

River Basin Management Plans (2015 - 2021)

Proposed Water Boundary Changes for the Second Cycle River Basin Plans

December 2015



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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.

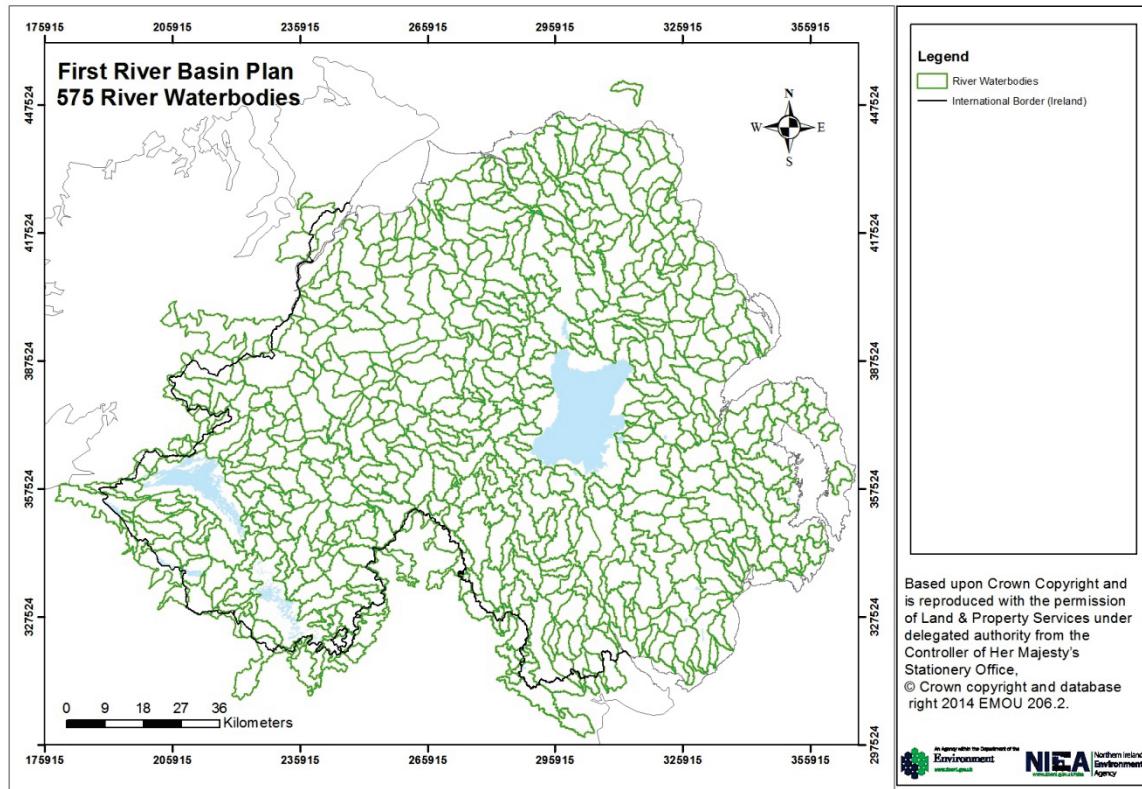
Table 1: System A typology for water body delineation (from Water Framework Directive, Annex 2, para. 1.2.1)

Fixed Typology	Descriptors
Type	<p>Altitude typology</p> <ul style="list-style-type: none"> high > 800 m mid-altitude 200 to 800 m lowland < 200 m <p>Size typology based on catchment area</p> <ul style="list-style-type: none"> small 10 - 100 km² medium > 100 to 1 000 km² large > 1 000 to 10 000 km² very large >10 000 km² <p>Geology</p> <ul style="list-style-type: none"> 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



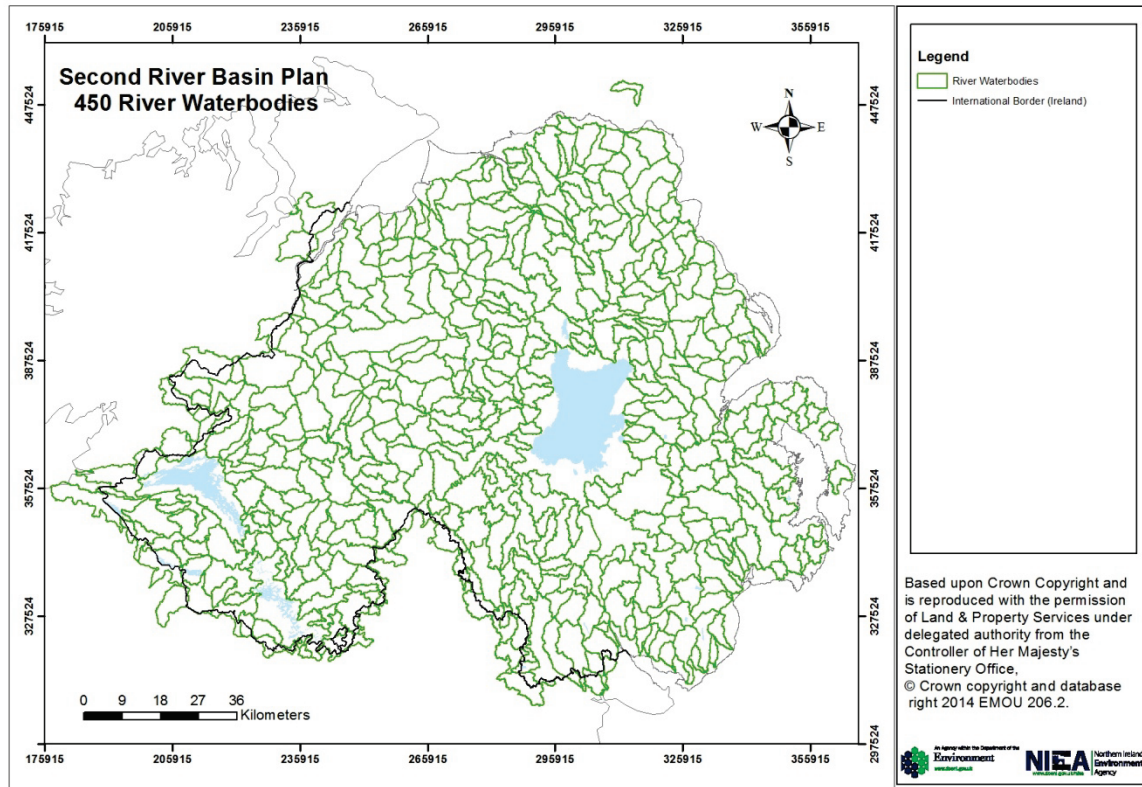
As detailed use of the water body set progressed during river basin planning cycle 2009-2015, it became clear that further revision was required for a number of reasons. These included:

- A number of water bodies were smaller than 10 km² 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

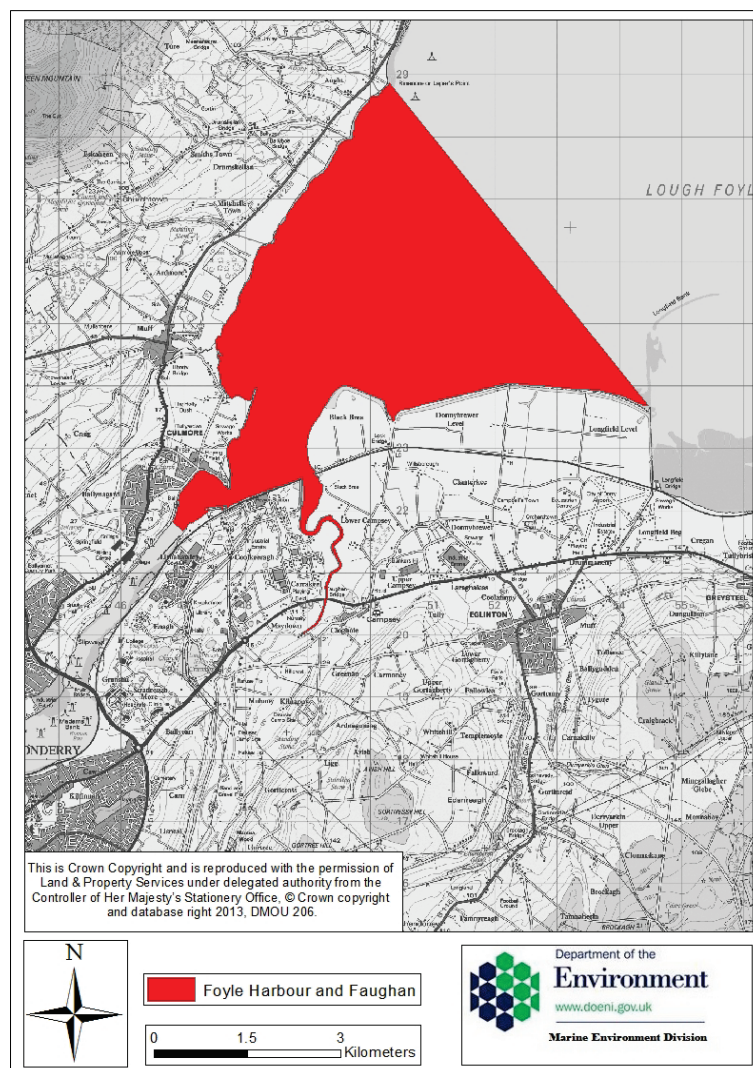
For the first cycle lake water bodies were delineated by lake area. A size threshold of greater than 50 hectares was applied and 21 lakes were delineated as water bodies. A review of lake water body size was conducted during the first cycle and findings concluded that no proposed changes to lake water 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 have been proposed to take forward into the second cycle of the WFD.

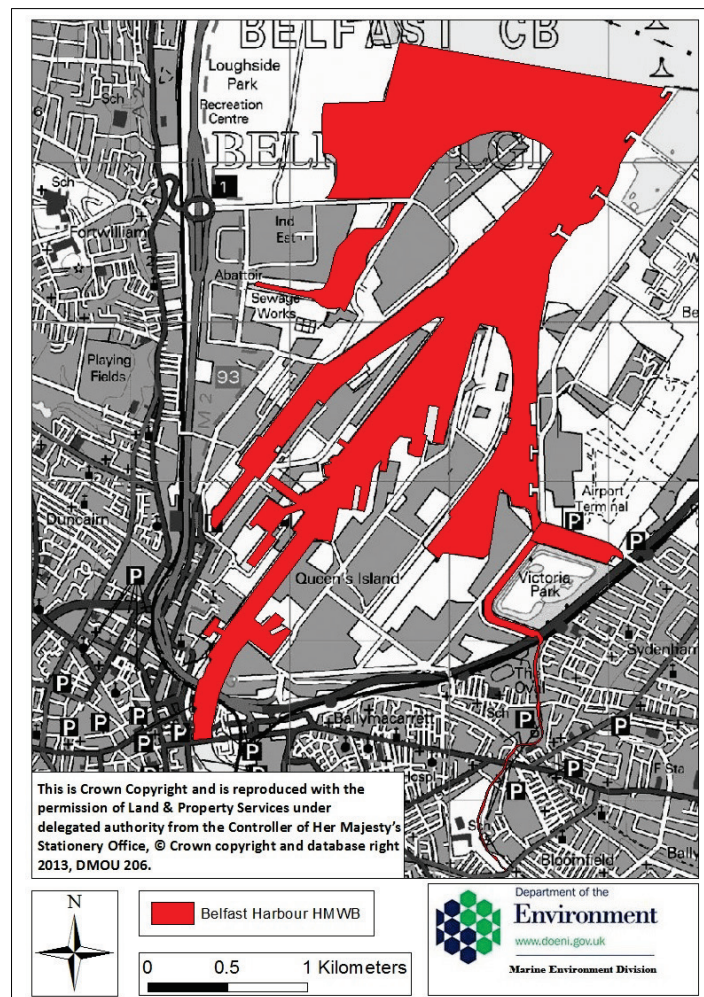
Foyle and Faughan transitional water body is to be split in two along a dividing line at Lisahally docks. Currently this whole waterbody is defined as a heavily modified water body (HMWB). The proposal is to divide this into two water bodies to better reflect the natural state of the upper River Foyle. 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: Proposed Foyle Harbour and Faughan heavily modified water body



At present, the Connswater transitional HMWB is monitored as a discrete water body, despite falling well below the 0.5 km² limit for waterbody size detailed under the WFD. Due to its small size, WFD monitoring within the Connswater is limited. For example, water chemistry samples are lifted from Shorts bridge, which is located within the adjacent harbour waterbody. It is proposed that the Connswater be included within Belfast Harbour HMWB (Map 5).

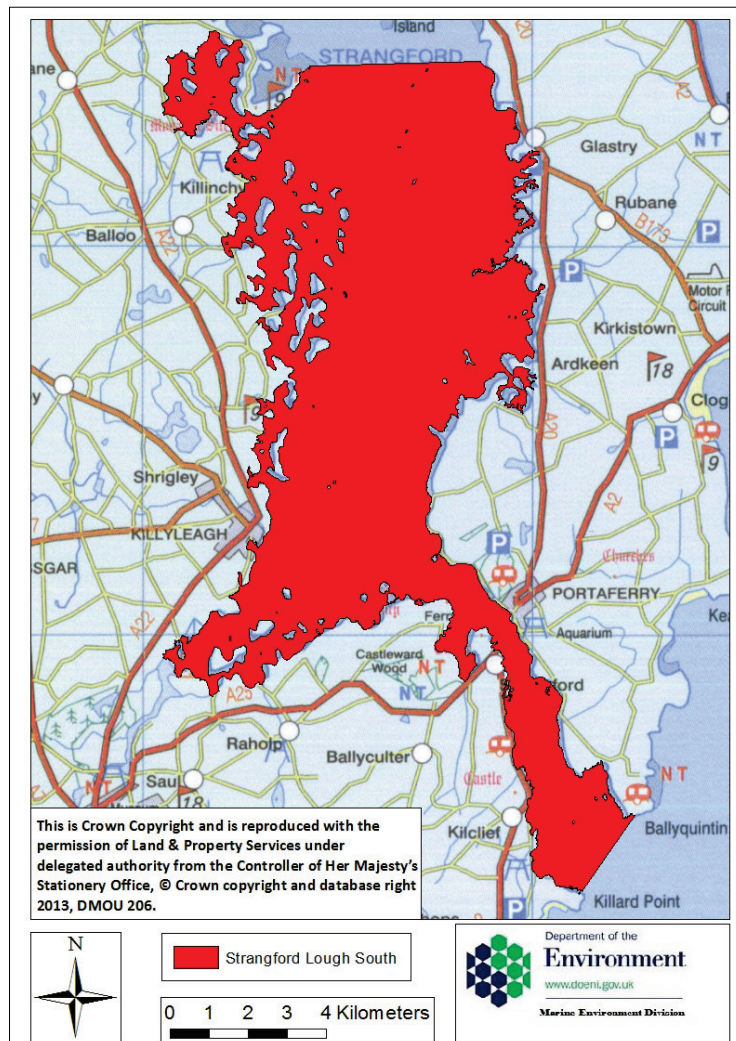
Map 5: Proposed new extension to Belfast Harbour HMWB to include Connswater HMWB



Strangford Lough is currently divided into three discrete water bodies; Strangford Lough North, Strangford Lough South, and Strangford Lough Narrows.

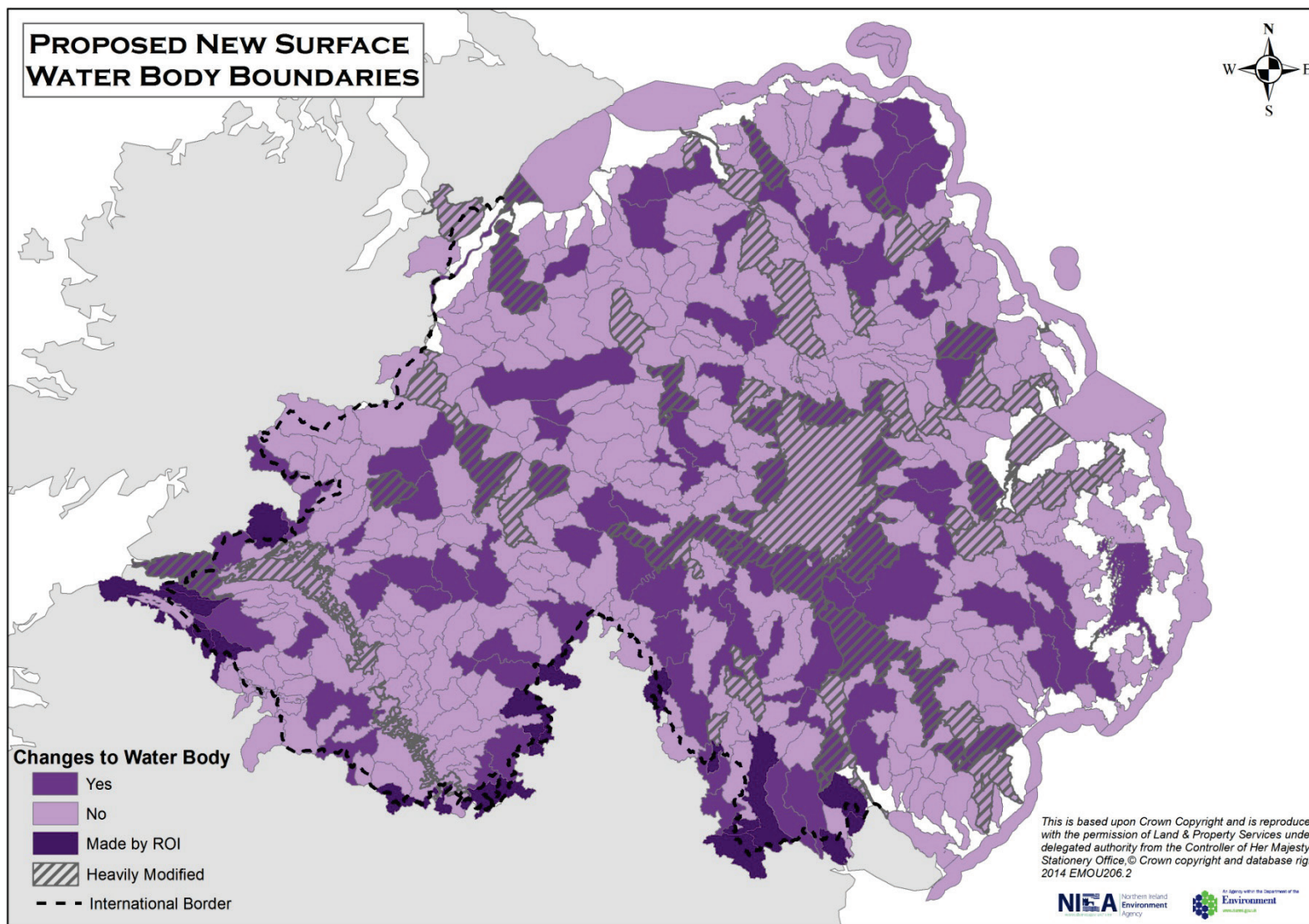
The Narrows is primarily a channel for the exchange of water between Strangford Lough and the adjacent Irish Sea. It is a high energy environment which experiences strong tidal exchange. Whilst there are endemic populations of plants and animals within the waterbody, it is felt that they are not a reflection of water quality because of the highly ephemeral nature of the water. We propose to merge Strangford Narrows with Strangford Lough South (Map 6).

Map 6: Proposed new Strangford Lough South Water body



The proposed changes for surface waters are shown in Map 7.

Map 7: Proposed 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 8.

Table 2: List of proposed 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

Code	Name	Water body changes
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 Inishowen	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

Code	Name	Water body changes
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 8 Proposed New Groundwater Body Boundaries

