

River Basin Management Plans 2015 - 2021

# Water Body Boundary Changes for the Final River Basin Plans 2015

December 2015



An Agency within the Department of the  
**Environment**  
[www.doeni.gov.uk](http://www.doeni.gov.uk)



**INVESTORS  
IN PEOPLE**



[www.doeni.gov.uk/niea](http://www.doeni.gov.uk/niea)

Northern Ireland  
**Environment**  
Agency

**Water body boundary changes for the final River Basin Plans 2015  
December 2015**

**Surface water bodies**

**Rivers**

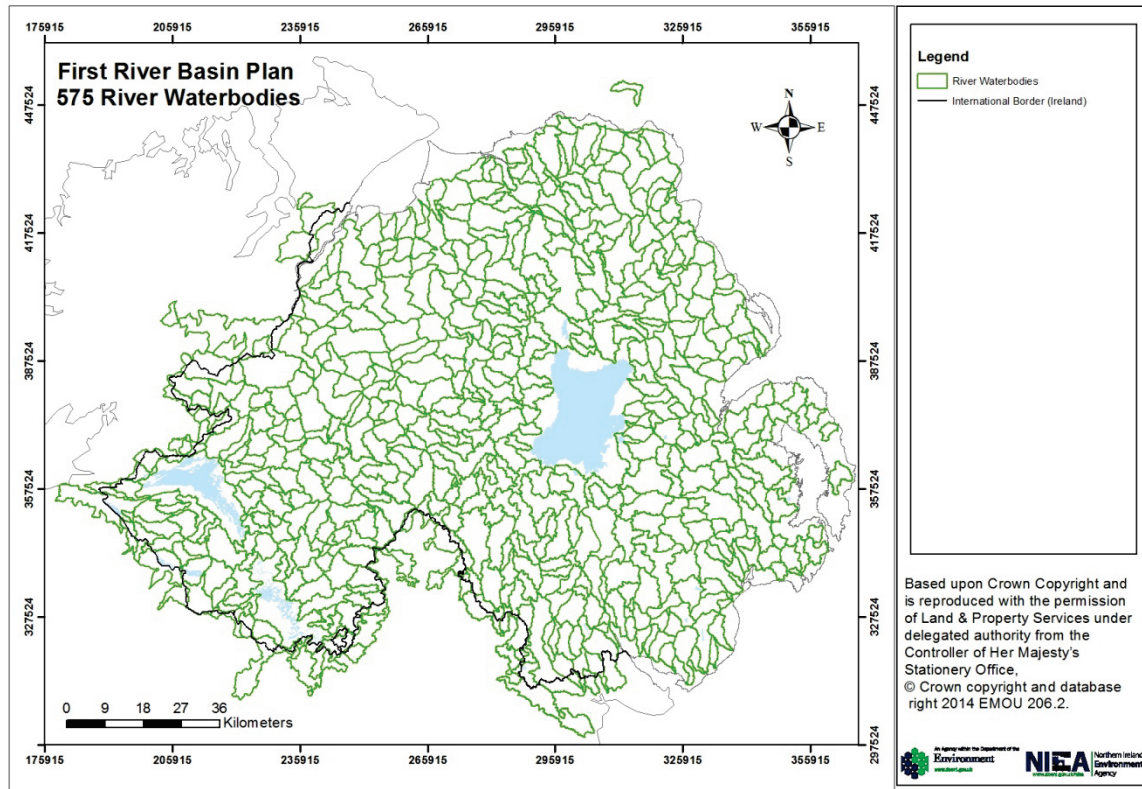
The criteria for delineation of surface water bodies for the Water Framework Directive are set out in Annex 2, Section 1 of the Directive. For rivers, Northern Ireland followed ‘System A’ typology as specified in Paragraph 1.2.1. The idea is that water bodies, where possible, would not exhibit more than one geology type nor cross the altitude thresholds. System A typology is presented in the table below. Water body cut-off points were also targeted to river confluences aiming for sensible and manageable management units.

**Table 1: System A typology for water body delineation (from Water Framework Directive, Annex 2, para. 1.2.1)**

Fixed Typology	Descriptors
Type	Altitude typology high > 800 m mid-altitude 200 to 800 m lowland < 200 m Size typology based on catchment area small 10 - 100 km <sup>2</sup> medium > 100 to 1 000 km <sup>2</sup> large > 1 000 to 10 000 km <sup>2</sup> very large >10 000 km <sup>2</sup> Geology calcareous siliceous organic

The original work to derive a river water body set for Northern Ireland was undertaken in 2003-2004. At first 719 water bodies were proposed but this was later reduced to 550. However, further work was required to fully complete coverage around cross-border areas resulting in a 575 water body set being finally agreed in 2006. It is this 575 water body set that has been used for water quality classification and programmes of measures for the first River Basin Plan Period. A map illustrating this water body set is presented overleaf.

**Map 1: First river basin planning cycle river water body set**



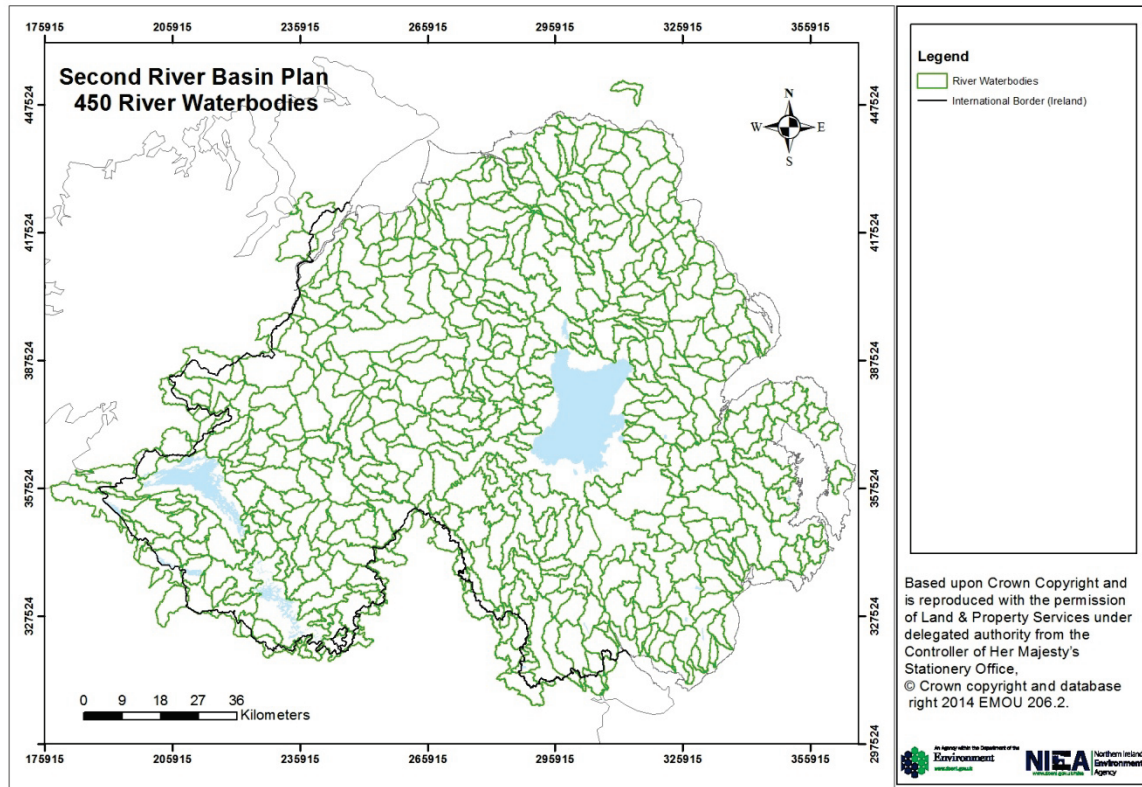
As detailed use of the water body set progressed during river basin planning cycle 2009-2015, it became clear that further revision was required for a number of reasons. These included:

- A number of water bodies were smaller than 10 km<sup>2</sup> which is the minimum threshold size for the WFD. In the main these arose when the initial delineation work split larger catchment areas into smaller units. There was a digitisation issue which led to the boundary lines for the resulting tributary water bodies being clipped to the tributary a little above their confluence with the main one. This then led to a small, separate, water body being created around some confluences.
- Several water bodies had been delineated by catchments that had more than one monitoring station that were then split if the water quality differed significantly between, say, a station at the downstream end and one in the middle of the water body. Clearly water quality can change and also some stations have closed so these water bodies have been restored to their original delineations.
- The Environmental Protection Agency in the Republic of Ireland has also been reviewing its river water bodies. DOENI therefore worked with them to derive an agreed revised delineation for cross-border areas.

Taking everything into consideration, this has led to a revised river water body set of 450 for the Second River Basin Plan. It is this set that WFD classification and programmes of measures for second cycle plans will be based. A map illustrating the 450-water body set is presented below.

Further information on individual water body changes can be found on the interactive web map.

## Map 2: Second river basin planning cycle river water body set



## Lakes

For the first cycle lake water bodies were delineated by lake area. A size threshold of greater than 50 hectares was applied and 21 lakes were delineated as water bodies. A review of lake water body size was conducted during the first cycle and findings concluded that no proposed changes to lake water body boundaries and no new lake water bodies are delineated for the second river basin planning cycle.

## Marine

A number of changes to marine transitional and coastal water bodies will be taken forward into the second monitoring cycle of the Water Framework Directive (WFD).

### *Foyle and Faughan Transitional water body*

The Foyle and Faughan transitional water body is currently defined as a heavily modified water body (HMWB). For the second cycle this will be divided into two water bodies to better reflect the natural state of the upper Foyle estuary. The downstream water body will contain most of the reinforced shoreline within the existing water body and will be named “Foyle Harbour and Faughan” (HMWB). The line of transition between the two new water bodies is proposed to be a perpendicular line across the river at the edge of Lisahally dock (Map 3).

**Map 3: Revised Foyle Harbour and Faughan heavily modified water body**



From Lisahally upstream to the existing Foyle and Faughan transitional boundary (Map 4) will be categorised as natural and renamed “Upper Foyle”.

**Map 4: Revised Upper Foyle water body**



*Lough Foyle Coastal and River Roe Transitional water bodies*

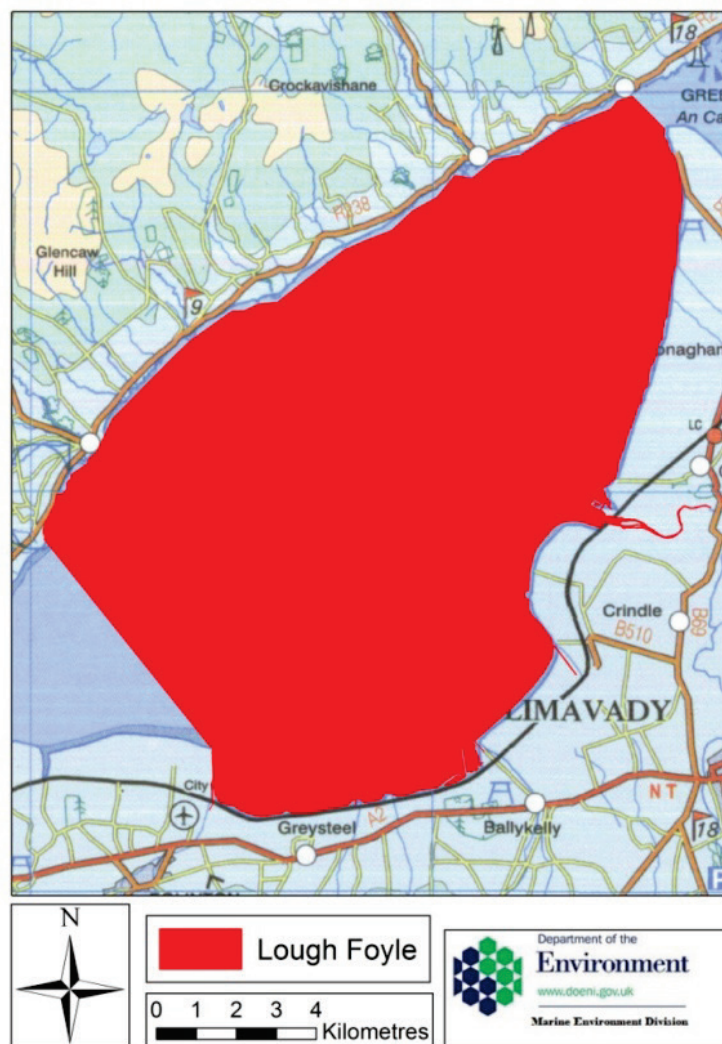
The Roe Estuary transitional water body was monitored extensively during the WFD 1<sup>st</sup> cycle using a range of biological and chemical monitoring systems. Having reviewed the evidence from these monitoring programmes, there is little to be gained by continuing with a similar programme for the WFD 2<sup>nd</sup> cycle. The physical hydrography of the Roe estuary means that large areas of the transitional water dry out at low water and any remaining channels are dominated by freshwater. This serves to limit the establishment of resident flora and fauna typical of an estuarine environment and as a consequence routine surveillance monitoring and classification using the systems established for WFD are ineffective.

The freshwater component of the River Roe catchment will continue to be monitored at the network of surveillance stations for the 2<sup>nd</sup> cycle by NIEA, whilst the transitional water body will be merged with the Lough Foyle coastal water into which the system drains (Map 5). An established monitoring programme is in place for the three water bodies (Lough Foyle Coastal, Foyle Harbour and Faughan, and Upper Foyle) which will be monitored during the 2<sup>nd</sup> WFD cycle by Marine Environment Division.

Salmonid fisheries monitoring is already an established part of the Loughs Agency's regular programme and it is believed that their routine monitoring will continue as part of a wider remit (<http://www.loughs-agency.org/freshwater-environment/monitoring/>).

There is no reason to suggest that by merging the two water bodies the Department is affording the existing Roe Transitional water less protection than is currently afforded, as existing programmes in the freshwater reaches, and the local surveillance role that Loughs Agency maintain will ensure that all necessary pollution prevention measures will be sustained.

**Map 5: Revised Lough Foyle coastal water body Proposed new Lough Foyle water body, incorporating the River Roe Estuary.**



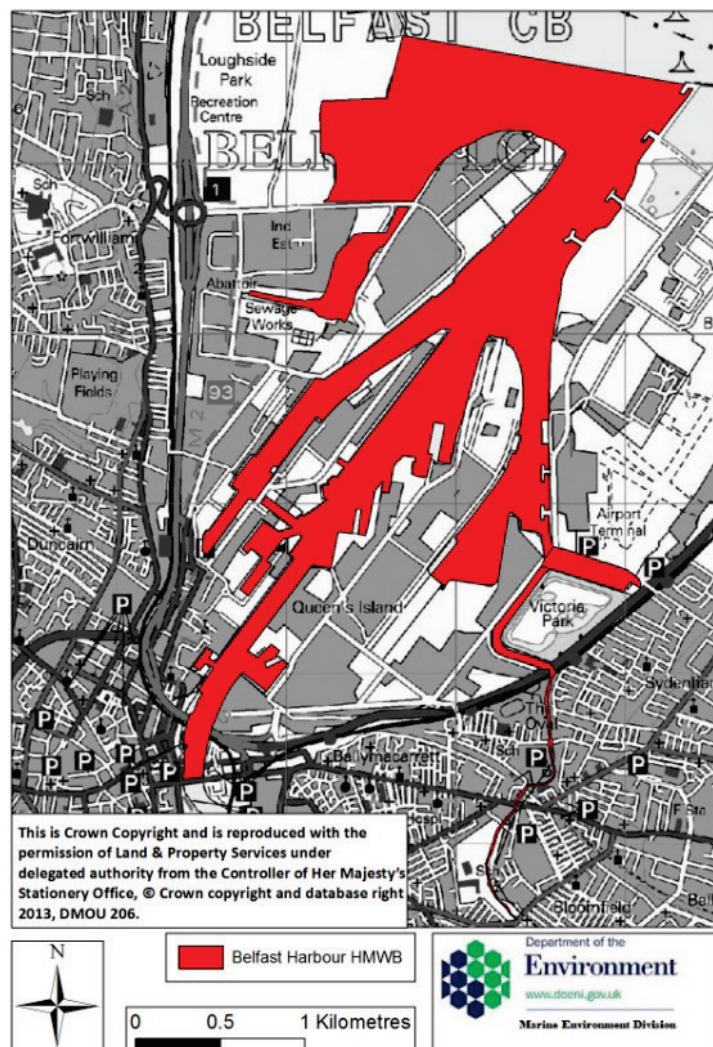
***Belfast Harbour Coastal and Connswater Estuary Transitional HMWBs***

At present, the Connswater Estuary HMWB transitional water is monitored as a discrete water body, despite falling well below the 0.5km<sup>2</sup> lower limit for water body area detailed under the WFD. Due to its small size, WFD monitoring within the Connswater Estuary is limited. For example, water chemistry samples are lifted from Shorts Bridge, which is located

within the adjacent Belfast Harbour coastal water body. It is proposed that the Connswater Estuary be included within Belfast Harbour HMWB (Map 6).

The Connswater Community Greenway project is currently underway to improve the recreation and amenity value of the whole water course, including the estuary. This project includes re-naturalisation of the river banks and should result in an improved ecology. Although the Connswater is to be merged with Belfast Harbour, DOE will endeavour to make an ecological assessment of Connswater during the second cycle to measure improvements in WFD status.

**Map 6: Revised new extension to Belfast Harbour HMWB to include Connswater Estuary HMWB**

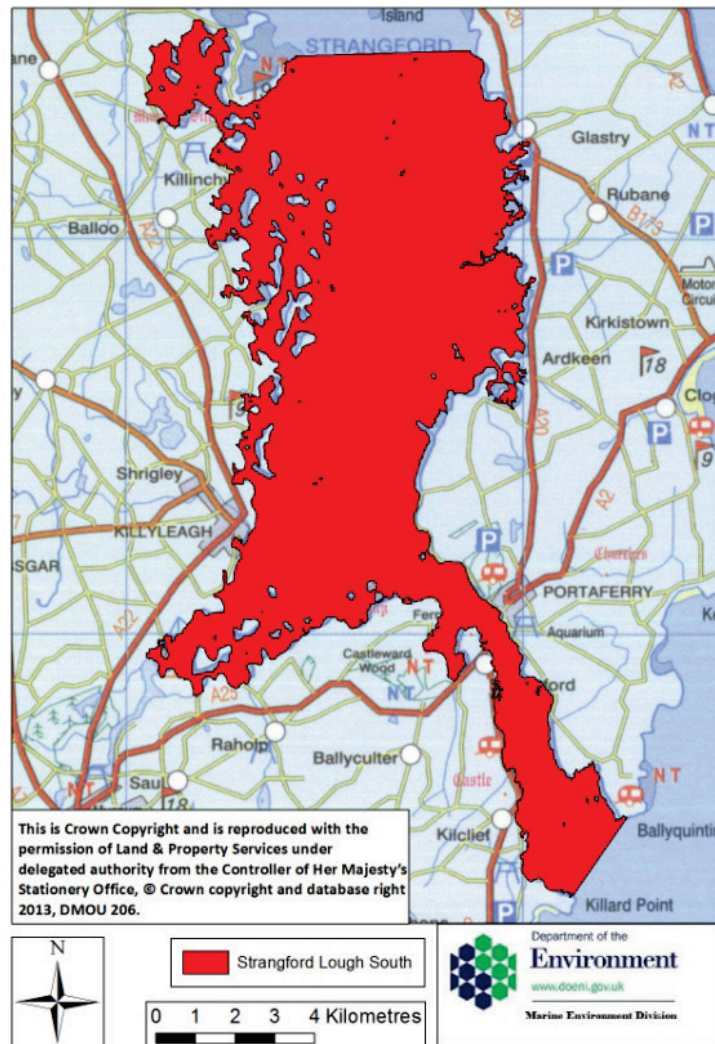


*Strangford Lough South and Strangford Lough Narrows Coastal water bodies*  
Strangford Lough is currently divided into three discrete water bodies; Strangford Lough North, Strangford Lough South, and Strangford Lough Narrows. The Narrows is primarily a channel for the exchange of water between Strangford Lough and the adjacent Irish Sea. It is a high energy environment which experiences strong tidal exchange. Whilst there are endemic populations of plants and animals within the waterbody, it is felt that they are not a



reflection of water quality because of the highly ephemeral nature of the water. It is proposed to merge Strangford Narrows with Strangford Lough South (Map 7).

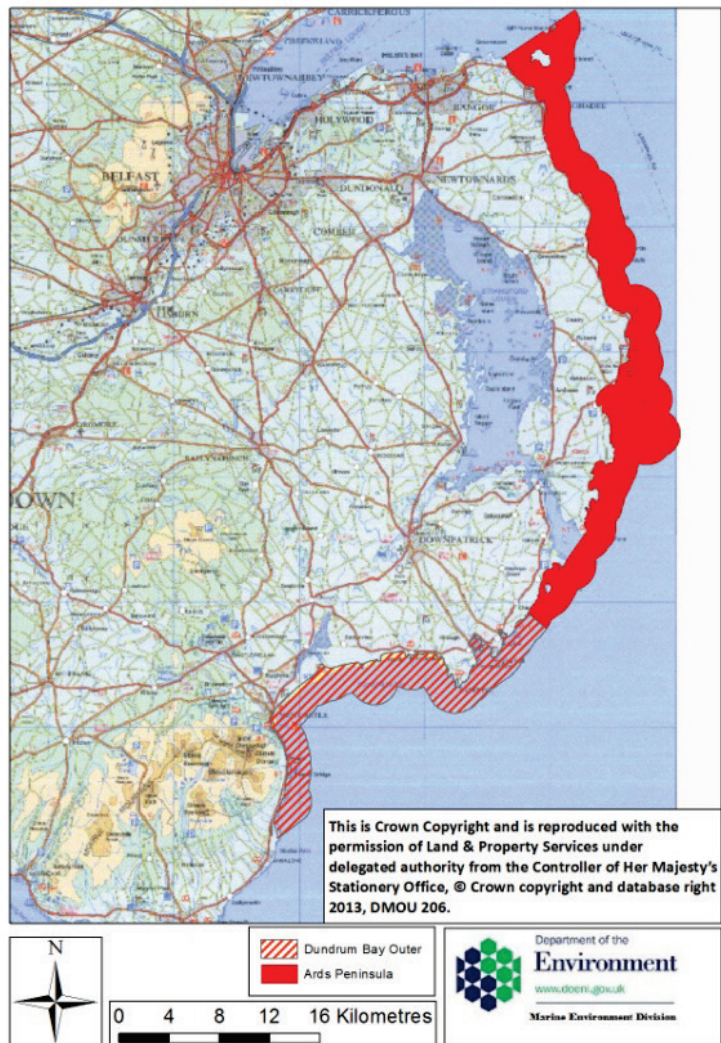
**Map 7: Revised new Strangford Lough South Water body**



*Ards Peninsula and Dundrum Bay Outer Coastal water bodies*

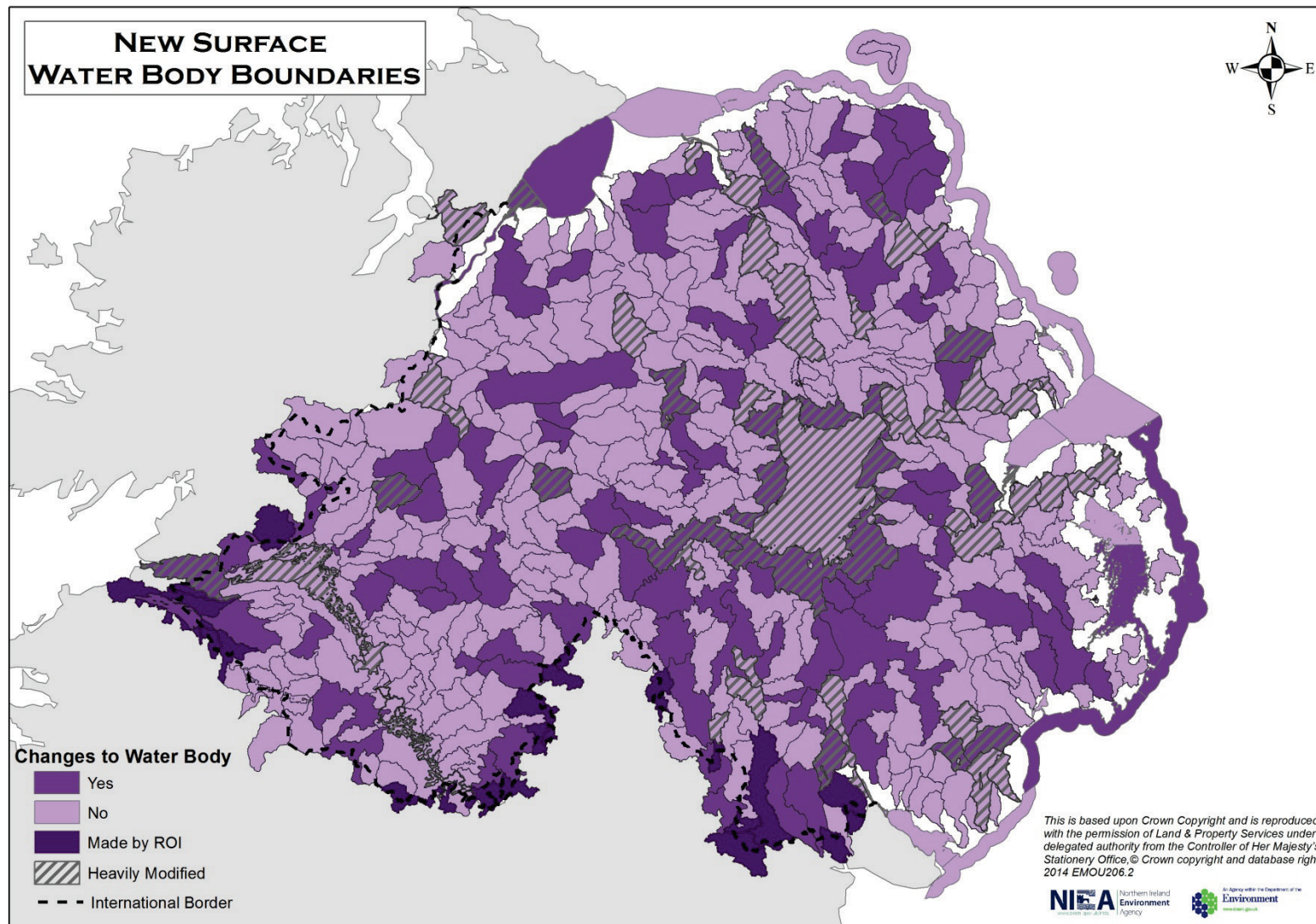
Killough Shellfish Water Protected Area (SWPA) lies within Killough Harbour, which is located on the southeast coast of County Down in the North Eastern River Basin District. Killough Harbour was designated in 2009 (subsequent to the water body delineations) as a Shellfish Water but since the Shellfish Waters Directive was repealed in 2013, has since become a Shellfish Water Protected Area under the Water Framework Directive. Killough Harbour currently forms part of the Ards Peninsula water body and subsequently falls under the Strangford Lough Local Management Area (LMA). However, it physically drains from the eastern part of the Mourne Mountains, which lies within the South Down LMA. Presently the joining boundary between the two water bodies (Ards Peninsula and Dundrum Bay Outer) is at St John's Point in County Down. The proposal is to move the joining boundary of the two water bodies to the area adjacent to Chapeltown. (Map 8). This would ensure that Killough Shellfish Water Protected area would fall within the appropriate LMA (South Down) for management purposes.

**Map 8: Revised delineation of boundary between Ards Peninsula and Dundrum Bay Outer water bodies**



The revised changes for surface waters are shown in Map 9.

Map 9: New Surface Water Body Boundaries



## Groundwater bodies

The delineation of groundwater bodies follows [UK Technical Advisory Group guidance](#) and is based on geology and hydrogeology setting as well as different land use practices.

In recent years, more detailed digital geological mapping has become available for Northern Ireland through work carried out by the Geological Survey of Northern Ireland, including the Tellus project. The more detailed mapping has allowed adjustment of groundwater body boundaries according to mapped geological boundaries.

Nine superficial groundwater bodies have been delineated for the first time. Superficial groundwater bodies consist of superficial deposits like sand and gravels, alluvial deposits or blown sands that have been deposited during the ice age. They can yield significant volumes of groundwater and have been used as public water supplies in the past. Superficial deposits and groundwater bodies are closer to the surface and hence are more vulnerable to pollution. Their separate delineation allows better assessment and management as well as more appropriate measures where required.

The Belfast groundwater body has been split into three parts to deal with different land use pressures (for example better understanding of abstraction in Belfast-West, nitrates in Belfast-East) better and to take account of dykes that are potentially compartmentalising the Sherwood Sandstone aquifer in the Lagan Valley. Table 2 below lists the proposed changes to groundwater bodies for the second cycle. These are also shown in Map 10.

**Table 2: List of changes to groundwater bodies**

Code	Name	Water body changes
UKGBNI4NW021	Ballintempo	water body boundary edits
UKGBNI4NW035	Anierin-Cuilcagh East	water body boundary edits
UKGBNI4NW034	Ballinamore-Swanlinbar	water body boundary edits
UKGBNI4NW048	Ballybofey	water body boundary edits
UKGBNI4NW011	Ballyshannon East	water body boundary edits
UKGBNI4NW012	Ballyshannon South	water body boundary edits
UKGBNI4NW020	Belcoo Boho	water body now extends under Upper Lough MacNea
UKGBNI4NE095	Belfast mid (Belfast City)	new water body created from original Belfast water body
UKGBNI4NE096	Belfast east (Scrabo)	new water body created from original Belfast water body
UKGBNI4NE097	Belfast west (Lisburn)	new water body created from original Belfast water body
UKGBNI4NW013	Bundoran	water body boundary edits
UKGBNI4NW015	Castlecaldwell Forest	water body now extends under Lower Lough Erne
UKGBNI4NW005	Castledearg	water body boundary edits
UKGBNI4NW040	Claddagh-Swanlinbar	water body boundary edits

<b>Code</b>	<b>Name</b>	<b>Water body changes</b>
UKGBNI4NB003	Cookstown	Sherwood Sandstone component now assigned to Moneymore groundwater body
UKGBNI4NW010	Crilly	water body boundary edits
UKGBNI4NW030	Crom Castle	water body boundary edits
UKGBNI4NW008	Ederney	water body now extends under Lower Lough Erne
UKGBNI4NW038	Enniskillen	water body now extends under Lower Lough Erne
UKGBNI4NW022	Florence Court-Drumgormley	water body now extends under Upper Lough MacNea
UKGBNI4NW004	Gortin	water body boundary edits
UKGBNI4NW007	Irvinestown	water body now extends under Lower Lough Erne
UKGBNI4NW017	Kilcoo	water body boundary edits
UKGBNI4NW059	Lough Swilly	water body now extends under Lower Lough Erne
UKGBNI4NB019	Louth	topographic boundary
UKGBNI4NW036	Marble Arch	water body boundary edits
UKGBNI4NB004	Moneymore	now includes part of Sherwood Sandstone that are separated from main (previous) groundwater body and that was previously in Cookstown groundwater body
UKGBNI4NB006	Moygashel	now includes part of Sherwood Sandstone that was previously in Aughnacloy groundwater body
UKGBNI4NB007	Aughnacloy	Sherwood Sandstone component now assigned to Moygashel groundwater body
UKGBNI4NB020	Neagh	water body now continuous under Lough Neagh
UKGBNI4NB009	Newry	topographic boundary
UKGBNI4NW009	Pettigo	water body boundary edits
UKGBNI4NW051	River Foyle	now merged with East Innishowen and part of West Derry
UKGBNI4NW044	Rossinver	water body boundary edits
UKGBNI4NW060	Sessiagh East	has been subsumed into Enniskillen water body
UKGBNI4NW039	Slieve Rushen	water body boundary edits
UKGBNI4NW033	Slieve Rushen South	water body boundary edits
UKGBNI4NW037	Tempo	water body now extends under Lower Lough Erne
UKGBNI4NW014	Tullaghan-Lough Melvin	water body boundary edits
UKGBNI4NW094	West Derry	has been subsumed into River Foyle and Lough Swilly water body
UKGBNI4NW050	East Innishowen	has been subsumed into River Foyle water body
UKGBNI4NW104	Derrylin Complex	new superficial water body
UKGBNI4NE102	Enler Valley	new superficial water body
UKGBNI4NW099	Faughan	new superficial water body
UKGBNI4NE101	Lagan Valley	new superficial water body
UKGBNI4NW098	Magilligan Sands	new superficial water body

<b>Code</b>	<b>Name</b>	<b>Water body changes</b>
UKGBNI4NB103	Maine Valley	new superficial water body
UKGBNI4NE106	Mourne Plain	new superficial water body
UKGBNI4NE105	Murlough Sands	new superficial water body
UKGBNI4NB100	Shanmoy	new superficial water body

Map 10 New Groundwater Body Boundaries

