

River Basin Management Plans 2015 - 2021

Summary of Changes to River Heavily Modified and Artificial Water Bodies

December 2015



An Agency within the Department of the
Environment
www.doeni.gov.uk



**INVESTORS
IN PEOPLE**



www.doeni.gov.uk/niea

Northern Ireland
Environment
Agency

Summary of changes to river heavily modified and artificial water bodies for second cycle river basin plans 2015

Designation

In 2005 a desk top study was carried out to identify potential heavily modified water bodies (pHMWB) for the Article 5 Characterisation process using GIS maps and aerial photography. A screening risk assessment process was then adopted using threshold criteria to assess the significance of morphological pressures on the pHMWB. In 2007, it was decided to use the SEPA Rapid Designation approach to confirm the final designations given the lack of knowledge on morphological/ecological links and the timeframe involved. This approach was endorsed by the UKTAG. If restoration measures could be taken to achieve GES, without impacting on the specified use of the water body or the wider environment, then it was removed from the pHMWB list. However if making hydromorphological alterations to achieve GES would have a significant adverse effect, then the water body was designated as a HMWB without the need for further investigation. Heavily modified water bodies (HMWBs) were designated due to a specified use including Flood Risk Management (FRM), Drinking Water Supply (DWS), and Wider Environment (WE). In 2009 54 river water bodies were designated as HMWBs in NI, and 1 canal was designated as an artificial water body (AWB). During the first cycle water bodies were continuously assessed as information was provided from stakeholders, ground truthing and GIS improvements. This resulted in two de-designations in the Neagh Bann river basin district. For the second River basin cycle several water bodies have been merged or changed. This reduced the number of heavily modified water bodies by a total of twelve, since 2009, due to merging HMWBs or de-designating due to the larger unaffected area. **Images of the new water body delineations are provided below.**

In the Neagh Bann (NB) river basin district there were originally 26 HMWB rivers and 1 AWB (Newry Canal GBNI1NB060604048). Three water bodies have been de-designated in NB since 2009 (Ballymoney Tributary GBNI1NB030301220 and Ballinderry River GBNI1NB030304060 and Bann, Banbridge GBNI1NB030308242) (see table 1 below). This brings the number to 23 HMWBs in NB. New water body boundary changes have resulted in a reduction of 3 HMWBs in the NB river basin district, due to merges, for the second planning cycle (see table 2 and maps below). After the water bodies were merged Bann, Banbridge was de-designated due to the percentage modified falling below the threshold. There are now 20 HMWBs and 1 AWB in the NB.

In the North East (NE) river basin district there were originally 18 HMWBs designated. Four of these were highlighted for de-designation, but have not yet been de-designated. One new water body was proposed (Hillsborough GBNI1NE050503001), but is still under investigation (see table 3 below). New water body boundaries have reduced HMWB numbers by 3 in the NE (see table 4 and maps below). This has resulted in 15 HMWBs in the NE river basin district.

In the North West (NW) river basin district there were originally 10 HMWBs designated. One new water body was proposed for the Drumragh at Omagh, but not designated after discussion with stakeholders (see table 5 below). One water body was de-designated as it has the potential to reach good ecological status (Faughan GBNI1NW020204063). Five water bodies have been re-delineated for the next river basin cycle. The changes mean two water bodies have been de-designated due to the percentage modified being reduced affecting final HMWB designation numbers (see table 6 and maps below). These are the Camowen, GBNI1NW010102033 and Strule, Omagh GBNI1NW010104045 (see table 5). This has resulted in 7 HMWBs in the NW river basin district.

With the changes and new water body delineations there are 42 river HMWBs and 1 Artificial Water Body going forward for the next river basin cycle for Northern Ireland.

Mitigation

UKTAG produced a guidance document in March 2008 on assessing the ecological potential of HMWBs based upon the use of generic checklists known as the 'Alternative Approach'. The checklists describe mitigation measures that can be used as a way of assessing whether more can be done to increase the ecological potential of a water body. The UKTAG mitigation measures approach was adopted by NIEA to assess ecological potential for each designated HMWB. Where all mitigation measures for the water use were considered to be in place *Good Ecological Potential or better* was the classification. Where all mitigation measures for the water use are not in place *Moderate Ecological Potential or worse* was assigned.

Classification

Following the mitigation measures approach, physicochemical standards and biological classification tools were used to assess whether there are water quality problems in the HMWBs that are not associated with the hydromorphological pressure. The applicability of ecological and chemical data from existing monitoring stations relative to the modifications

responsible for HMWB designation was assessed. In several cases the current monitoring station(s) was/were considered appropriate. For other locations the combined scores currently being used for classification were not considered to represent the pressure. The evaluation of monitoring data followed the UKTAG guidance recommendations in section 3 UKTAG paper "*Guidance on the Classification of Ecological Potential for Heavily Modified Water Bodies and Artificial Water Bodies*," 2008¹. At all sites combined physico-chemistry data was used where available. If GEP was assigned and the chemistry was less than good, the final classification was changed to Moderate Ecological Potential (MEP) (chemistry does not reduce classification lower than moderate and a higher chemistry class did not raise the workshop classification). Available biology data was then considered to assign all WFD classes. All GEP and MEP sites were broken down into GEP or better, Moderate EP, Poor EP and Bad EP. No water bodies have been assigned maximum ecological potential at this stage, as it is not considered that the procedure is sufficiently developed to do so. If any of the biological elements were "Poor," the water body was classified PEP, if any were at "Bad," it was classified BEP. Fish monitoring data, which was only available for a limited number of HMWBs was excluded where it was felt that it may have been adversely affected due to the modification for which the water body was originally designated (e.g. an impoundment without a fish pass).

¹http://www.wfduk.org/sites/default/files/Media/Classification%20of%20ecological%20potential%20for%20HMWBs%20and%20AWBs_Final_310308TAG%20guidance.pdf

Neagh Bann

USE	Water Body ID	River	Proposals
FRM	GBNI1NB030301220	Lower Bann (Ballymoney Tributary)	De-designated
FRM	GBNI1NB030304060	Ballinderry River	De-designated
FRM	GBNI1NB030304134	Ballymully Stream	Proposed additional HMWB rejected for now, but morphology is poor
WE	GBNI1NB030306208	Lough Neagh Peripherals	Re-delineate by adding this WB to Lough Neagh
WE	GBNI1NB030306194	Lagan Canal (Aghalee Burn)	Re-delineate to include WB with Portmore Lough.
WE & DWS	GBNI1NB060602017	Cam Lough (discharges to Bessbrook River)	Re-delineation with downstream water body GBNI1NB060604049 Bessbrook
DWS	GBNI1NB060604049	Bessbrook River At Millvale Br	A proposed additional HMWB.
FRM	GBNI1NB030308242	Was previously GBNI1NB030308197 Bann at Banbridge	Merged with 2 other water bodies and de-designated

TABLE 1. CHANGES PROPOSED FOR NB SINCE 2009

Effect on HMWB	Water Body ID APRIL 2014	Water Body ID 2009 (Original HMWBs in bold)	Water Body Location
None	GBNI1NB030308241	GBNI1NB030302201 and GBNI1NB030302199	Glenwhirry River
None	GBNI1NB030308205	GBNI1NB030303003, GBNI1NB030303005 and GBNI1NB030303006	Moyola River 3
3 to 1	GBNI1NB030308243	GBNI1NB030306142 (part*), GBNI1NB030306194 , GBNI1NB030306195 (part*), GBNI1NB030306208 , GBNI1NB030307132 (part*), GBNI1NB030307145 (part*), GBNI1NB030308103 and GBNI1NB030308105	Lough Neagh various small streams
2 to 1	GBNI1NB030308222	GBNI1NB030307145 (part*) and GBNI1NB030307173	Torrent River
1 to 0	GBNI1NB030308242	GBNI1NB030308189, GBNI1NB030308184 and GBNI1NB030308197	Bann at Banbridge (no longer HMWB)
None	GBNI1NB030308219	GBNI1NB030308088 and GBNI1NB030308089	Upper Bann 3 (Upper)
None	GBNI1NB060608240	GBNI1NB060604049 and GBNI1NB060602017	Bessbrook at Camlough

* water body was split

TABLE 2. SECOND CYCLE WATER BODIES WHICH AFFECT HMWBs

North East

USE	Water Body ID	River	Proposals
DWS	GBNI1NE040403064	Collin Burn Lough Garve 1 & 2 Inver River Associated with Dungonnell above	Do not de-designate yet – further investigation required
WE	GBNI1NE040404053	Burngushet River (North Ballymena)	Do not de-designate yet – further investigation required
WE	GBNI1NE040404054	Burngushet River (North Ballymena)	Do not de-designate yet – further investigation required
DWS	GBNI1NE050505110	Foffany Reservoir, Shimna River	Split water body
FRM	GBNI1NE050503108	Lagan Canal (River Lagan)	No change, still HMWB
FRM	GBNI1NE050503001	Hillsborough	Further investigation required before designation decision
DWS	GBNI1NE040404049	Altnahinch	Re-delineate water body as downstream not shown to be badly impacted

TABLE 3. CHANGES PROPOSED FOR NE SINCE 2009

Effect on HMWB	Water Body ID APRIL 2014 (HMWBs in bold)	Water Body ID 2009 (Original HMWBs in bold)	Water Body Location
None	GBNI1NE040405128 and GBNI1NE040405127	GBNI1NE040404049 *	Altnahinch Dam
2 to 1	GBNI1NE040405117	GBNI1NE040404054 GBNI1NE040404053 GBNI1NE040404055	Burngushet River
3 to 1	GBNI1NE050505126	GBNI1NE050503002 , GBNI1NE050503003 and GBNI1NE050503119	Blackstaff River & Forth River
None	GBNI1NE050505123	GBNI1NE050505035 and GBNI1NE050505110	Shimna River/Tullybranigan River

*Water body split in 2014 leaving the reservoir section HMWB

TABLE 4. SECOND CYCLE WATER BODIES WHICH AFFECT HMWBs

North West

USE	Water Body ID	River	Proposals
FRM	GBNI1NW010102006	Drumragh River, Omagh	Proposed HMWB due to flood prevention measures near Omagh. After discussion with stakeholders, it was decided not to designate
DWS	GBNI1NW010102033	Camowen River, Glenhordial	bigger water body has smaller % modified
FRM	GBN1NW010104045	Strule, Omagh	bigger water body has smaller % modified
DWS/FRM	GBNI1NW020204063	Faughan River Lower	This water body has the potential to reach good ecological status while maintaining the use

TABLE 5. CHANGES PROPOSED FOR NW SINCE 2009

Effect on HMWB	Water Body ID APRIL 2014	Water Body ID 2009 (Original HMWBs in bold)	Water Body Location
None	GBNI1NW010104046	GBNI1NW010102003 and GBNI1NW010102009	Black Water (Drumquin)
None	GBNI1NW010104045	GBNI1NW010102020 and GBNI1NW010102093	Strule River Upper (no longer HMWB)
None	GBNI1NW010104070	GBNI1NW010102029, GBNI1NW010102030 and GBNI1NW010102031	Drumnakilly Burn
None	GBNI1NW020204063	GBNI1NW020204031 and GBNI1NW020204002	Faughan River Lower (no longer HMWB)
None	GBNI1NW363604085	GBNI1NW363601072 GBNI1NW363601077 (part of) and Ballyshannon ROI water body	Erne at Enniskillen

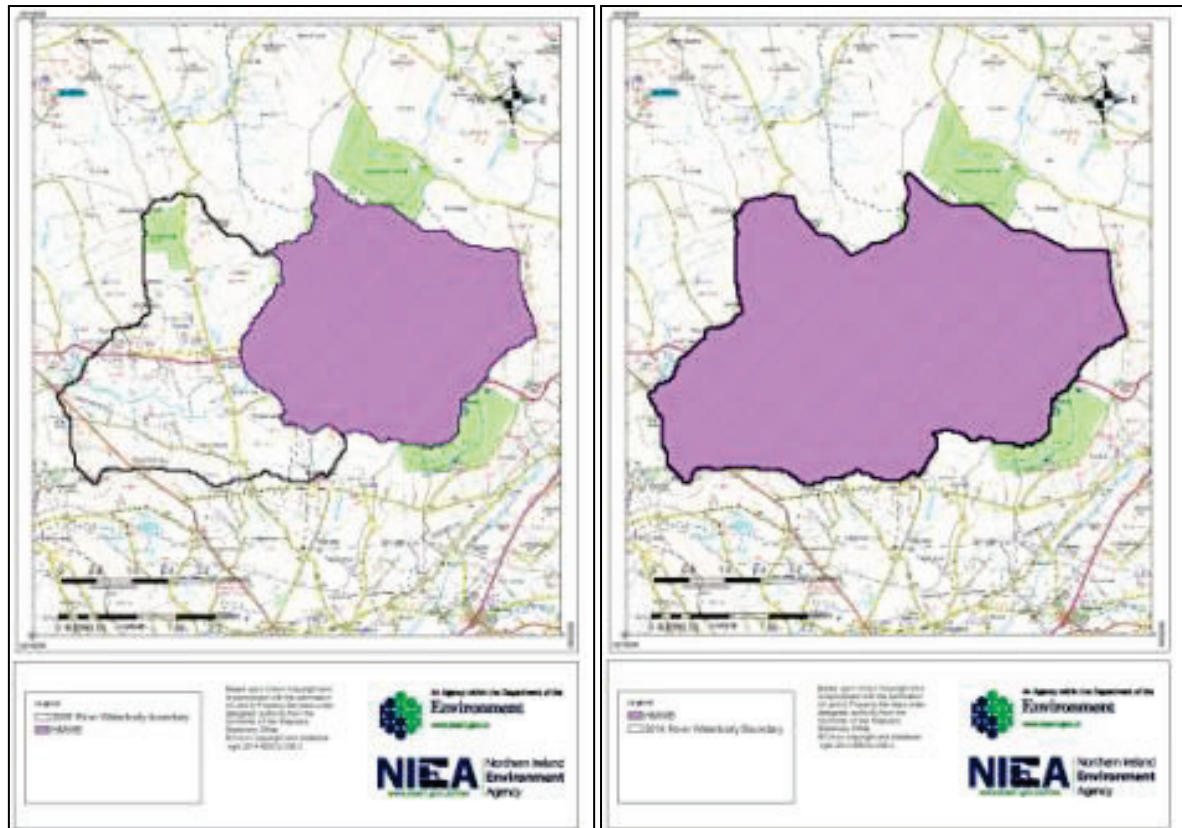
TABLE 6. SECOND CYCLE WATER BODIES WHICH AFFECT HMWBs

NEAGH BANN

GLENWHIRRY RIVER

2009 – GBNI1NB030302199 (HMWB) and GBNI1NB030302201

2014 – GBNI1NB030308241



2009

2014

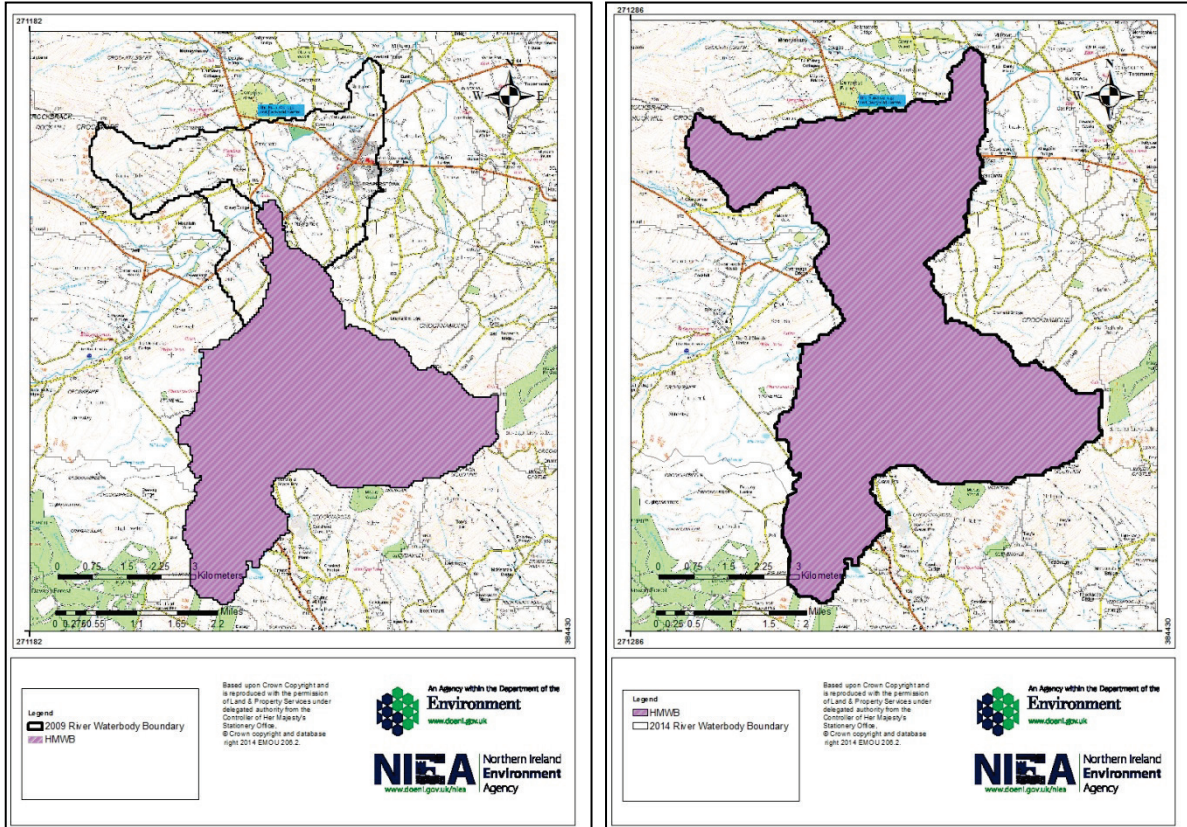
Purple area is the HMWB

This water body (GBNI1NB030302199) was designated heavily modified due to drinking water supply at Killylane. The merge has now incorporated the downstream water body (GBNI1NB030302201) so the modified section for drinking water is a smaller percentage of the water body than it was previously. Further investigation will be needed to ascertain if the new water body should retain the heavily modified designation.

MOYOLA RIVER 3

2009 – GBNI1NB030303005 (HMWB), GBNI1NB030303003 and GBNI1NB030303006

2014 – GBNI1NB030308205



2009

2014

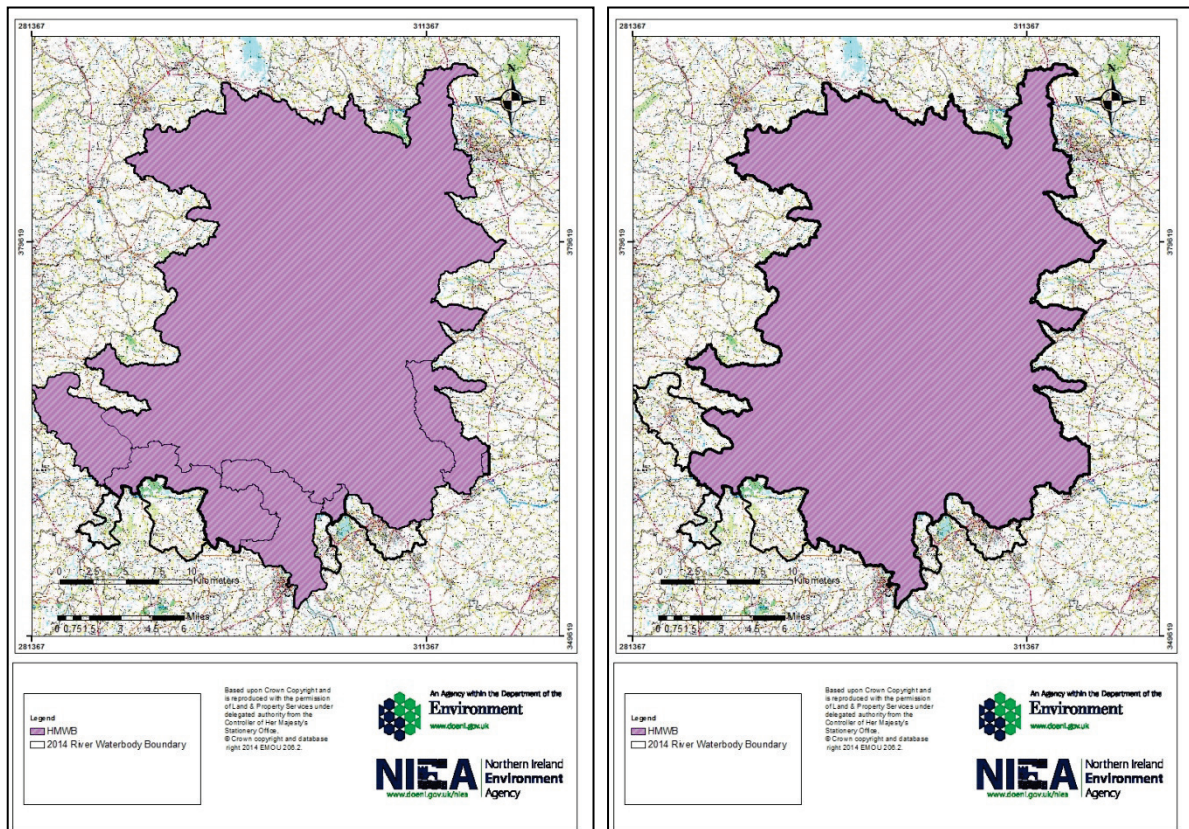
Purple area is the HMWB

The original heavily modified designation (for GBNI1NB030303005) was based on drinking water supply at Lough Fea. The new water body also incorporates water bodies GBNI1NB030303006, and GBNI1NB030303003. Due to the small percentage of the new larger water body being modified there may be the potential to drop the HMWB designation after further investigation.

LOUGH NEAGH VARIOUS SMALL STREAMS

2009 – **GBNI1NB030306194 (HMWB)**, **GBNI1NB030306208 (HMWB)**, **GBNI1NB030308103 (HMWB)**, part of **GBNI1NB030307145 (HMWB)**, part of GBNI1NB030306142, part of GBNI1NB030306195, part of GBNI1NB030307132, and GBNI1NB030308105

2014 – GBNI1NB030308243



2009

2014

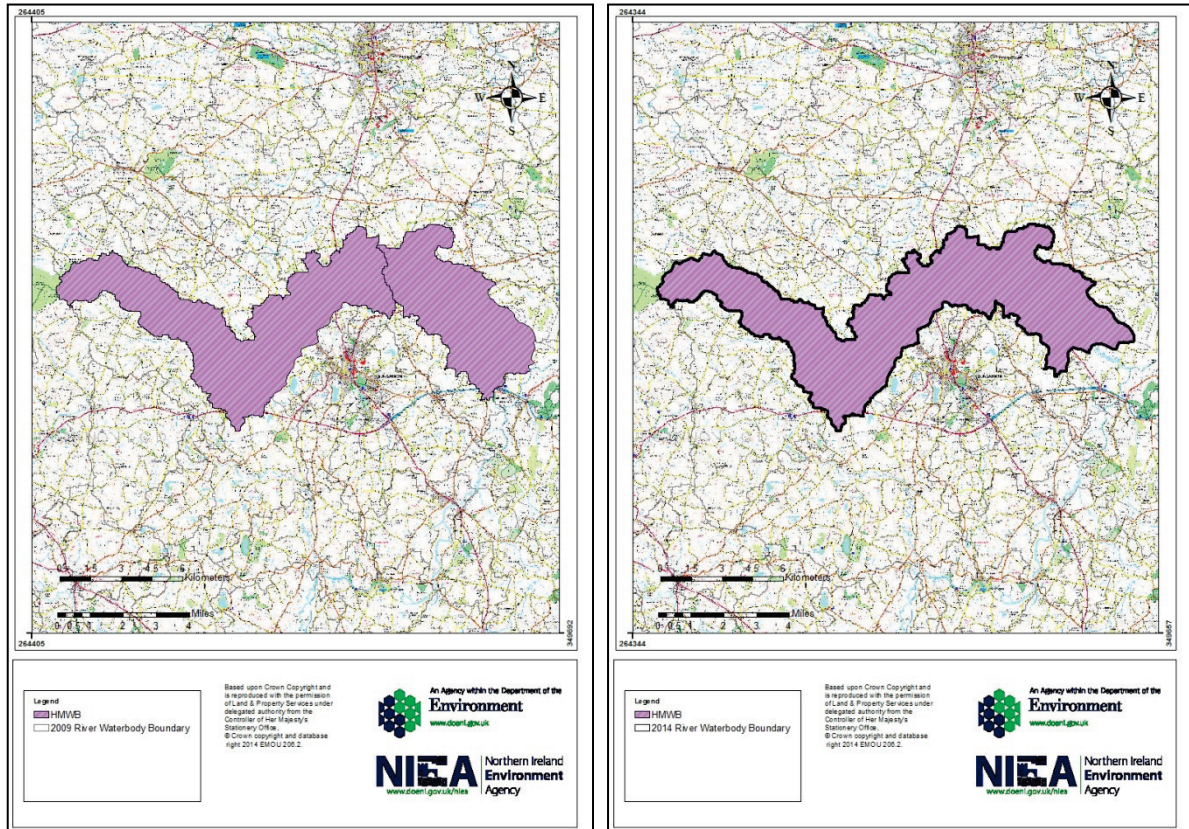
Purple areas are the HMWBs

The small streams around Lough Neagh are affected by flood prevention measures and impoundments. Some of these were designated as heavily modified due to the wider environment. The new water body incorporates 3 heavily modified water bodies and part of another HMWB. There are also 1 non designated water body and part of three others contained in the new water body. This merge will result in a reduction of 2 HMWBs in the NB district by creating one large HMWB in their place.

TORRENT RIVER

2009 – GBNI1NB030307145 (HMWB) (part) and GBNI1NB030307173 (HMWB)

2014 – GBNI1NB030308222



2009

2014

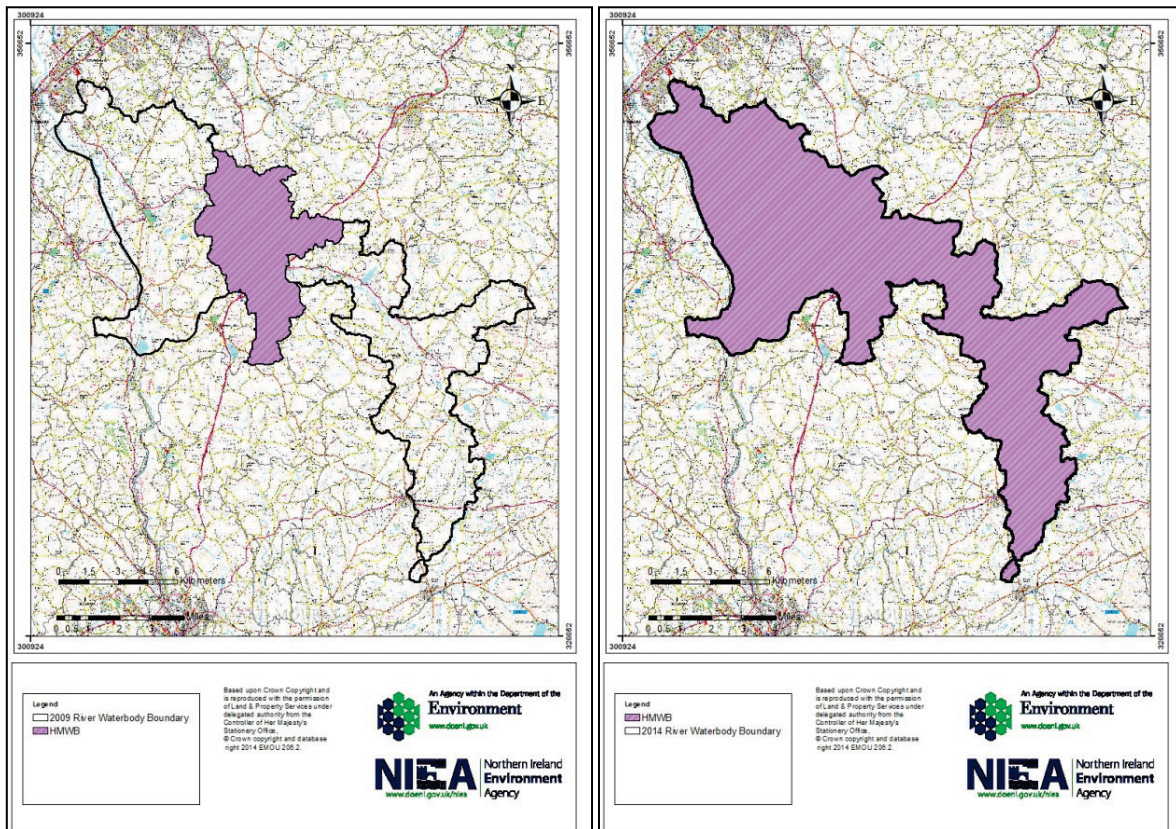
Purple area is the HMWB

This new water body incorporates 2 previously designated heavily modified water bodies. Almore drinking water supply is present in GBNI1NB030307173. This water body has been merged with part of the downstream end of Coalisland Canal/Torrent River water body GBNI1NB030307145.

BANN AT BANBRIDGE

2009 – GBNI1NB030308189, GBNI1NB030308184 and **GBNI1NB030308197 (HMWB)**

2014 – GBNI1NB030308242



2009

2014

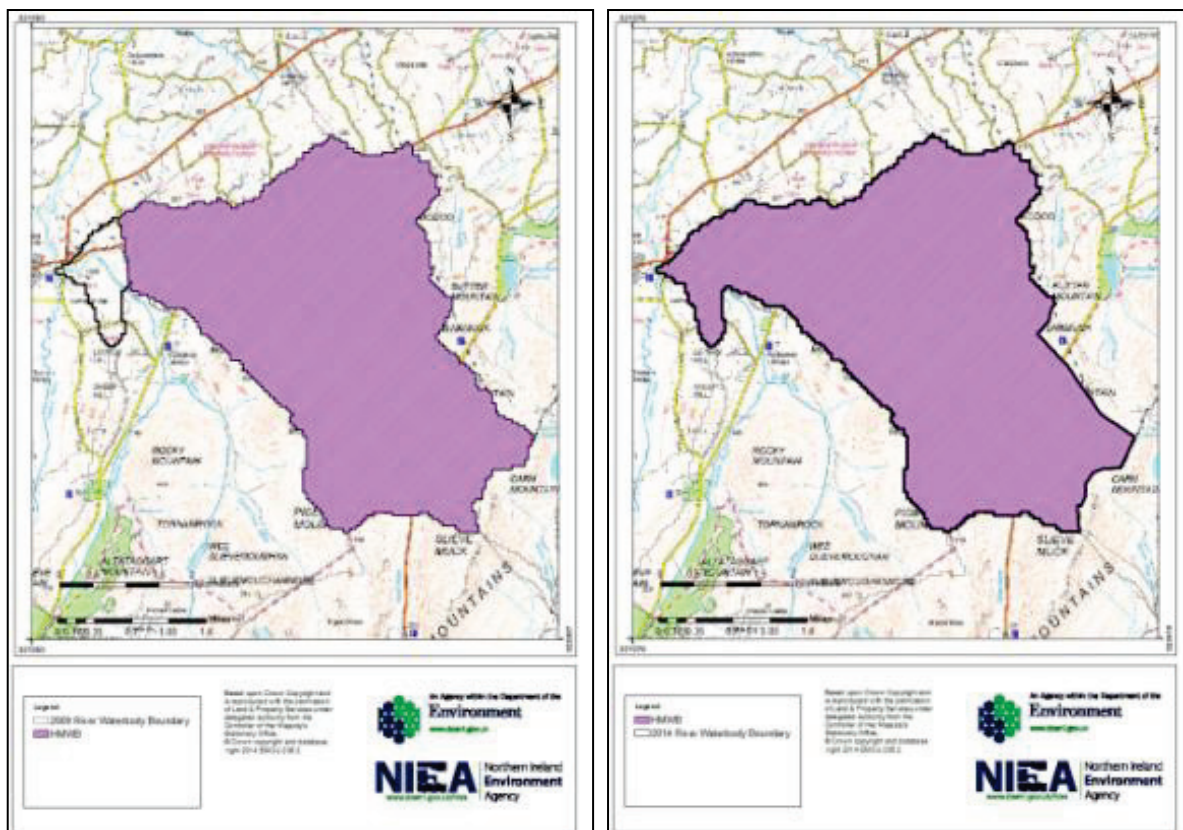
Purple area is the HMWB in 2009. New water body not HMWB in 2014.

The middle water body in this merge (GBNI1NB030308197) was designated HMWB due to flood prevention through Banbridge. We have no hydromorphology assessments on the other two water bodies (GBNI1NB030308189 or GBNI1NB030308184) yet. After further investigation the new water body was not designated HMWB as the modifications are only a small section of the new larger one.

UPPER BANN 3 (UPPER)

2009 – GBNI1NB030308089 (HMWB) and GBNI1NB030308088

2014 – GBNI1NB030308219



2009

2014

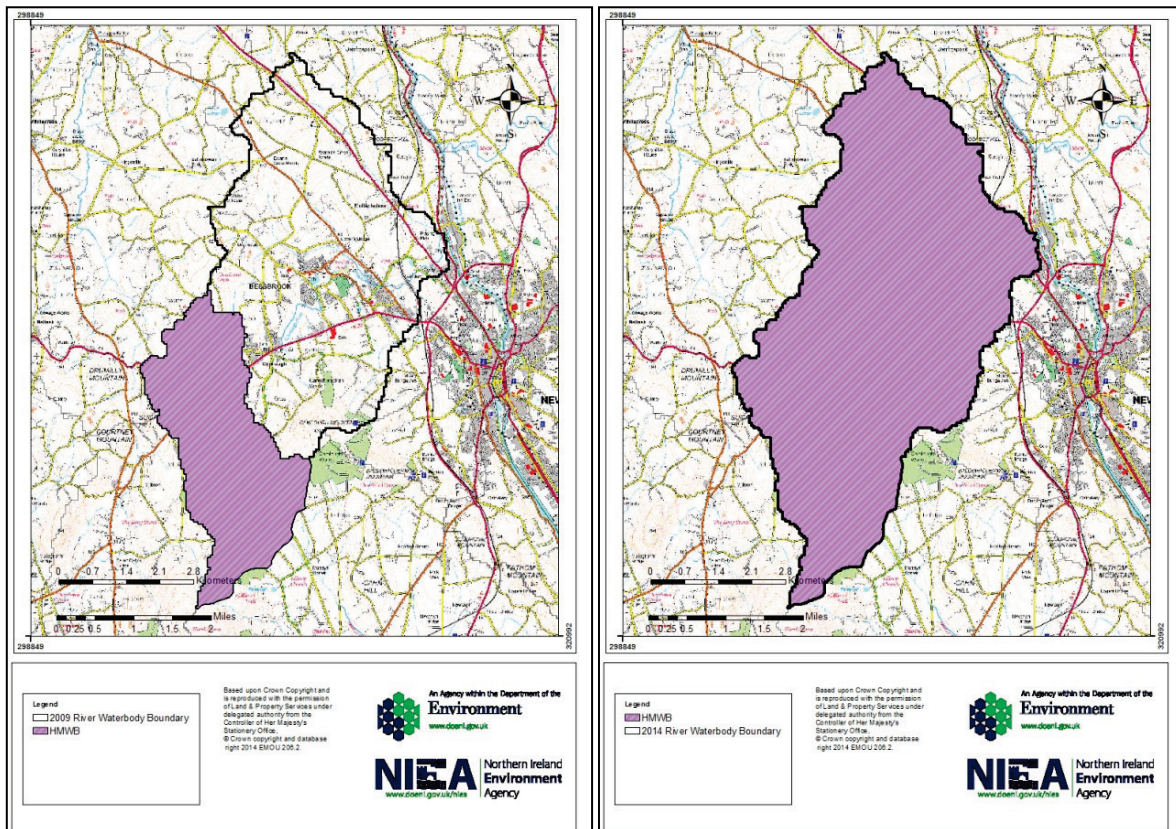
Purple area is the HMWB

The original heavily modified designation was due to Spelga drinking water supply (GBNI1NB030308089). This has been merged with a small section river (GBNI1NB030308088) which was not a HMWB. Due to the minor nature of this change to the original heavily modified water body the designation will not change.

BESSBROOK

2009 – GBNI1NB060602017 (HMWB) and GBNI1NB060604049 (proposed HMWB)

2014 - GBNI1NB060608240



2009

2014

Purple area is the HMWB

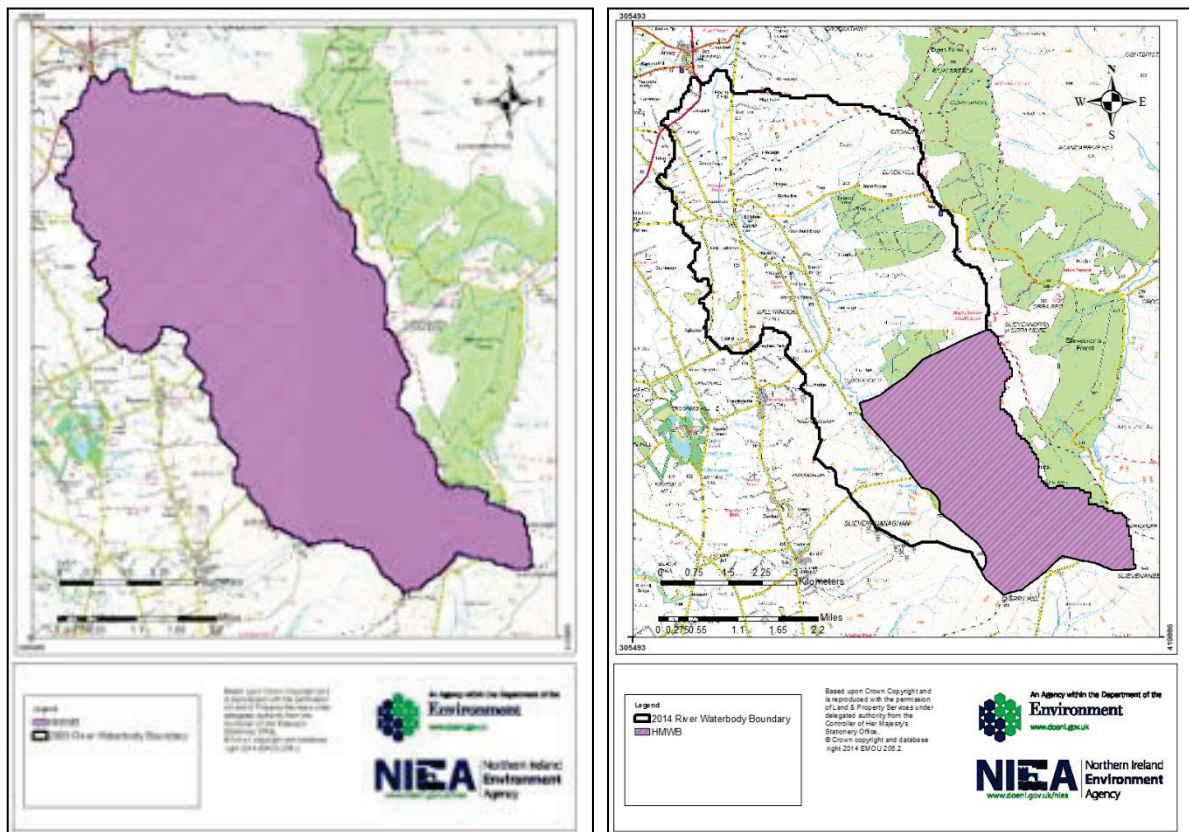
The original heavily modified designation was based on drinking water supply at Camlough (GBNI1NB060602017). During the site visit it was identified that the river in the downstream water body was potentially impacted by the modifications and water use upstream. Management of the downstream water body (GBNI1NB060604049) will need to incorporate mitigation measures that take account of drinking water supply. The HMWB designation on the new water body will stand.

NORTH EAST

ALTNAHINCH DAM

2009 – GBNI1NE040404049 (HMWB)

2014 – GBNI1NE040405128 and GBNI1NE040405127 (HMWB)



2009

2014

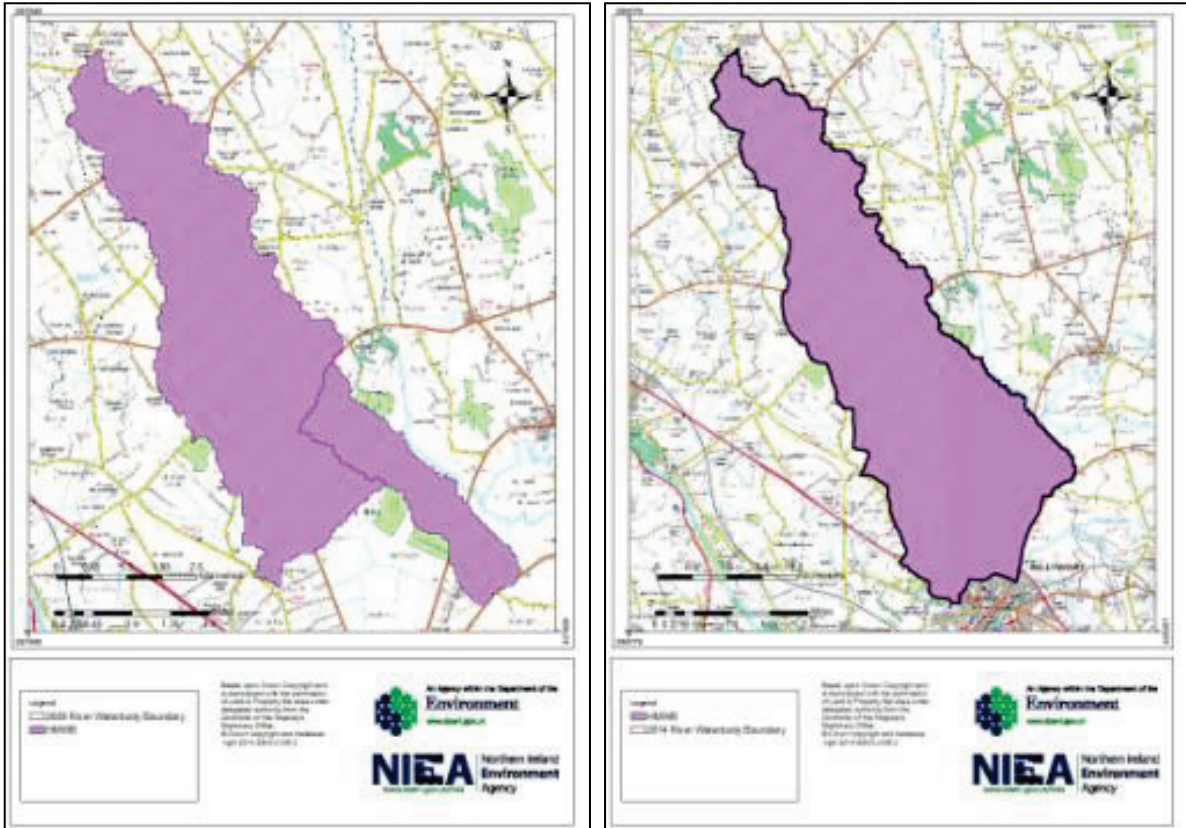
Purple area is the HMWB

The original heavily modified water body (GBNI1NE040404049) designation was due to water storage at Altnahinch. An extensive study was carried out and the impact of the water use was mitigated where the new water body begins. The upstream section at Altnahinch has been reassigned a new water body identifier (GBNI1NE040405127) and will remain designated as heavily modified. The downstream water body (GBNI1NE040405128) will no longer be within the HMWB designation. There will be no impact on the number of HMWBs from this re-delineation.

BURNGUSHET RIVER

2009 – **GBNI1NE040404054 (HMWB)**, **GBNI1NE040404053 (HMWB)** and
GBNI1NE040404055

2014 – GBNI1NE040405117



2009

2014

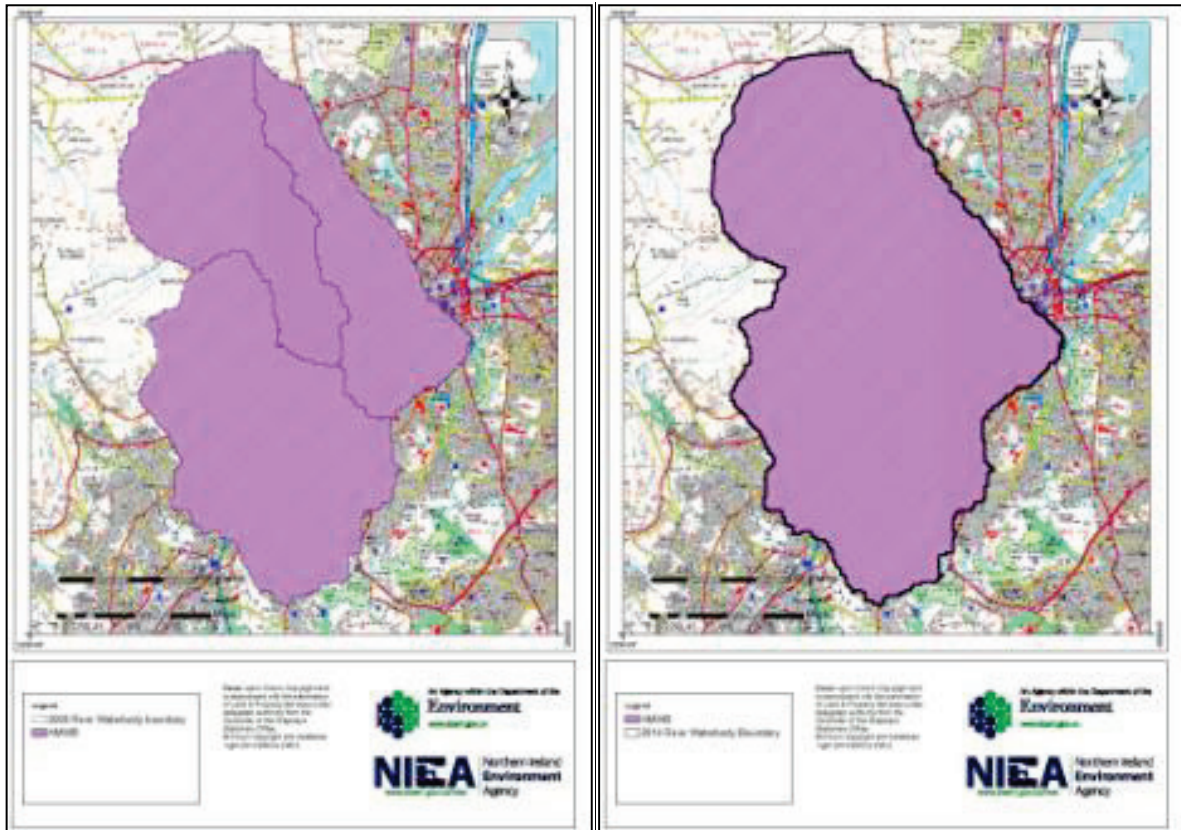
Purple area is the HMWB

The new water body incorporates two previously heavily modified water bodies on the Burngushet (GBNI1NE040404054 and GBNI1NE040404053) and non HMWB GBNI1NE040404055. De-designation is under discussion and further investigation is required.

BLACKSTAFF RIVER & FORTH RIVER

2009 – GBNI1NE050503002 (HMWB), GBNI1NE050503003 (HMWB) and GBNI1NE050503119 (HMWB)

2014 – GBNI1NE050505126



2009

2014

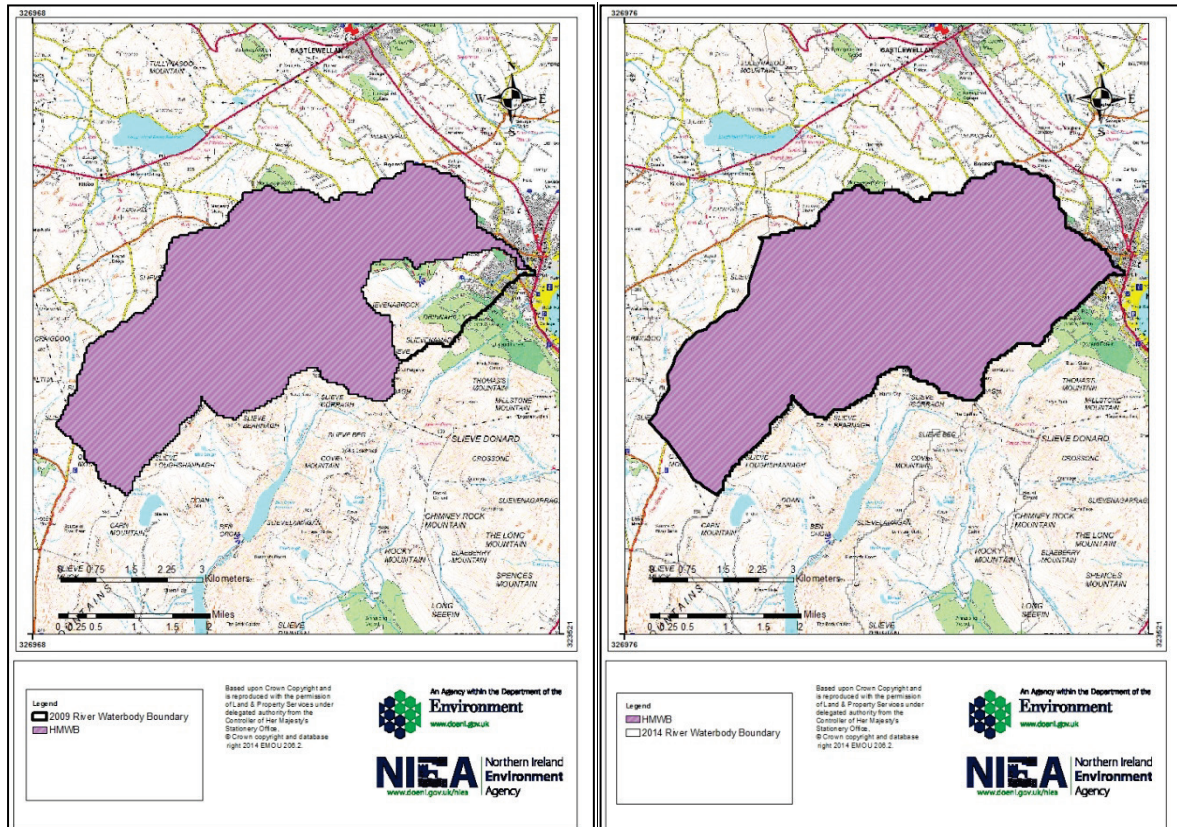
Purple area is the HMWB

The three original heavily modified water bodies are Belfast streams (GBNI1NE050503002, GBNI1NE050503003 and GBNI1NE050503119). They were all designated HMWB due to flood risk management within Belfast. The new water body will reduce 3 HMWBs to 1 larger HMWB. The heavily modified designation will remain.

SHIMNA RIVER/TULLYBRANIGAN RIVER

2009 – GBNI1NE050505035 and **GBNI1NE050505110 (HMWB)**

2014 – GBNI1NE050505123



2009

2014

Purple area is the HMWB

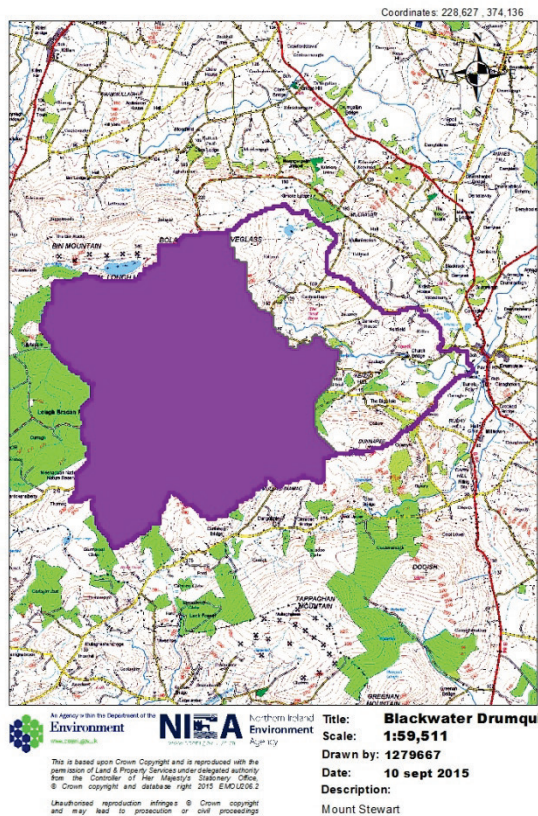
The majority of this new water body is the original heavily modified water body (GBNI1NE050505110) which was designated HMWB due to water storage at Fofanny. The small addition to the new water body (GBNI1NE050505035) will not impact on the heavily modified designation.

NORTH WEST

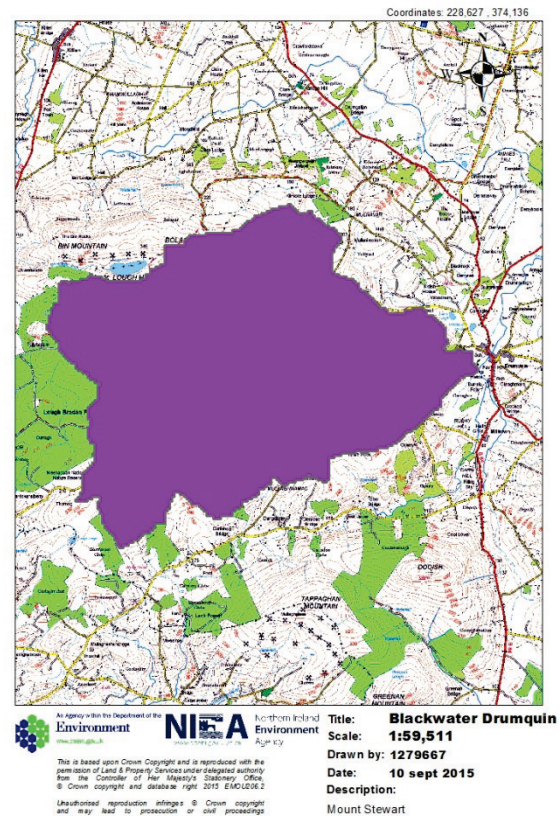
Black Water (Drumquin)

2009 – GBNI1NW010102003 and **GBNI1NW010102009 (HMWB)**

2014 – GBNI1NW010104046



2009



2014

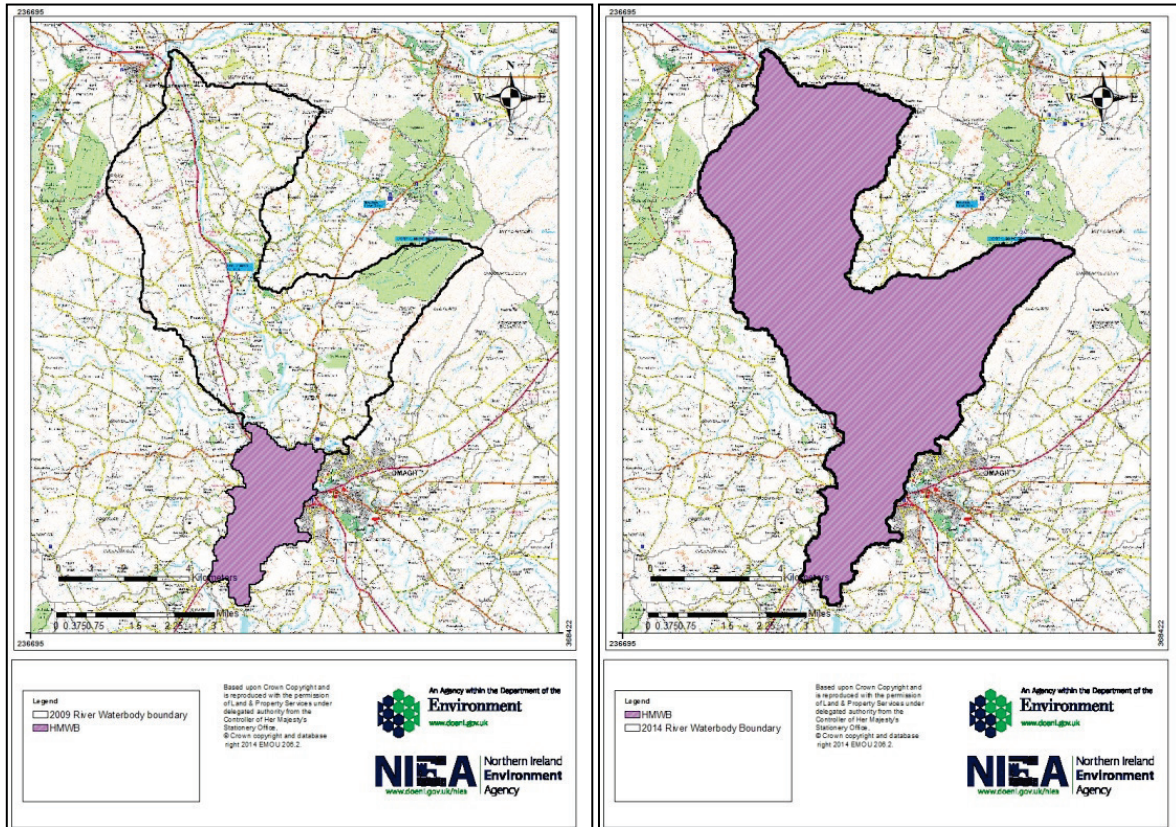
Purple area is the HMWB

The original HMWB designation (GBNI1NW010102009) was due to drinking water supply at Lough Bradan. A larger water body (GBNI1NW010102003) has been added to create the new water body. Further investigation will be required to decide if the new water body should remain HMWB due to a smaller percentage being impacted by the water use.

STRULE RIVER UPPER

2009 – GBNI1NW010102093 (HMWB) and GBNI1NW010102020

2014 – GBNI1NW010104045



2009

2014

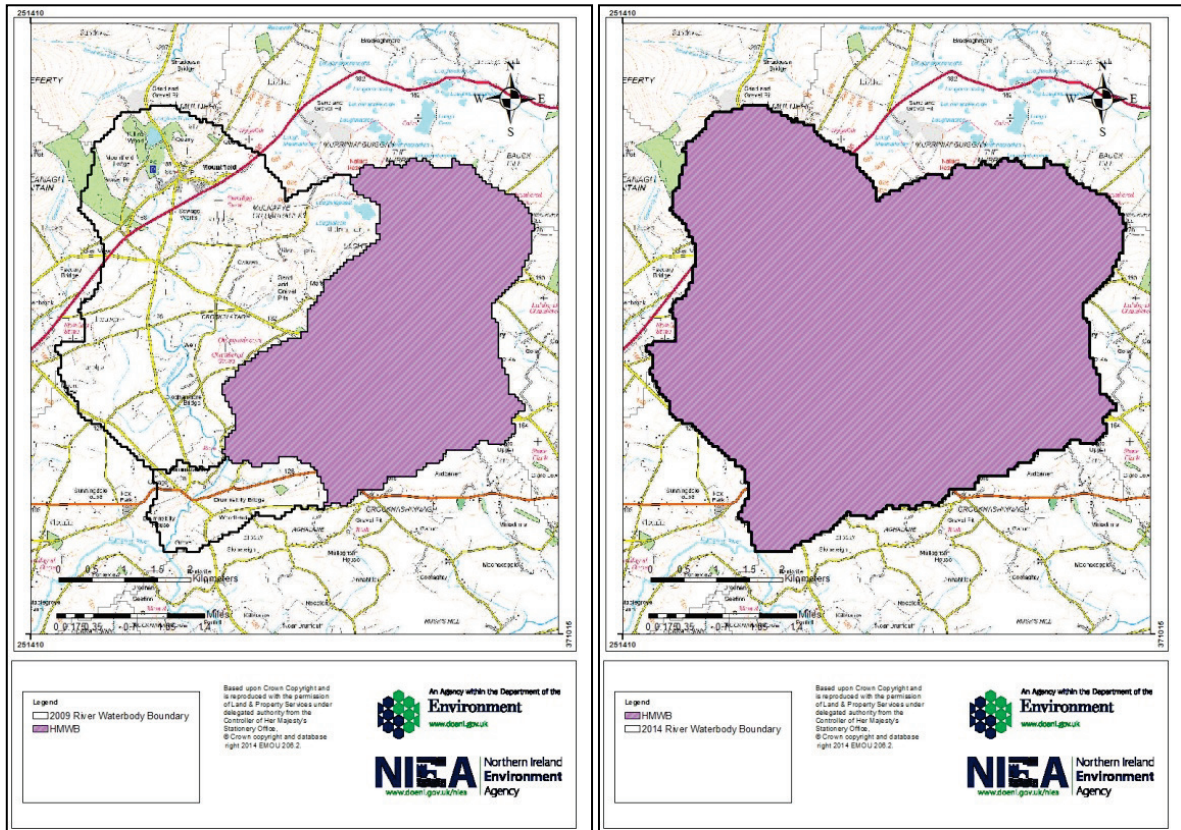
Purple area is the HMWB in 2009. New water body not HMWB in 2014.

The small water body (GBNI1NW010102093) was designated as heavily modified due to flood prevention in Omagh including culverts and weirs. This has been merged with a larger water body downstream (GBNI1NW010102020). Many of the flood prevention measures are present only in the upstream part of the water body. Due to the smaller percentage of the new water body affected by flood prevention the HMWB designation will be dropped.

DRUMNAKILLY BURN

2009 – **GBNI1NW010102030 (HMWB)**, GBNI1NW010102029 and GBNI1NW010102031

2014 – GBNI1NW010104070



2009

2014

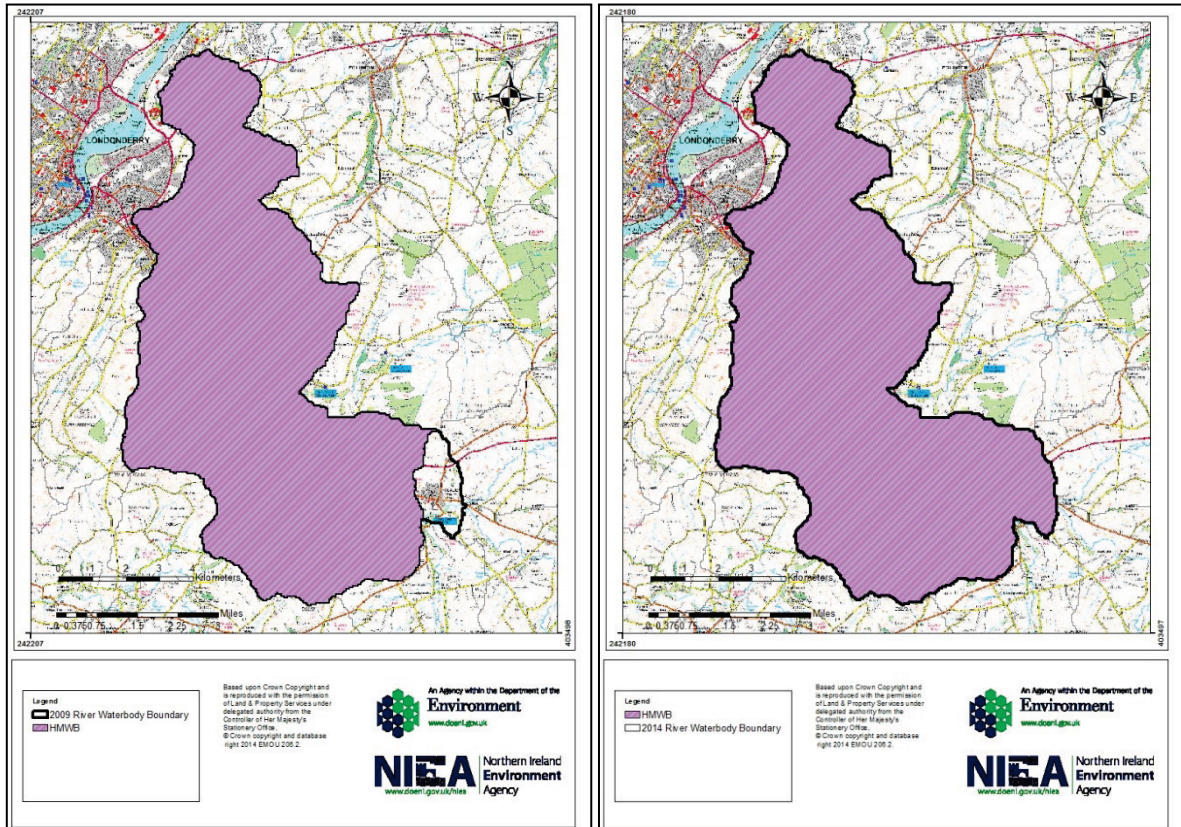
Purple area is the HMWB

The eastern section GBNI1NW010102030 was designated heavily modified due to water supply from Lough Macrory and Lough Fingrean. This water body has been merged with two other water bodies. The additional of a small water body (GBNI1NW010102031) and the western lobe (GBNI1NW010102029) mean the percentage of the water body affected by the use will be less. The heavily modified designation of the new water body will require further investigation.

FAUGHAN RIVER LOWER

2009 – GBNI1NW020204031 (HMWB) and GBNI1NW020204002

2014 – GBNI1NW020204063



2009

2014

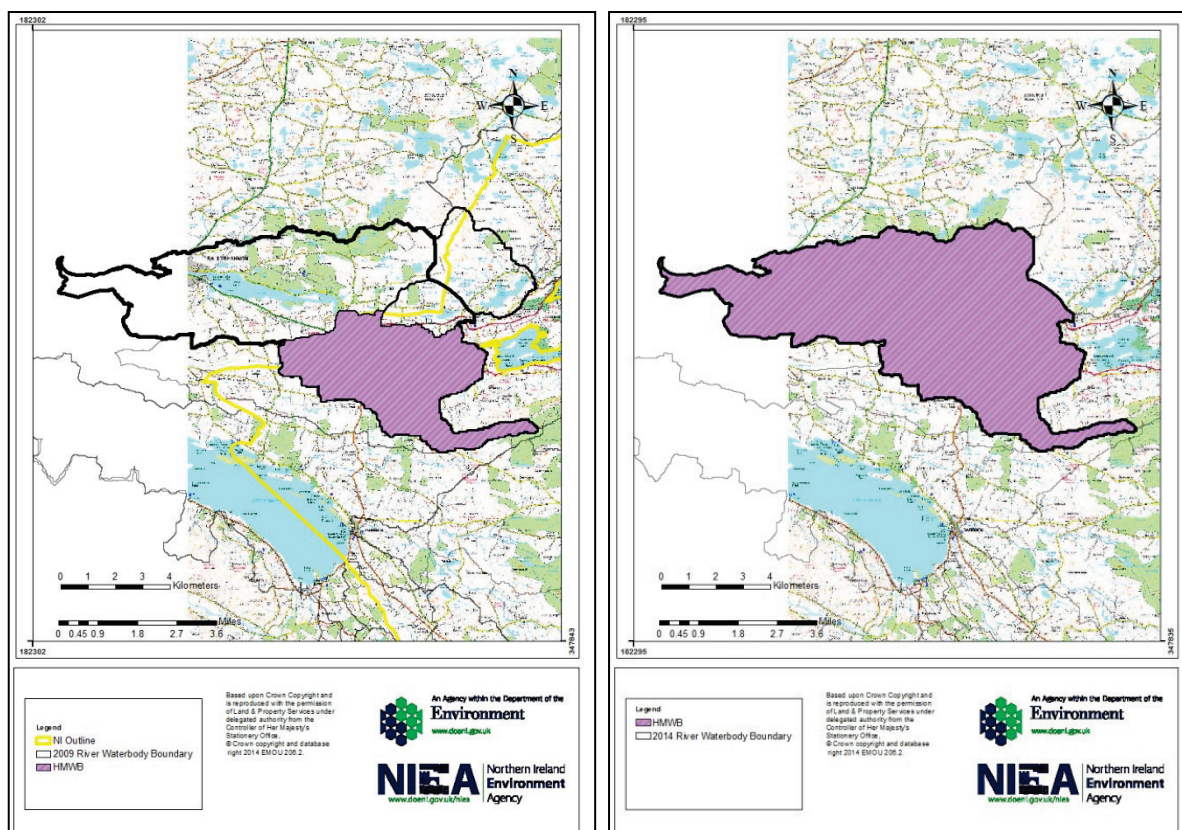
Purple area is the HMWB in 2009. New water body not HMWB in 2014.

This water body (GBNI1NW020204031) was originally designated as a heavily modified water body due to water storage at Carmoney water treatment works. For the new water body a small water body has been added (GBNI1NW020204002). After further consideration it was decided to drop the heavily modified designation. This water body has the potential to reach good ecological status while maintaining the use.

ERNE AT ENNISKILLEN

2009 – GBNI1NW363601072 (HMWB), GBNI1NW363601077 (part of) and Ballyshannon ROI water body xb_36_west_8

2014 – GBNI1NW363604085



Purple area is the HMWB

2009

2014

The River Erne at Enniskillen (GBNI1NW363601072) was designated as heavily modified due to navigation and flood risk management. This has been combined with two river water bodies (GBNI1NW363601077 to the north, and to the east a cross border water body xb_36_west_8 at Ballyshannon). Further investigation will be required by NI and ROI to assess if the HMWB designation will remain.

All maps are based upon Crown Copyright and are reproduced with the permission of Land & Property Services under delegated authority from the Controller of Her Majesty's Stationery Office, © Crown copyright and database right 2013 EMOU 206.2.