low conf.)
RBMP2 water body measures			N/A as not heavily modified						n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	LEW	Groundwater (SBZ): Lewes Road (3.5 Ml/d)
Water body type		Groundwater
Water body ID		GB40701G502500
Water body name		Brighton Chalk Block

Option description and potential effects:

Lewes Road is a is a well and adit system that has been out of supply for over 10 years due to poor water quality. The scheme would refurbish the water supply works and add additional water treatment. It would also increase pump capacity and WSR connectivity so that Lewes Road groundwater source works can pump to its Middle or High WSR (output to the Low WSR is currently constrained by the header tanks at Goldstone). The current demand constraint is approximately 2.3Ml/d (PDO). If the scheme is introduced, the constraint becomes pump capacity; scheme output is approximately 3.9Ml/d under severe drought conditions.

Designated sites listed in Catchment Data Explorer: None

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Poor	Poor	Confirmed - Groundwater abstraction for water industry	There are no WFD surface waterbody receptors in proximity to the Lewes Road abstraction. Therefore it is unlikely that this option would contribute to or worsen the Poor status of this element.	Compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		There are no GWDTE present in the vicinity of the abstraction locations which are likely to have good hydraulic connection to the groundwater body.	Compliant (high conf.)	
Saline intrusion	Good	Good		Both Quantitative Saline Intrusion test and Chemical Saline instrusion test WFD statuses are good. However, the Adur and Ouse ALS (2019) states that one of the main abstraction issues for the Brighton Chalk is to prevent saline intrusion. The abstraction is currently licenced. It is not certain whether the risk of saline intrusion to the source has been previously assessed.	Uncertain	
Water balance	Poor	Good		Increased abstraction will reduce the surplus in the water balance potentially leading to deterioration. The Adur and Ouse ALS indicates that the Brighton Chalk Block has restricted water availability, therefore there is some risk that an increase in abstraction within licence may be considered non-compliant. The Brighton Chalk and associated abstractions are currently subject to a WINEP investigation, which may provide further evidence.	Non-compliant (low conf.)	
Chemical (overall)	Poor	Poor	Confirmed - Diffuse Source, poor nutrient management (agriculture and rural land management)	The option will not introduce any new chemicals to the groundwater body. It is understood that the source previously experienced poor water quality, but the source is unlikely influence any of the identified RNAGs.	Compliant (low conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low. conf.)	

Option	SWS_SWZ_HI-DES_ALL_ALL_aru20	Desalination (SWZ): Tidal River Arun (20Ml/d) (and variants of this option)
Water body type		Coastal
Hydromorph designation		Heavily modified
Water body ID		GB640704540003
Water body name		Sussex

Option description and potential effects:

This option proposes a desalination plant to treat seawater abstracted off the coast near Littlehampton to supply treated water to the Sussex Worthing WRZ. It is assumed that the water could be used during drought conditions to meet demand in Sussex Worthing WRZ. There is bi-directional transfer between Sussex Worthing WRZ and Sussex North WRZ which means this option could have result in additional benefit to Sussex North WRZ. This transfer would likely require additional connectivity between Perry Hill WSR and Tennants Hills WSR

An investigation in AMP4 indicated that land adjancent to Littlehampton WwTW showed the greatest potential for a new desalination site because of the existing land use, the availability of services (access roads, power, etc.). Development in this area is progressing rapidly and land allocation for the site would need to be secured within the local plan to ensure its available when the scheme is needed.

Designated sites listed in Catchment Data Explorer:
- Solent and Dorset Coast SPA
- Pagham Harbour SPA and Ramsar (not assessed in HRA- outwith selection criteria)

	Baseline Status			**Assessment of option**		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton				The discharge of hypersaline water could impact on water quality and affect habitats for biological parameters. Updates to this option have moved the proposed discharge so that it would be located outside of this WFD water body. However until modelling is complete, compliance cannot be confirmed with certainty.	Non-compliant (low conf.)	
Angiosperms						
Macroalgae						
Invertebrates					Non-compliant (low conf.)	
Phys-chem water quality (in support of ecological status)				The discharge of hypersaline water could impact on water quality and affect habitats for biological parameters within this water body. Updates to this option have moved the proposed discharge so that it would be located outside of this WFD water body. However until modelling is complete, compliance cannot be confirmed with certainty.	Non-compliant (low conf.)	
Chemicals			Fail due to PBDE and Mercury + compounds	The discharge of hypersaline water into the Coastal water body could impact on water quality. Water quality modelling will be required.	Non-compliant (low conf.)	
RBMP2 water body measures			Heavily modified use: Coastal Protection Structural modification - 20. Changes to locks etc NOT IN PLACE.	Discharge/abstraction of seawater would not impact on these mitigation measures.	Compliant (low conf.)	
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_HAZ_HI-GRW_ALL_ALL_chi	Groundwater (HAZ): Recommission Chilbolton (0.5 Ml/d)	Option description and potential effects:
Water body type		River	Chilbolton WSW, a groundwater source, was decommissioned in 2011 due to high nitrate concerns. The boreholes and booster pumps to move water through the site are the only remaining assets on site. A catchment management solution is currently being progressed to allow the site to return to service by 2035. The site can be brought back into service earlier by installing nitrate treatment. There is no run to waste facility at the site and waste will need to be transferred to a suitable WwTW and discharged under existing consents. These changes would allow the abstraction to be used again and hence increase abstraction above recent actual. The assumption is that abstraction would remain within the current licence Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not HMWB/AWB	
Water body ID		GB107042022750	
Water body name		Test (conf Dever to conf Anton)	

	Baseline Status		**Reasons for not achieving good status**					**Assessment of option**		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish								Increase in abstraction within licence limits may affect flow in nearby River Test. ALS (2019) shows there is restricted water available at Q95 with water available at Q70, Q50, Q30. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish and invertebrate populations. However, the restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources) (note that some sources in the Test are currently subject to a No Deterioration investigation, although Chilbolton is not included)	n/a	n/a
Invertebrates	High	High							Compliant (low conf.)	n/a
Macrophytes/ phytobenthos							Not listed in CDA		Compliant (low conf.)	Compliant (low conf.)
Phys-chem water quality (in support of ecological status)	High	High						Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	n/a
Chemicals		Does not require assessment						The option would not introduce new priority or priority hazardous chemicals, although lower flows could result in a reduction in dilution of chemicals already present in the River Test. This is unlikely to result in non-compliance	n/a	n/a
RBMP2 water body measures									n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_HAZ_HI-GRW_ALL_ALL_chi	Groundwater (HAZ): Recommission Chilbolton (0.5 Ml/d)	Option description and potential effects:
Water body type		Groundwater	Chilbolton WSW, a groundwater source, was decommissioned in 2011 due to high nitrate concerns. The boreholes and booster pumps to move water through the site are the only remaining assets on site. A catchment management solution is currently being progressed to allow the site to return to service by 2035. The site can be brought back into service earlier by installing nitrate treatment. There is no run to waste facility at the site and waste will need to be transferred to a suitable WwTW and discharged under existing consents. These changes would allow the abstraction to be used again and hence increase abstraction above recent actual. The assumption is that abstraction would remain within the current licence Designated sites listed in Catchment Data Explorer: None
Water body ID		GB40701G501200	
Water body name		River Test Chalk	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		Increase in abstraction within licence limits may affect flow in nearby River Test. ALS shows there is restricted water available at Q95 with water available at Q70, Q50, Q30. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish and invertebrate populations. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		No GWDTEs are likely to be affected by this option	Compliant (low conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the distance from the coast and the lack of saline intrusion at this source historically.	Compliant (high conf.)	
Water balance	Good	Good		Increased abstraction will reduce the surplus in the water balance, although as the increase in abstraction will be within the current licence, it is relatively unlikely to result in deterioration of status.	Compliant (low conf.)	
Chemical (overall)	Poor	Poor	Drinking Water Protected Area and General Chemical Test: Natural conditions- groundwater status recovery time	The option will not introduce any new chemicals to the groundwater body, and will not influence the reasons for Poor status	Compliant (med. conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low. conf.)	

Option	SWS_HRZ_HI-GRW_ALL_ALL_hor	Groundwater (HRZ): Remove constraints at Kings Sombourne (2.5 Ml/d)	Option description and potential effects:
Water body type		River	This involves the development of a new borehole and pump capacity to increase the DO from the site from the current 1.5Ml/d to the licence 4Ml/d giving a potential benefit of 2.5Ml/d. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not HMWB/AWB	
Water body ID		GB107042022670	
Water body name		Test (conf Anton to conf Dun)	

	Baseline Status		**Reasons for not achieving good status**					**Assessment of option**		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish								Increase in abstraction within licence limits may affect flow in nearby River Test. ALS (2019) shows there is restricted water available at Q95 with water available at Q70, Q50, Q30. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish and invertebrate populations. However, the restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	n/a	n/a
Invertebrates	High	High							Compliant (low conf.)	n/a
Macrophytes/ phytobenthos							Not listed in CDA		Compliant (low conf.)	n/a
Phys-chem water quality (in support of ecological status)	High	High						Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	n/a
Chemicals		Does not require assessment						The option would not introduce new priority or priority hazardous chemicals, although lower flows could result in a reduction in dilution of chemicals already present in the River Test. This is unlikely to result in non-compliance	n/a	n/a
RBMP2 water body measures									n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_HRZ_HI-GRW_ALL_ALL_hor	Groundwater (HRZ): Remove constraints at Kings Sombourne (2.5 Ml/d)	Option description and potential effects:
Water body type		River	This involves the development of a new borehole and pump capacity to increase the DO from the site from the current 1.5Ml/d to the licence 4Ml/d giving a potential benefit of 2.5Ml/d. Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not HMWB/AWB	
Water body ID		GB107042022740	
Water body name		Sombourne Stream Water Body	

	Baseline Status		**Reasons for not achieving good status**					**Assessment of option**		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish								Increase in abstraction within licence limits may affect river flows. ALS (2019) doe not include an assessment point on the Sombourne Stream, but for the Test downstream, shows there is restricted water available at Q95 with water available at Q70, Q50, Q30. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish and invertebrate populations. However, the restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources).	n/a	n/a
Invertebrates	High	High							Compliant (low conf.)	n/a
Macrophytes/ phytobenthos							Not listed in CDA		Compliant (low conf.)	n/a
Phys-chem water quality (in support of ecological status)					DO at Good (2019), Mod (2022). Other elements at High			Reduction in flow, particularly during times of low flow, could result in changes to physico-chemical quality elements (e.g. BOD, DO, pH, temperature), potentially causing a deterioration in status. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	n/a
Chemicals		Does not require assessment						The option would not introduce new priority or priority hazardous chemicals, although lower flows could result in a reduction in dilution of chemicals already present in the Sombourne Stream. This is unlikely to result in non-compliance	n/a	n/a
RBMP2 water body measures									n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low conf.)	

Option	SWS_HRZ_HI-GRW_ALL_ALL_hor	Groundwater (HRZ): Remove constraints at Kings Sombourne (2.5 Ml/d)	Option description and potential effects:
Water body type		Groundwater	This involves the development of a new borehole and pump capacity to increase the DO from the site from the current 1.5Ml/d to the licence 4Ml/d giving a potential benefit of 2.5Ml/d. Designated sites listed in Catchment Data Explorer: None
Water body ID		GB40701G501200	
Water body name		River Test Chalk	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		Increase in abstraction within licence limits may affect flow in nearby River Test. ALS shows there is restricted water available at Q95 with water available at Q70, Q50, Q30. Changes to the hydrological regime, river continuity and morphological conditions due to change in baseflow could impact fish and invertebrate populations. However, restricted water availability applies only further downstream, and is protected by a HOF. Therefore, local impacts, within existing licence, should be acceptable and downstream impacts avoided by HOF (and potentially associated reduction in other sources)	Compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		No GWDTEs are likely to be affected by this option	Compliant (low conf.)	
Saline intrusion	Good	Good		The potential for saline intrusion into the aquifer is considered to be low given the distance from the coast and the lack of saline intrusion at this source historically.	Compliant (high conf.)	
Water balance	Good	Good		Increased abstraction will reduce the surplus in the water balance, although as the increase in abstraction will be within the current licence, it is relatively unlikely to result in deterioration of status.	Compliant (low conf.)	
Chemical (overall)	Poor	Poor	Drinking Water Protected Area and General Chemical Test: Natural conditions- groundwater status recovery time	The option will not introduce any new chemicals to the groundwater body, and will not influence the reasons for Poor status	Compliant (med. conf.)	
RBMP2 water body measures			not known at water body scale		n/a	
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (low. conf.)	

Option	BR_Rog	Groundwater (SNZ): Petersfield refurbishment (1.6 Ml/d)	Option description and potential effects:
Water body type		River	Transfer excess water for enhanced treatment at Midhurst, with refurbishment of Petersfield and borehole rehabilitation. This option will increase abstraction (from the Greensand) above recent levels, but within the existing licence quantity. The increase in abstraction could potentially have impacts on river flows or GWDTEs Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not HMWB/AWB	
Water body ID		GB107041012800	
Water body name		Western Rother Durford	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish					Y		Poor soil management	The Arun and Western Streams ALS (June 2022) has water available at AP3 (Upper Rother) and AP1 (Lower Rother) at Q30, restricted water available at Q50, and no water avaialble at Q70 or Q95. Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich. There is restricted water available in the Arun & Western Streams Greensand. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model (which covers the Western Rother catchment including Petersfield) and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts from Petersfield on flows in the Western Rother and Hammer Stream, and potential impacts on Fyning Moor SSSI. Until the WINEP investigation concludes, it must be assumed that impacts on dependent surface waters or GWDTEs are possible. This is also in line with the ALS current conclusion that there is restricted water available in the Upper Rother and Lower Rother.	Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates									Non-compliant (low conf.)	
Macrophytes/ phytobenthos					Y	Y			Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)					Phosphate Poor (Sewage discharge- water industry). Other elements High.				Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals		Does not require assessment								
RBMP2 water body measures									n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_SNZ_HI-GRW_ALL_ALL_Petersfield	Groundwater (SNZ): Petersfield refurbishment (1.6 Ml/d)
Water body type		River
Hydromorph designation		not HMWB/AWB
Water body ID		GB107041012820
Water body name		Hammer Stream (W. Sussex)

Option description and potential effects:

Transfer excess water for enhanced treatment at Midhurst, with refurbishment of Petersfield and borehole rehabilitation.

This option will increase abstraction (from the Greensand) above recent levels, but within the existing licence quantity. The increase in abstraction could potentially have impacts on river flows or GWDTEs

Designated sites listed in Catchment Data Explorer: None

	Baseline Status		**Reasons for not achieving good status**					**Assessment of option**		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish				Y			Poor soil management. Barriers	The Arun and Western Streams ALS (June 2022) has water available at AP3 (Upper Rother) and AP1 (Lower Rother) at Q30, restricted water available at Q50, and no water avaialble at Q70 or Q95. Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich. There is restricted water available in the Arun & Western Streams Greensand. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model (which covers the Western Rother catchment including Petersfield) and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts from Petersfield on flows in the Western Rother and Hammer Stream, and potential impacts on Fyning Moor SSSI. Until the WINEP investigation concludes, it must be assumed that impacts on dependent surface waters or GWDTEs are possible. This is also in line with the ALS current conclusion that there is restricted water available in the Upper Rother and Lower Rother.	Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates									Non-compliant (low conf.)	
Macrophytes/ phytobenthos				Y		Y	Reservoir/ impoundment (non-flow related)		Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)					Phosphate and DO Good, other elements High				Non-compliant (low conf.)	
Chemicals		Does not require assessment								
RBMP2 water body measures									n/a	n/a

Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)

Option	SWS_SNZ_HI-GRW_ALL_ALL_Petersfield	Groundwater (SNZ): Petersfield refurbishment (1.6 Ml/d)
Water body type		River
Hydromorph designation		not HMWB/AWB
Water body ID		GB107041012810
Water body name		Western Rother

Option description and potential effects:

Transfer excess water for enhanced treatment at Midhurst, with refurbishment of Petersfield and borehole rehabilitation.

This option will increase abstraction (from the Greensand) above recent levels, but within the existing licence quantity. The increase in abstraction could potentially have impacts on river flows or GWDTEs

Designated sites listed in Catchment Data Explorer: None

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish				Y	Y		Poor soil management. Barriers	The Arun and Western Streams ALS (June 2022) has water available at AP3 (Upper Rother) and AP1 (Lower Rother) at Q30, restricted water available at Q50, and no water avaialble at Q70 or Q95. Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich. There is restricted water available in the Arun & Western Streams Greensand. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model (which covers the Western Rother catchment including Petersfield) and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts from Petersfield on flows in the Western Rother. Until the WINEP investigation concludes, it must be assumed that impacts on dependent surface waters or GWDTEs are possible. This is also in line with the ALS current conclusion that there is restricted water available in the Upper Rother and Lower Rother.	Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates		High							Non-compliant (low conf.)	
Macrophytes/ phytobenthos					Y	Y			Non-compliant (low conf.)	
Phys-chem water quality (in support of ecological status)					Phosphate Poor (Sewage discharge- water industry. Poor soil management). Other elements High.				Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals		Does not require assessment								
RBMP2 water body measures									n/a	n/a

Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)

Option	SWS_SNZ_HI-GRW_ALL_ALL_Petersfield	Groundwater (SNZ): Petersfield refurbishment (1.6 Ml/d)
Water body type		Transitional
Hydromorph designation		Heavily modified
Water body ID		GB540704105000
Water body name		Arun

Option description and potential effects:

Transfer excess water for enhanced treatment at Midhurst, with refurbishment of Petersfield and borehole rehabilitation.

This option will increase abstraction (from the Greensand) above recent levels, but within the existing licence quantity. The increase in abstraction could potentially have impacts on river flows or GWDTEs

Designated sites in Catchment Data Explorer:
- Arun Valley SPA, SAC and Ramsar

	Baseline Status			Assessment of option		
Status element	2019 status	2022 status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	n/a	n/a		The Arun and Western Streams ALS (June 2022) has water available at AP3 (Upper Rother) and AP1 (Lower Rother) at Q30, restricted water available at Q50, and no water avaialble at Q70 or Q95. Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich (including the Stor). There is restricted water available in the Arun & Western Streams Greensand. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model (which covers the Western Rother catchment including Petersfield) and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts from Petersfield on flows in the Western Rother. As flows in to the tidal Arun are identified as being discharge rich in the ALS, and has a considerable upstream area, it is assumed that any abstraction impact would have only a very minor impact on flows in to the tidal Arun. Therefore it is considered unlikely to result in deterioration of any biological , physico-chemical or chemical elements.	Compliant (med. conf.)	n/a
Angiosperms	n/a	n/a			Compliant (med. conf.)	n/a
Macroalgae	High	High			Compliant (med. conf.)	n/a
Invertebrates	n/a	n/a			Compliant (med. conf.)	n/a
Fish	n/a	n/a			Compliant (med. conf.)	n/a
Phys-chem water quality (in support of ecological status)	Mod	Mod	Dissolved Oxygen High.		Compliant (med. conf.)	n/a
Chemicals		Does not require assessment			Compliant (med. conf.)	n/a
RBMP2 water body measures			To be confirmed		Compliant (med. conf.)	n/a
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (med. conf.)	

Option	SWS_SNZ_HI-GRW_ALL_ALL_Petersfield	Groundwater (SNZ): Petersfield refurbishment (1.6 Ml/d)	Option description and potential effects:
Water body type		Groundwater	Transfer excess water for enhanced treatment at Midhurst, with refurbishment of Petersfield and borehole rehabilitation. This option will increase abstraction (from the Greensand) above recent levels, but within the existing licence quantity. The increase in abstraction could potentially have impacts on river flows or GWDTEs Designated sites in Catchment Data Explorer: - Arun Valley SPA, SAC and Ramsar
Water body ID		GB40701G503100	
Water body name		Lower Greensand Arun & Western Streams	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		The Arun and Western Streams ALS (June 2022) has water available at AP3 (Upper Rother) and AP1 (Lower Rother) at Q30, restricted water available at Q50, and no water avaialble at Q70 or Q95. Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich (including the Stor). There is restricted water available in the Arun & Western Streams Greensand. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model (which covers the Western Rother catchment including Petersfield) and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts from Petersfield on flows in the Western Rother and Hammer Stream, and potential impacts on Fyning Moor SSSI. Until the WINEP investigation concludes, it must be assumed that impacts on dependent surface waters or GWDTEs are possible. This is also in line with the ALS current conclusion that there is restricted water available in the Upper Rother and Lower Rother.	Non-compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good			Non-compliant (low conf.)	
Saline intrusion	Good	Good		This is an inland groundwater body with no current issues with saline intrusion, and the increased rate of abstraction would be highly unlikely to result in deterioration	Compliant (high conf.)	
Water balance	Good	Good		As the water balance is currently Good, and abstraction would be within licence, it is assumed that this option would not result in deterioration of the water balance test. However, this conclusion will be subject to the Pulborough groundwater modelling and associated WINEP investigation being finalised	Compliant (low conf.)	
Chemical (overall)	Poor	Poor	Drinking Water Protected Area- poor nutrient management		Compliant (med. conf.)	
RBMP2 water body measures						
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_SNZ_HI-GRW_ALL_ALL_smockalley	Groundwater (SNZ): Reinstate West Chiltington (3.1 Ml/d)	Option description and potential effects:
Water body type		River	This scheme is to bring West Chiltington groundwater source back into service by constructing a new treatment plant and flood resilience measures at the site. It is assumed that the abstraction would be within current licensed limits. The increase in abstraction could potentially have impacts on river flows or GWDTEs Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not HMWB/AWB	
Water body ID		GB107041012100	
Water body name		Stor	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish	n/a	n/a						The Arun and Western Streams ALS (June 2022) has restricted water available in the Chilt water body (at Q30, Q50, Q70, Q95). Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich (including the Stor). There is restricted water available in the Arun & Western Streams Greensand, and within that, no water available within the Pulborough GWMU. The lack of water availability in the Pulborough GWMU is because of potential impacts on designated sites including Arun Valley SAC and constituent SSSIs including Pulborough Brooks. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts of West Chiltington on flows in the Chilt and downstream. As the Stor catchment is identified as being discharge rich in the ALS, it is assumed that any abstraction impact would have only a minor impact on flows, and is unlikely to result in deterioration of any biological elements. However, it is possible that a reduction in flows could impede improvements to water quality. This is a precuationary conclusion until the Pulborough WINEP investigations conclude and can provide quantified impacts on river flows.	Compliant (low conf.)	
Invertebrates	High	High							Compliant (low conf.)	
Macrophytes/ phytobenthos									Compliant (low conf.)	
Phys-chem water quality (in support of ecological status)					Phosphate Poor (poor nutrient management- agriculture; sewater dicharge- water industry). Other elements High.				Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals		Does not require assessment								
RBMP2 water body measures									n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_SNZ_HI-GRW_ALL_ALL_smock alley	Groundwater (SNZ): Reinstate West Chiltington (3.1 Ml/d)	Option description and potential effects:
Water body type		Transitional	This scheme is to bring West Chiltington groundwater source back into service by constructing a new treatment plant and flood resilience measures at the site. It is assumed that the abstraction would be within current licensed limits. The increase in abstraction could potentially have impacts on river flows or GWDTEs Designated sites in Catchment Data Explorer: - Arun Valley SPA, SAC and Ramsar
Hydromorph designation		Heavily modified	
Water body ID		GB540704105000	
Water body name		Arun	

	Baseline Status			Assessment of option		
Status element	2019 status	2022 status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Phytoplankton	n/a	n/a		The Arun and Western Streams ALS (June 2022) has restricted water available in the Chilt water body (at Q30, Q50, Q70, Q95). Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich (including the Stor). There is restricted water available in the Arun & Western Streams Greensand, and within that, no water available within the Pulborough GWMU. The lack of water availability in the Pulborough GWMU is because of potential impacts on designated sites including Arun Valley SAC and constituent SSSIs including Pulborough Brooks. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model (which covers the Western Rother catchment including Petersfield) and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts from West Chiltington on the Chilt and downstream. As flows in to the tidal Arun are identified as being discharge rich in the ALS, and has a considerable upstream area, it is assumed that any abstraction impact would have only a very minor impact on flows in to the tidal Arun. Therefore it is considered unlikely to result in deterioration of any biological , physico-chemical or chemical elements.	Compliant (med. conf.)	n/a
Angiosperms	n/a	n/a			Compliant (med. conf.)	n/a
Macroalgae	High	High			Compliant (med. conf.)	n/a
Invertebrates	n/a	n/a			Compliant (med. conf.)	n/a
Fish	n/a	n/a			Compliant (med. conf.)	n/a
Phys-chem water quality (in support of ecological status)	Mod	Mod	Dissolved Oxygen High.		Compliant (med. conf.)	n/a
Chemicals		Does not require assessment			Compliant (med. conf.)	n/a
RBMP2 water body measures			To be confirmed		Compliant (med. conf.)	n/a
				Overall assessment of WFD Regulations compliance of the option in this water body	Compliant (med. conf.)	

Option	SWS_SNZ_HI-GRW_ALL_ALL_smock alley	Groundwater (SNZ): Reinstate West Chiltington (3.1 Ml/d)	Option description and potential effects:
Water body type		River	This scheme is to bring West Chiltington groundwater source back into service by constructing a new treatment plant and flood resilience measures at the site. It is assumed that the abstraction would be within current licensed limits. The increase in abstraction could potentially have impacts on river flows or GWDTEs In theory any impact on flows in Lancing Brook would extend downstream to the Adur as well. This has not been assessed on an individual basis, but is incorporated in to the cumulative assessment Designated sites listed in Catchment Data Explorer: None
Hydromorph designation		not HMWB/AWB	
Water body ID		GB107041012160	
Water body name		Adur (Lancing Brook)	

	Baseline Status		Reasons for not achieving good status					Assessment of option		
Status element	2019 status	2022 status	Flow	Morphology	Sanitary water quality	Nutrients	Other	Assessment	Potential for deterioration	Potential for introduction of impediments
Fish				Y			Barriers	SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model and assess potential impacts of abstraction on rivers and designated sites. West Chiltington is included within the scope of the investigation, and includes consideration of potential impacts on springs at the head of the Lancing Brook. The Adur and Ouse ALS (2019) shows the Lancing Brook and downstream reaches of the Adur as being discharge rich: this is driven predominantly by the Eastern branch of the Adur, with the Western Adur (including Lancing Brook) having "limited abstraction and natural river flows are enough to ensure there is an excess of water above the minimum required by the environment". However, this is assumed not to include the conceptualisation being considered as part of the Pulborough project, as described above. Until the Pulborough investigation has concluded, on a precautionary basis, it is assumed that some impact on flows in Lancing Brook could be possible, and that those flow impacts could potentially impact on biological and/or phys-chem elements.	Non-compliant (low conf.)	Non-compliant (low conf.)
Invertebrates					Y	Y			Non-compliant (low conf.)	Non-compliant (low conf.)
Macrophytes/ phytobenthos					Y	Y			Non-compliant (low conf.)	Non-compliant (low conf.)
Phys-chem water quality (in support of ecological status)					Phosphate Moderate, DO Good, other elements High.				Non-compliant (low conf.)	Non-compliant (low conf.)
Chemicals		Does not require assessment								
RBMP2 water body measures									n/a	n/a
								Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	

Option	SWS_SNZ_HI-GRW_ALL_ALL_smock alley	Groundwater (SNZ): Reinstate West Chiltington (3.1 Ml/d)	Option description and potential effects:
Water body type		Groundwater	This scheme is to bring West Chiltington groundwater source back into service by constructing a new treatment plant and flood resilience measures at the site. It is assumed that the abstraction would be within current licensed limits. The increase in abstraction could potentially have impacts on river flows or GWDTEs Designated sites in Catchment Data Explorer: - Arun Valley SPA, SAC and Ramsar
Water body ID		GB40701G503100	
Water body name		Lower Greensand Arun & Western Streams	

	Baseline Status			Assessment of option		
Status element	RBMP2 status (2015)	2019 interim status	**Reasons for not achieving good status**	Assessment	Potential for deterioration	Potential for introduction of impediments
Dependent surface water body status	Good	Good		The Arun and Western Streams ALS (June 2022) has restricted water available in the Chilt water body (at Q30, Q50, Q70, Q95). Downstream, AP11 (Arun Total (Tidal)) may have water available because the upstream catchment is discharge rich (including the Stor). There is restricted water available in the Arun & Western Streams Greensand, and within that, no water available within the Pulborough GWMU. The lack of water availability in the Pulborough GWMU is because of potential impacts on designated sites including Arun Valley SAC and constituent SSSIs including Pulborough Brooks. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model and assess potential impacts of abstraction on rivers and designated sites. SWS are currently undertaking a WINEP investigation to develop the Pulborough groundwater model (which covers the Western Rother catchment including Petersfield) and assess potential impacts of abstraction on rivers and designated sites. The scope of the investigation includes potential impacts from West Chiltington on flows in the Chilt and downstream rivers. Until the WINEP investigation concludes, it must be assumed that impacts on dependent surface waters are possible. This is also in line with the ALS current conclusion that there is restricted water available in the Lower Rother.	Non-compliant (low conf.)	
Ground water dependent terrestrial ecosystem test	Good	Good		See information against "Dependent surface water body status" for context. The Pulborough groundwater modelling and monitoring investigations are considering potential impacts of West Chiltington on GWDTEs, notably Arun Valley SAC and its constituent SSSIs. However, the geology is such that West Chiltington and the SSSIs lie in different geological formations and there is no mechanism for impacts being transferred from West Chiltington to the GWDTEs. On the basis of the currently available evidence (recognising that the WINEP Pulborough investigations have not yet completed), it is assumed that the option would be Compliant with respect to GWDTEs	Compliant (low conf.)	
Saline intrusion	Good	Good		This is an inland groundwater body with no current issues with saline intrusion, and the increased rate of abstraction would be highly unlikely to result in deterioration	Compliant (high conf.)	
Water balance	Good	Good		As the water balance is currently Good, and abstraction would be within licence, it is assumed that this option would not result in deterioration of the water balance test. However, this conclusion will be subject to the Pulborough groundwater modelling and associated WINEP investigation being finalised	Compliant (low conf.)	
Chemical (overall)	Poor	Poor	Drinking Water Protected Area- poor nutrient management		Compliant (med. conf.)	
RBMP2 water body measures						
				Overall assessment of WFD Regulations compliance of the option in this water body	Non-compliant (low conf.)	