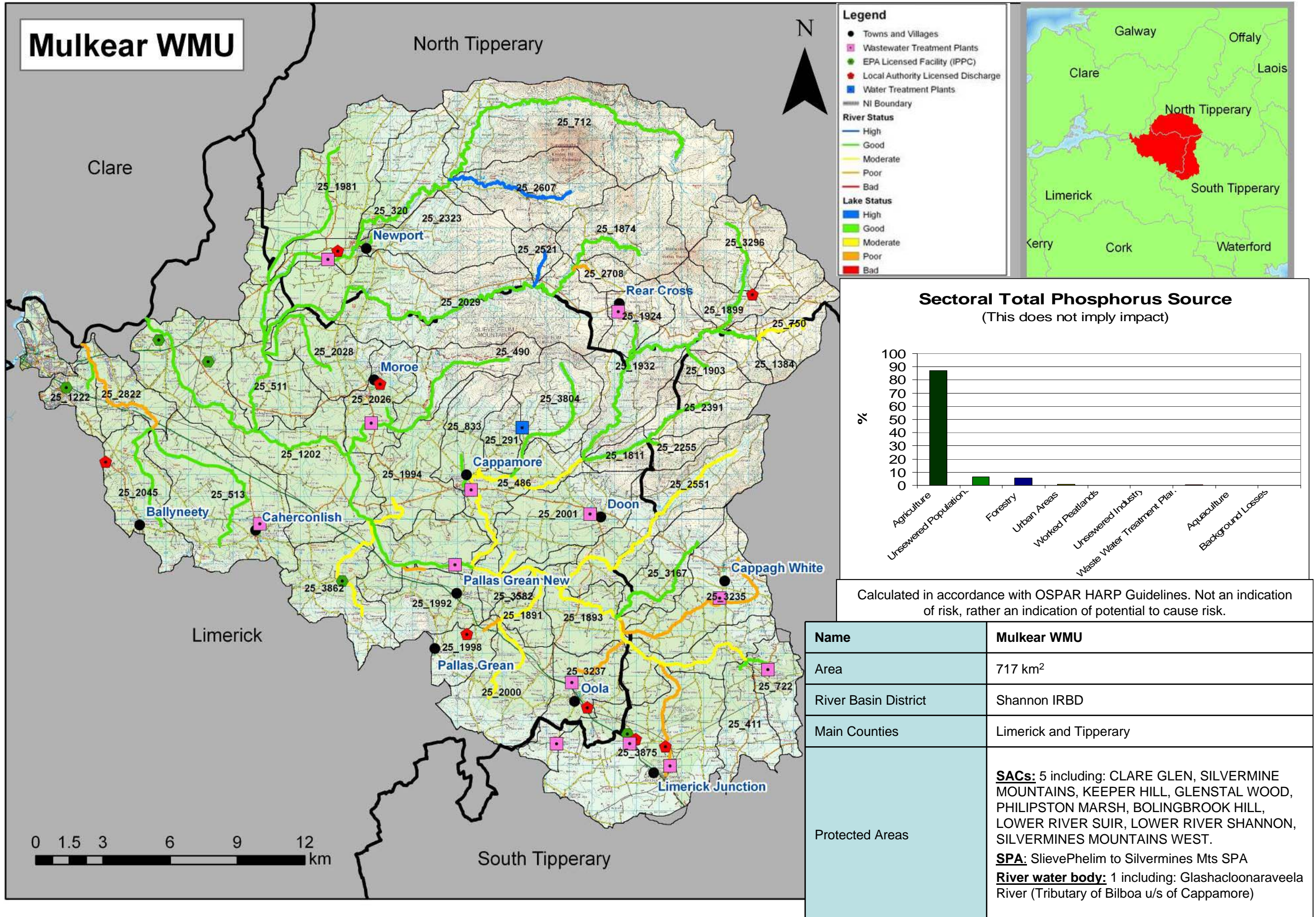


Mulkear WMU Action Plan



Mulkear WMU

Legend

- Towns and Villages
- Wastewater Treatment Plants
- EPA Licensed Facility (IPPC)
- Local Authority Licensed Discharge
- Water Treatment Plants
- NI Boundary

River Status

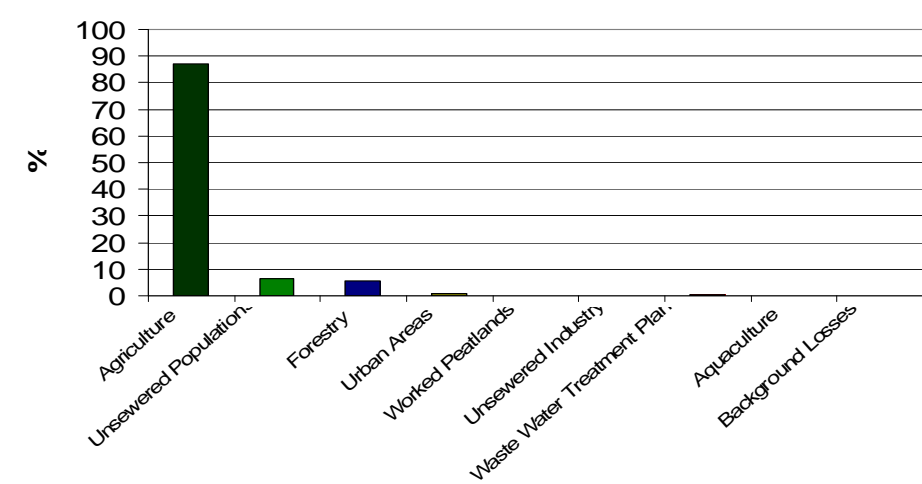
- High
- Good
- Moderate
- Poor
- Bad

Lake Status

- High
- Good
- Moderate
- Poor
- Bad



Sectoral Total Phosphorus Source
(This does not imply impact)



Calculated in accordance with OSPAR HARP Guidelines. Not an indication of risk, rather an indication of potential to cause risk.



Name	Mulkear WMU
Area	717 km ²
River Basin District	Shannon IRBD
Main Counties	Limerick and Tipperary
Protected Areas	<p>SACs: 5 including: CLARE GLEN, SILVERMINE MOUNTAINS, KEEPER HILL, GLENSTAL WOOD, PHILIPSTON MARSH, BOLINGBROOK HILL, LOWER RIVER SUIR, LOWER RIVER SHANNON, SILVERMINES MOUNTAINS WEST.</p> <p>SPA: SlievePhelim to Silvermines Mts SPA</p> <p>River water body: 1 including: Glashacloonaraveela River (Tributary of Bilboa u/s of Cappamore)</p>

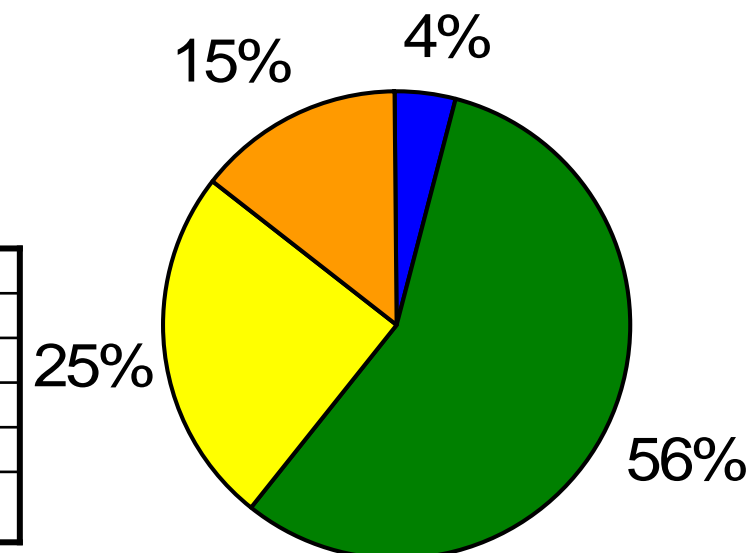
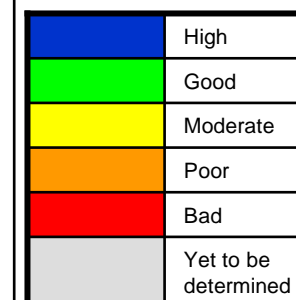
Mulkear WMU Action Plan

STATUS/IMPACTS	
Overall status	48 River Water Bodies: 2 high, 27 good, 12 moderate and 7 poor river water bodies. No lakes.
Status elements	Physchem dictates status of 2 good water bodies, the remainder are dictated by Q score. Physchem is moderate in 1 good and 1 poor water body. Chemical status is not assigned.
Possible Impacts - EPA Water Quality 2004	<p>Annagh (Tipperary) River: The Annagh (Tipperary) River remains in a satisfactory condition however the macroinvertebrate fauna indicated a slight decline in quality from high to good status at Tooreenbrien bridge (0100) and at Ahacrossaun bridge (0300) when sampled in August 2008. An increase in siltation on the riverbed substratum was noted at all stations examined but even more so at Station 0300.</p> <p>Bilboa River: The macroinvertebrate fauna indicated that the Bilboa River was in a satisfactory ecological condition in its upper reaches (stations 0010, 0080 and 0300) when surveyed in 2008 however the lower reaches (0500) continues to show symptoms of eutrophication with excessive weed growth, heavy siltation and an unbalanced macroinvertebrate fauna. Excessive siltation was however evident at all locations sampled, restriction of livestock access would help alleviate this problem.</p> <p>Caherhahallia: There was an unwelcome decline in ecological quality at the two locations surveyed on the Caherhahalia in 2008. Glengar Bridge (0025) remained satisfactory but the macroinvertebrate community indicated a decrease from high to good ecological status. The dominance of pollution tolerant taxa and paucity of sensitive species indicated slight pollution in the lower reaches (0100). Unrestricted cattle access poses a threat to the situation at Station 0100 where heavy siltation of the substratum and severe bank erosion was noted.</p> <p>Cappawhite stream: The upper reaches (0200) of the Cappawhite stream remained in an unsatisfactory ecological condition in 2008. The complete lack of sensitive macroinvertebrate fauna indicated significant ecological disruption at Gortandrum Bridge. The promotion of a vegetated buffer zone along the banks and restriction of livestock access would help control bank erosion and the excessive instream siltation encountered.</p> <p>Cauteen:mThere was a slight improvement in macroinvertebrate species diversity noted at Cauteen Bridge (0500) in 2008 however the community continued to be dominated by pollution tolerant taxa indicating a persistence of slight pollution.</p> <p>Dead River: A slight improvement was noted in the Dead River at Popes Bridge (0100) in 2008. The paucity of sensitive macroinvertebrate species, enhanced macrophyte and algal growth, excessive siltation and calcification of the substrate indicate significant enriched conditions at both locations surveyed. Unsatisfactory ecological conditions overall persist.</p> <p>Doon Stream: The Doon Strea: was in an unsatisfactory ecological condition when surveyed in 2008.</p> <p>Doonane: Continuing highly satisfactory ecological status.</p> <p>Glashacloonaraveela: Continuing satisfactory in 2008 although the macroinvertebrate fauna indicated a decline from high to good ecological status.</p> <p>Gortnageragh: Ecological quality continues satisfactory in the Gortnageragh River in 2008. Pronounced siltation was evident however at both locations (0200 and 0300) surveyed.</p> <p>Groody: The Groody was in an unsatisfactory ecological condition when surveyed in 2008. The dominance of pollution tolerant macroinvertebrate fauna indicated moderate pollution at Killonan Bridge (0150), other indicators included luxuriant macrophyte growth and excessive siltation. Further downstream at Ballysimon (0200) the lack of sensitive macroinvertebrate taxa, excessive siltation and enhanced macrophyte and algal growth indicated no improvement in ecological quality.</p> <p>Inch (Bilboa): The lower reaches (0008) of the Inch (Bilboa) stream was in a satisfactory ecological condition in 2008, however the macroinvertebrate fauna and enhanced macrophyte growth indicated a decline from high to good ecological status . Excessive siltation was also noted which may have been caused by recent works on the bridge and drainage channel. The storage of silage bales in close proximity to the river could also pose a threat in the future.</p> <p>Kileengarriff: Ecological conditions remain satisfactory although the macroinvertebrate fauna indicated a decline from high to good ecological status in 2008.</p> <p>Mulkear: Continuing satisfactory at Annacotty Bridge (0590), however the macroinvertebrate fauna did indicate a decline from high to good ecological status in 2008. Due to high water levels in 2008 stations 0200 and 0400 were inaccessible, these stations will be sampled in the 2009 programme.</p> <p>Newport (Tipperary) River: The Newport (Tipperary) River remains in a satisfactory ecological condition in 2008, however the macroinvertebrate fauna indicated a decline from high to good ecological status at two locations surveyed (0100 and 0330). Increased siltation was noted at all stations. Some signs of enrichment were evident downstream of Newport (0330) where excessive siltation and signs of possible sanitary waste were noted.</p> <p>Small (Tipperary): Continuing satisfactory although the macroinvertebrate fauna indicated a decline from high to good ecological status in 2008.</p> <p>Toem Stream: Continuing satisfactory in 2008, however heavy instream siltation (0600) was noted</p>

Mulkear WMU Action Plan

PRESSURES/RISKS	
Nutrient sources	95% TP is diffuse, mainly from agriculture (76%), with remaining from unsewered properties (8%), forestry (8%) and WWTP (5%).
Point pressures	10 WWTP: Annacotty, Caherconlish, Cappamore, Castletroy, Doon, Murroe, Oola, Cappawhite, Limerick Junction, Newport, North Tipp, Rear Cross. 1 Waste Facility. 1 IPPC: 1 Pharmaceutical. 1 IPPC Facilities Contaminated Sites: Timber Manufacturing/Preserving Company. 6 Section-4 Discharge: 3 Nursing Homes (2 in Tipperary and 1 in Limerick); 2 Constructed Wetlands to treat farm effluent; 1 Housing Development (Ballyneety). 1 WTP: Cappamore.
Wastewater Treatment Plants (WWTP) and Industrial Discharges	The following WWTPs are at risk: <ul style="list-style-type: none"> •Caherconlish •Cappawhite WWTP •Limerick Junction •Murroe •Newport, North Tipp •Oola •Rear Cross <p>The following industry is at risk: Creamery.</p>
Quarries, Mines & Landfills	6 quarries. 1 WB at risk (SH_25_3875). 1 mine – Gortdrum. WB at risk (SH_25_3875). 6 landfills - Newport Landfill, Ballycusowen Landfill, Knockacarriga Landfill, Lackanagoneeny Landfill, Kilmoylan Lower Landfill, Donohill Landfill. 1 WB at risk (SH_25_2001).
Agriculture	24 WBs at risk - SH_25_411, SH_25_1893, SH_25_3235, SH_25_2001, SH_25_833, SH_25_2028, SH_25_3167, SH_25_3582, SH_25_1998, SH_25_1891, SH_25_1994, SH_25_513, SH_25_2045, SH_25_2708, SH_25_1202.
On-site systems	There are 7,973 septic tanks within this WMU, 4,629 of which are located in areas of very high or extreme risk.
Forestry	None at risk
Dangerous substances	None at risk
Morphology	6 WBs at risk - SH_25_486, SH_25_511, SH_25_3582, SH_25_1891, SH_25_1202, SH_25_2822
Abstractions	None at risk

River Status



OBJECTIVES - Rivers	
Restore 2015	3 water bodies.
Protect	29 water bodies
Alternative Objectives	Extended deadlines (2021)– 16 River Waterbodies HMWB/AWB - 0 HMWB. 1AWB; -Shannon Navigation: Part of Limerick Park Canal (IE_SH_pAWB_SHN_19A)

SELECTED ACTION PROGRAMME	
<i>NB All relevant basic measures, general supplementary measures and SEA mitigation measures apply</i>	
Point Sources	WWTP measures are summarised in the Table overleaf WWTP upgrades & licensing to be implemented where required. Examine the terms of discharge authorisations to determine whether they require review for the purpose of compliance with water body objectives including protected area objectives and environmental quality standards.
Diffuse Sources	Good Agricultural Practice regulations inspections/enforcement. Septic Tanks: At Risk septic tanks are to be prioritised for inspections. Subsequent upgrade or connection to municipal systems depends on inspection and economic tests. Other diffuse sources may need recommendations.
Other	Morphological pressures in the Mulkear WMU require 6 channelisation investigations to establish if supplementary measures are required to address water quality issues associated with morphology. Abstractions: Future abstractions licensing programme and assessment
Future Pressures and Developments	<i>Throughout the river basin management cycle future pressures and developments will need to be managed to ensure compliance with the objectives of the Water Framework Directive and the Programme of Measures will need to be developed to ensure issues associated with these new pressures are addressed.</i>

Mulkear WMU Action Plan

Point Source Discharge	County	Priority	Measure (Capital Works)
Caherconlish	Limerick County	2	Provide tertiary treatment or relocate outfall.
Caherconlish	Limerick County	2	Provide nutrient removal or relocate outfall.
Limerick Junction	South Tipp	2	Increase capacity of treatment plant.
Limerick Junction	South Tipp	2	Provide tertiary treatment or relocate outfall.
Murroe	Limerick County	1	Increase capacity of treatment plant.
Murroe	Limerick County	1	Provide nutrient removal or relocate outfall.
Oola	Limerick County	1	Increase capacity of treatment plant.
Oola	Limerick County	2	Provide tertiary treatment or relocate outfall.
Point Source Discharge	County	Priority	Measure (Investigation before Capital Works)
Doon	Limerick County	3	Investigate the need for tertiary treatment or for the relocation of the outfall.
Doon	Limerick County	3	Investigate the need for tertiary treatment or for the relocation of the outfall.
Rear Cross	North Tipp	3	Investigate the need for tertiary treatment or for the relocation of the outfall.
Point Source Discharge	County	Priority	Measure
Cappamore	Limerick County	1	Implement an appropriate performance management system
Caherconlish	Limerick County	1	Implement an appropriate performance management system
Doon	Limerick County	1	Implement an appropriate performance management system
Limerick Junction	South Tipp	1	Implement an appropriate performance management system
Point Source Discharge	County	Priority	Measure
Cappawhite WWTP	South Tipp	2	Investigation of CSO's
Caherconlish	Limerick County	3	Investigation of CSO's
Limerick Junction	South Tipp	3	Investigation of CSO's
Newport, North Tipp	North Tipp	3	Investigation of CSO's
Point Source Discharge	County	Priority	Measure
Newport, North Tipp	North Tipp	3	Ensure capacity of treatment plant is not exceeded
Rear Cross	North Tipp	2	Ensure capacity of treatment plant is not exceeded

River Data

Mulkear WMU Unit Action Plan

IE_SH_Mulkear																			
County	Member State Code	Monitored Y (Extrapolated N)	Donor Waterbody	Biological Elements				Supporting Elements				Ecological Status	Chemical Status	Protected Areas				Objective	Date objective to be achieved
				Macroinvertebrates (O)	Freshwater Pearl Mussel	Fish	Phytobenthos (Diatoms)	Morphology	Specific Pollutants	Physio-chemical	Special Area of Conservation			Special Protection Area	Nutrient Sensitive Waters	Drinking Water			
Limerick	SH_25_1222	Y									G	G					GES	2009	
Limerick	SH_25_1891	N	SH_25_1893									M					GES	2021	
Limerick	SH_25_1992	N	SH_25_2822									P					GES	2021	
Limerick	SH_25_1994	N	SH_25_1893									M	Y	Y			GES	2021	
Limerick	SH_25_1998	N	SH_25_3235									P					GES	2021	
Limerick	SH_25_2001	Y		M							H	M					GES	2021	
Limerick	SH_25_2026	N	SH_25_511									G	Y	Y			GES	2009	
Limerick	SH_25_2045	N	SH_25_513									G					GES	2009	
Limerick	SH_25_291	N	SH_24_723									M		Y			GES	2015	
Limerick	SH_25_3582	N	SH_25_1893									M	Y				GES	2021	
Limerick	SH_25_3804	Y		G								G	Y	Y			GES	2009	
Limerick	SH_25_3862	N	SH_25_1893									M	Y				GES	2021	
Limerick	SH_25_486	Y		M				M			H	M	Y				GES	2021	
Limerick	SH_25_490	N	SH_25_2029									G	Y	Y			GES	2009	
Limerick	SH_25_511	Y		G							H	G	Y				GES	2009	
Limerick	SH_25_513	Y										G					GES	2009	
Limerick	SH_25_833	N	SH_25_3167									G			Y		GES	2009	
Limerick, Clare	SH_25_1202	Y		G								G	Y				GES	2009	
Limerick, Clare	SH_25_2822	Y		P								G					GES	2021	
Limerick, North Tipp	SH_25_2028	N	SH_25_3167									G		Y			GES	2009	
Limerick, South Tipp	SH_25_2000	N	SH_25_1893									M					GES	2021	
North Tipp	SH_25_1874	Y		G								G		Y			GES	2009	
North Tipp	SH_25_2323	Y		G							H	G		Y			GES	2009	
North Tipp	SH_25_2607	Y		H								H	Y	Y			HES	2009	
North Tipp	SH_25_2708	N	SH_25_3403									P		Y			GES	2021	
North Tipp	SH_25_3296	N	SH_25_1899									G	Y	Y			GES	2009	
North Tipp	SH_25_712	Y		G				G				G	Y	Y			GES	2009	
North Tipp, Limerick	SH_25_1981	N	SH_27_662									G					GES	2009	
North Tipp, Limerick	SH_25_2029	Y		G								H	Y	Y			GES	2009	
North Tipp, Limerick	SH_25_2521	N	SH_25_2607									H		Y			HES	2009	
North Tipp, Limerick	SH_25_320	Y		G								H	Y	Y			GES	2009	
South Tipp	SH_25_1384	N	SH_25_750									M		Y			GES	2015	
South Tipp	SH_25_411	N	SH_25_3167									G					GES	2009	
South Tipp	SH_25_722	N	SH_25_3167									G					GES	2009	
South Tipp, Limerick	SH_25_1811	Y		G								G	Y				GES	2009	
South Tipp, Limerick	SH_25_1893	Y		M		G						G	Y				GES	2021	
South Tipp, Limerick	SH_25_1903	N	SH_25_1899									G	Y	Y			GES	2009	
South Tipp, Limerick	SH_25_2255	N	SH_25_2391									G	Y				GES	2009	
South Tipp, Limerick	SH_25_2391	Y		G								G	Y	Y			GES	2009	
South Tipp, Limerick	SH_25_2551	Y		M								H	Y				GES	2021	
South Tipp, Limerick	SH_25_3167	Y		G								M					GES	2009	
South Tipp, Limerick	SH_25_3235	Y		P								M	Y				GES	2021	
South Tipp, Limerick	SH_25_3237	N	SH_25_3235									P					GES	2021	
South Tipp, Limerick	SH_25_3875	N	SH_25_3235									P					GES	2021	
South Tipp, North Tipp	SH_25_1899	Y		G								G	Y	Y			GES	2009	
South Tipp, North Tipp	SH_25_750	Y		M								M		Y			GES	2015	
South Tipp, North Tipp, Limerick	SH_25_1924	N	SH_25_1874									G	Y	Y			GES	2009	
South Tipp, North Tipp, Limerick	SH_25_1932	Y		G								G	Y	Y			GES	2009	