

Selection of  
Local Management Areas  
for Implementation of  
River Basin Management Plans

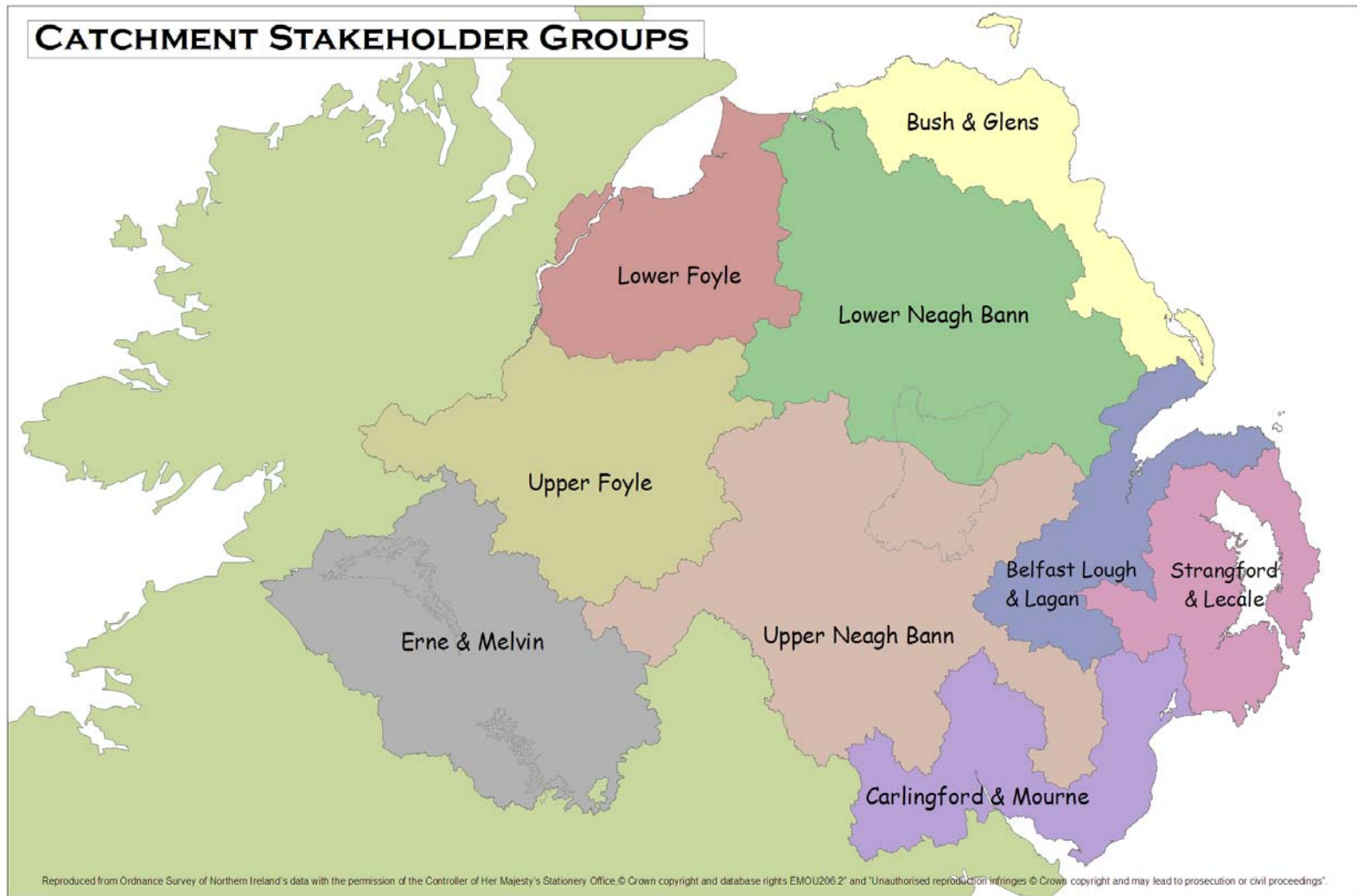
**Lower Neagh Bann  
Catchment Stakeholder Group**

Gabriel Nelson – NIEA  
River Basin Planning

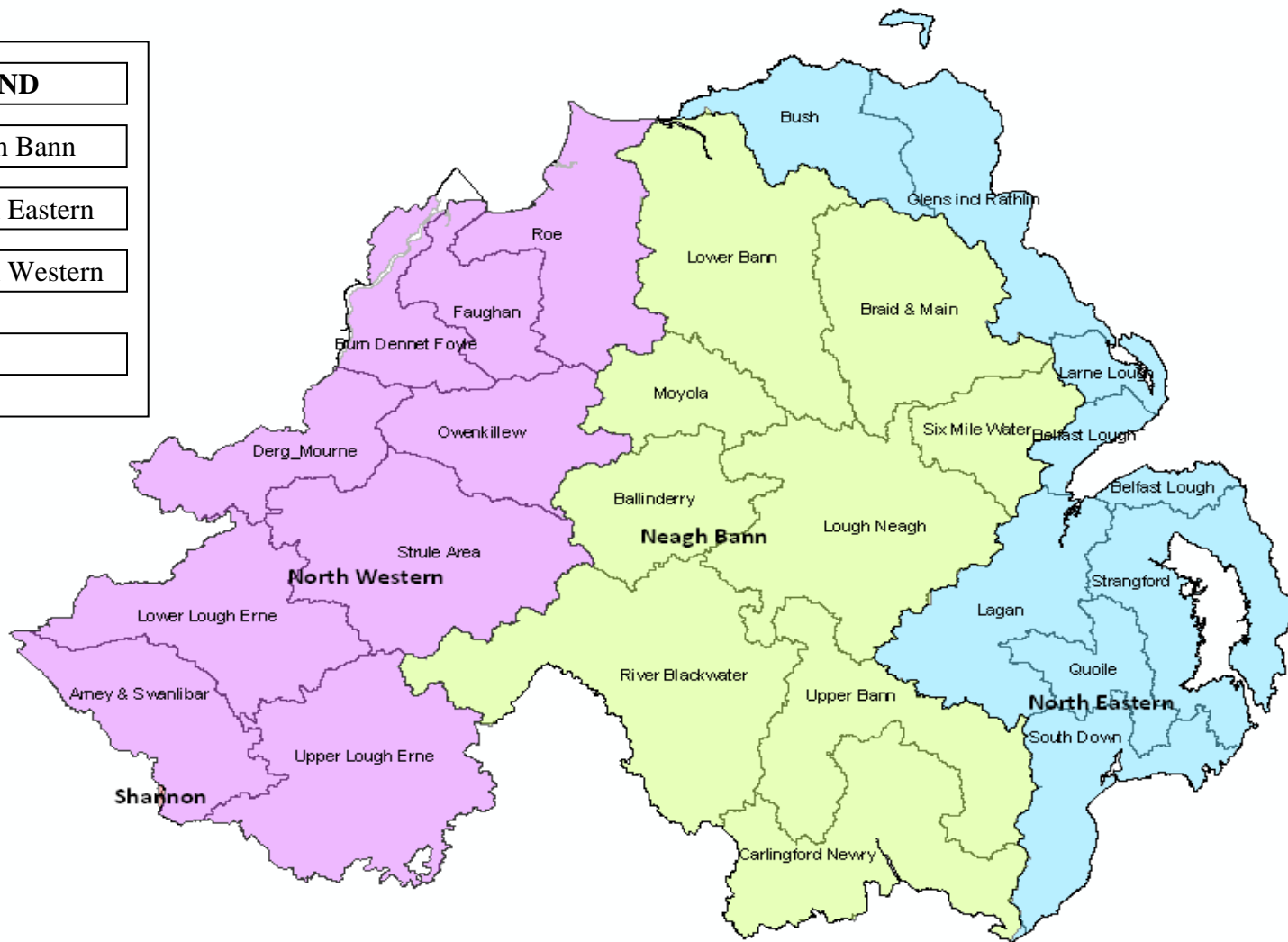
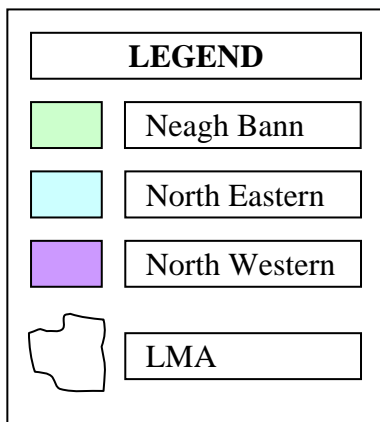
# Implementation of the River Basin Management Plans

- The Plans cover the period 2009 – 2015
- Need to focus on the local nature of the plans
- Need to develop an implementation programme over the six year cycle

## CATCHMENT STAKEHOLDER GROUPS



# Map of Local Management Areas



# Why Work at an LMA Level ?

- To develop a localised approach to managing water bodies, yet provide a coherent and comprehensive overview of the pressures at a catchment level it is proposed to develop action plans at the Local Management Area level (LMA).
- The LMAs represent the hydrological water sheds of the main rivers within the RBDs.
- In targeting resources to deliver good ecological quality, it is considered more effective to focus concerted action on a limited number LMAs.
- It is proposed to select 9 LMAs out of the 26 each year for detailed analysis, this would mean each LMA is assessed twice in each 6 year planning cycle.

# LMA Selection Process

- The starting point is the Percentage Failure of water bodies for plants, invertebrates (including pearl mussels) and fish.
  - % less than Good,
  - % less than Moderate or Bad
  - % Bad
  - The more severe the failure the more difficult to rectify but the smaller the percentage affected.
  - Combining the severity of the failures.
- Some water bodies fail more than one element but are not double counted
- Risk assessment data used if no status data available

# Reason for Failure and Percentage Failure Spreadsheet

RWBID	Name WB		Overall Eco Status	Invertebrates	Macrophytes	Fish	Pearl Mussel	Diatoms	Phytoplankton	DO	Phosphorus	P+I status	SURFACE WATER STATUS
GBNI1NE050501004	Copeland Water	Belfast Lough	3									3	3
GBNI1NE050501118	Three Mile Water	Belfast Lough	4	4				4			3		4
GBNI1NE050501120	Woodburn River	Belfast Lough	4	3	3	4		3					4
GBNI1NE050502083	Crawfordsburn River	Belfast Lough	4	4							3		4
GBNI1NE050502084	Ballyholme River	Belfast Lough	5	5		5					3		5
GBNI3NE0028	Mourne	Belfast Lough	3		3				3		4		4
	Total No. WBs 7	No. < Good	6	4	2	2		2	1	0	4	1	6
	Rivers plus Lakes	No. < Mod	4	3	0	2		1	0	0	1	0	5
		No. Bad	1	1	0	1		0	0	0	0	0	1
		% < Good	85.7%	57.1%	28.6%	28.6%	0.0%	28.6%	14.3%	0.0%	57.1%	14.3%	85.7%
		% < Moderate	57.1%	42.9%	0.0%	28.6%	0.0%	14.3%	0.0%	0.0%	14.3%	0.0%	71.4%
		% Bad	14.3%	14.3%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%

# A Risk Based Approach

## Taking into Account the Level of Impact

Assume the classification data is an indicator of the level of impact and that the risk is higher the worse the status;

i.e. Bad > Poor > Moderate.

Taking the % of Water Bodies failing GOOD status for the ecological elements macrophytes, benthic invertibrates and fish, as a measure of the risk to the ecology of an LMA.

And adding to this the % less than Moderate and Bad to take account of the severity of the impact, then:

Risk of not achieving good status represented by:

**% < Good + % < Moderate + % Bad = Eco Score**

# Reason for Failure and Percentage Failure Spreadsheet

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GBNI1NE050502083	Crawfordsburn River	Belfast Lough	4	4							3		4
GBNI1NE050502084	Ballyholme River	Belfast Lough	5	5		5					3		5
GBNI3NE0028	Mourne	Belfast Lough	3		3				3		4		4
	Total No. WBs 7	No. < Good	6	4	2	2		2	1	0	4	1	6
	Rivers plus Lakes	No. < Mod	4	3	0	2		1	0	0	1	0	5
		No. Bad	1	1	0	1		0	0	0	0	0	1
		% < Good	85.7%	57.1%	28.6%	28.6%	0.0%	28.6%	14.3%	0.0%	57.1%	14.3%	85.7%
		% < Moderate	57.1%	42.9%	0.0%	28.6%	0.0%	14.3%	0.0%	0.0%	14.3%	0.0%	71.4%
		% Bad	14.3%	14.3%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.3%

# Proportion of Failing Water bodies and Eco Score

NB Assessment Rating												
Man Area	% < Good	Invertebrates	Macrophytes	FISH	Pearl Mussel	P & I	Number WBs <Mod	% <Mod	Number WBs <Bad	%Bad	Eco Score	Number of WBs
Ballinderry	87.5%	79.2%	29.2%	8.3%	16.7%	4.2%	11	45.8%	0	0.0%	133.3	24
Braid Main	45.7%	34.3%	28.6%	2.9%	0.0%	0.0%	2	5.7%	0	0.0%	51.4	35
Carlingford & Newry	68.6%	42.9%	14.3%	14.3%	0.0%	25.7%	7	20.0%	1	2.9%	91.4	35
Lough Neagh	95.2%	42.9%	33.3%	9.5%	0.0%	19.0%	4	19.0%	2	9.5%	123.8	21
Lower Bann	67.5%	57.5%	30.0%	0.0%	0.0%	7.5%	10	25.0%	2	5.0%	97.5	40
Moyola	68.4%	42.1%	42.1%	10.5%	0.0%	5.3%	2	10.5%	0	0.0%	78.9	19
Blackwater	82.4%	64.7%	35.3%	7.8%	0.0%	15.7%	16	31.4%	4	7.8%	121.6	51
Six Mile	66.7%	58.3%	8.3%	8.3%	0.0%	0.0%	1	8.3%	0	0.0%	75.0	12
Upper Bann	89.3%	60.7%	60.7%	7.1%	0.0%	7.1%	6	21.4%	0	0.0%	110.7	28

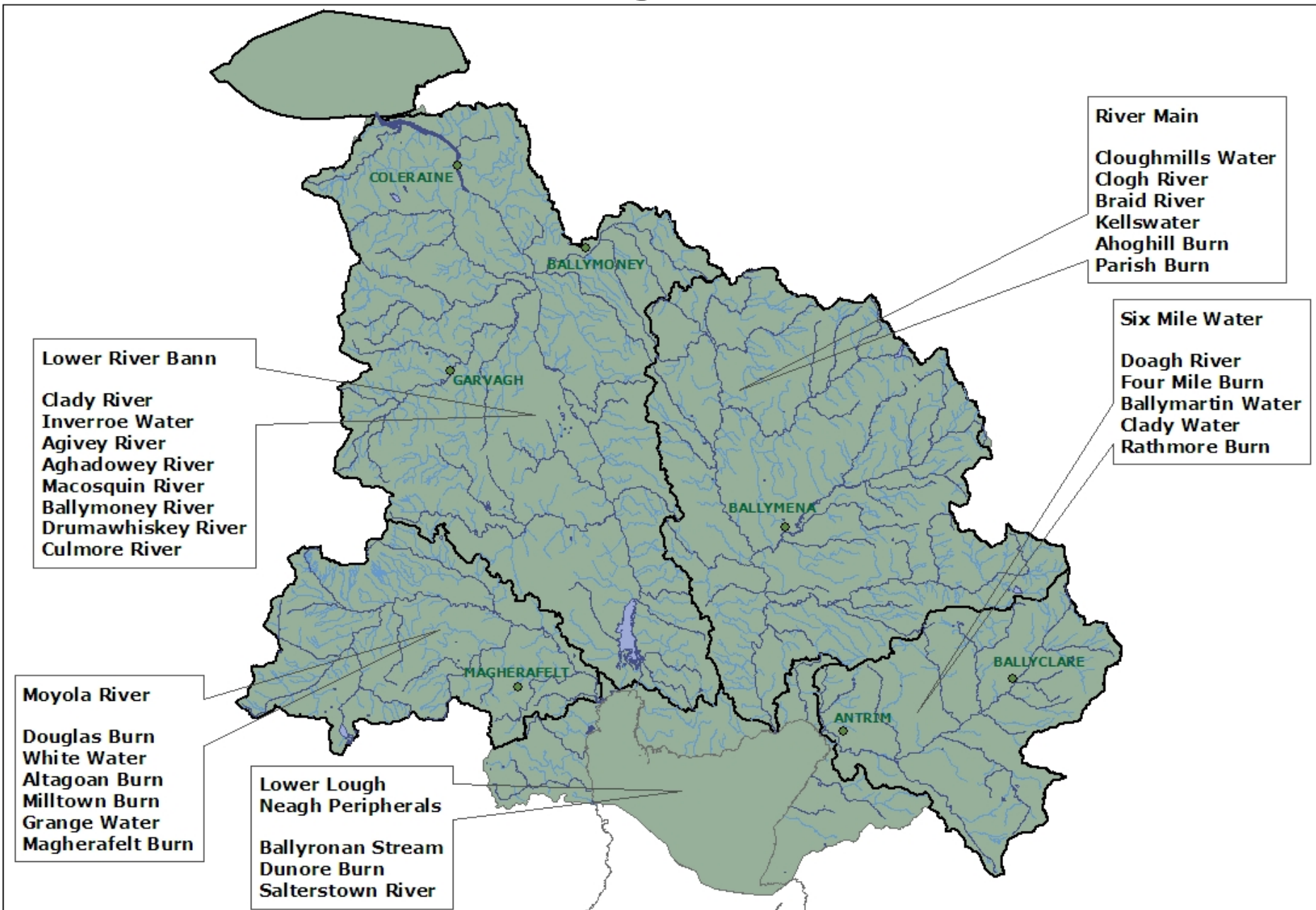
# LMA Implementation Plan Selection

Option 1		Option 2		Option 3		CSG Area
Local Management Area	Eco Score	Local Management Area	Eco Score	Local Management Area	Eco Score	
Strangford	193.3	Burndennet & Foyle	100.0	Lower Lough Erne	87.9	Erne & Melvin
Lagan	159.1	Lower Lough Erne	87.9	Upper Lough Erne	72.1	
Belfast L	157.1	Upper Lough Erne	72.1	Arney	39.3	
Ballinderry	137.5	Roe	60.0	Owenkillew	50.0	Upper Foyle
Lough Neagh	123.8	Owenkillew	50.0	Derg& Mourne	47.1	
Bush	123.5	Derg & Mourne	47.1	Strule	45.0	
Blackwater	121.6	Strule	45.0	Burndennet & Foyle	100.0	Lower Foyle
Upper Bann	110.7	Arney	39.3	Roe	60.0	
South Down	105.3	Faughan	30.0	Faughan	30.0	
Quoile	100.0	<b>Ballinderry</b>	137.5	<b>Ballinderry</b>	137.5	Upper Neagh Bann
Burndennet & Foyle	100.0	<b>Lough Neagh</b>	123.8	<b>Blackwater</b>	121.6	
Lower Bann	97.5	<b>Blackwater</b>	121.6	<b>Upper Bann</b>	110.7	
Carlingford & Newry	91.4	<b>Upper Bann</b>	110.7	<b>Lough Neagh</b>	123.8	Lower Neagh Bann
Lower Lough Erne	87.9	Lower Bann	97.5	Lower Bann	97.5	
Moyola	78.9	Carlingford & Newry	91.4	Moyola	78.9	
Six Mile	75.0	Moyola	78.9	Six Mile	75.0	
Upper Lough Erne	72.1	Six Mile	75.0	Braid & Main	51.4	
Roe	60.0	Braid & Main	51.4	<b>South Down</b>	105.3	Carlifgord & Mourne
				Carlingford & Newry	91.4	
Glen & Rathlin	52.4	<b>Strangford</b>	193.3			
Braid & Main	51.4	<b>Lagan</b>	159.1	<b>Strangford</b>	193.3	Strangford & Lecale
Owenkillew	50.0	<b>Belfast L</b>	157.1	Quoile	100.0	
Larne	50.0	<b>Bush</b>	123.5	<b>Lagan</b>	159.1	Belfast & Lagan
Derg& Mourne	47.1	<b>South Down</b>	105.3	<b>Belfast L</b>	157.1	
Strule	45.0	Quoile	100.0	<b>Bush</b>	123.5	Bush & Glens
Arney	39.3	Glen & Rathlin	52.4	Glen & Rathlin	52.4	
Faughan	30.0	Larne	50.0	Larne	50.0	

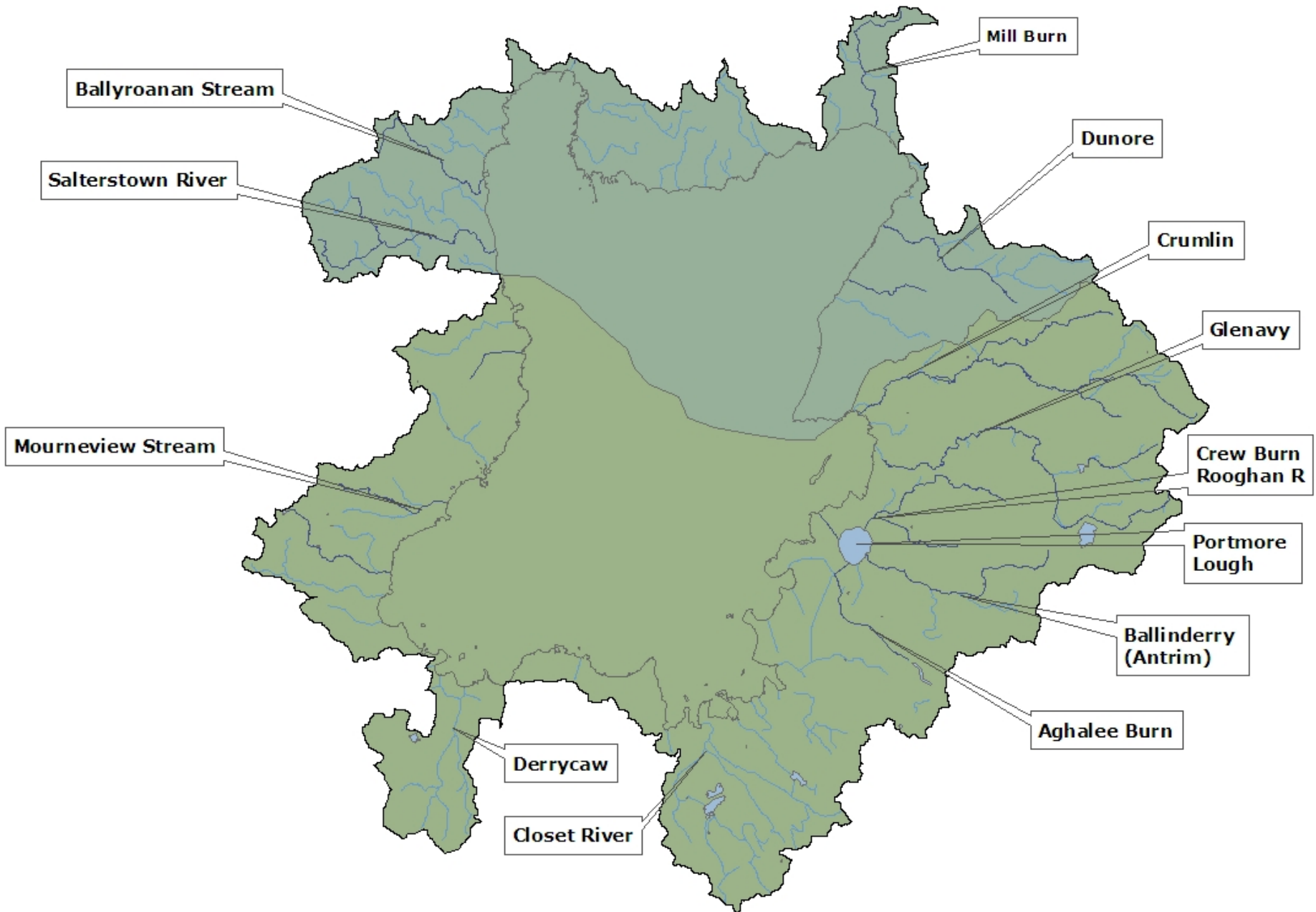
# Lower Neagh Bann CSG



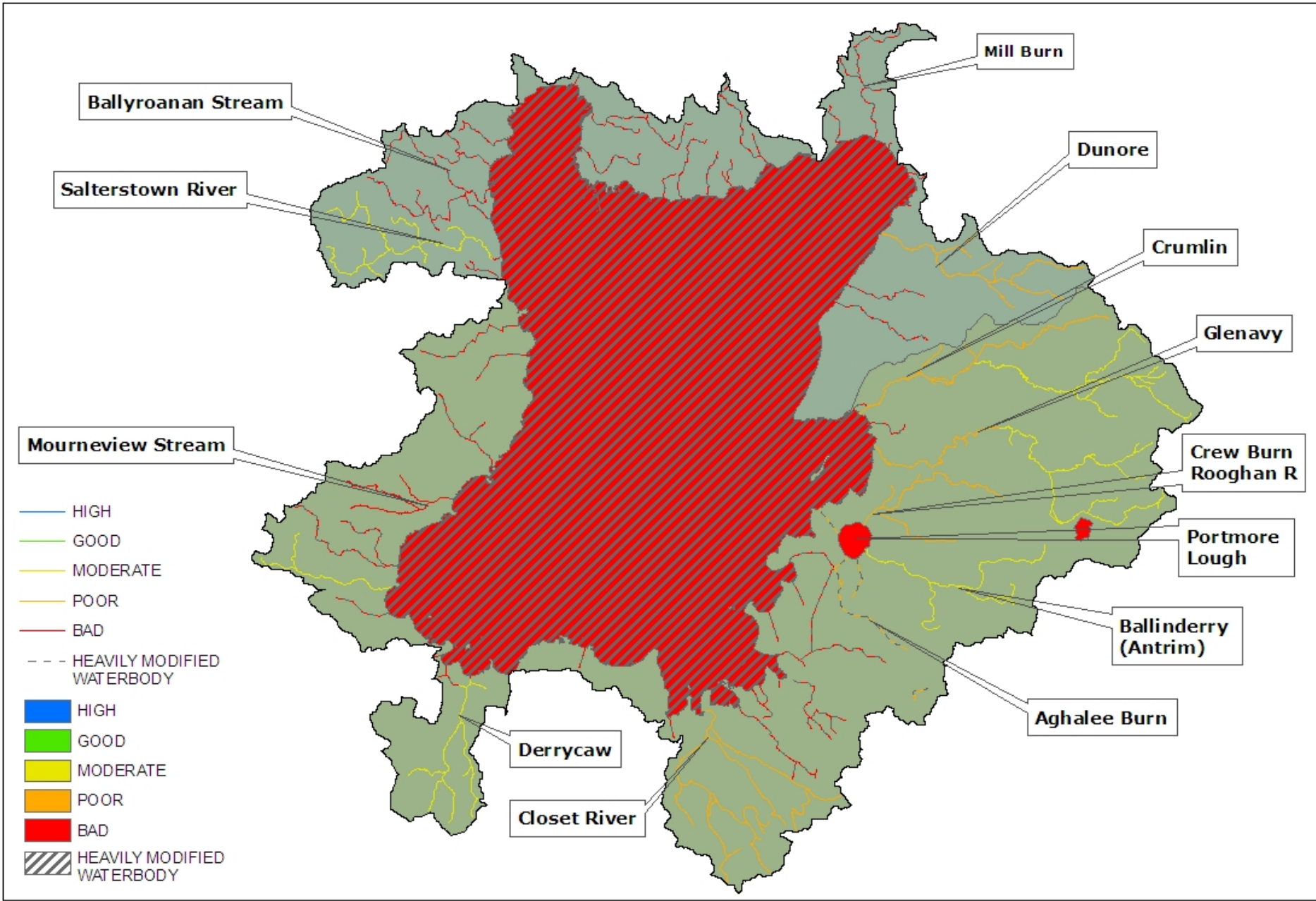
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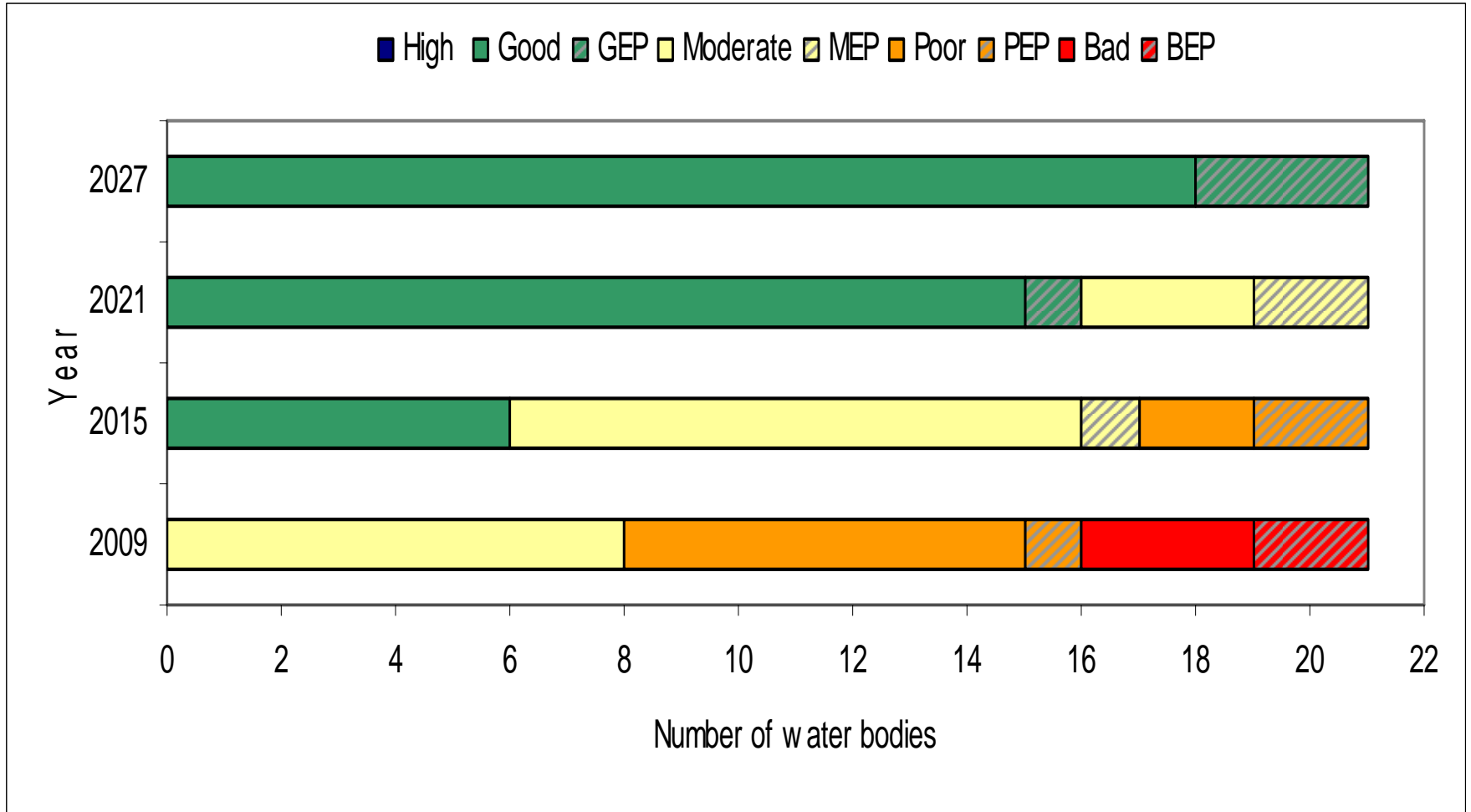
# Lough Neagh LMA - Rivers



# Lough Neagh LMA - Status



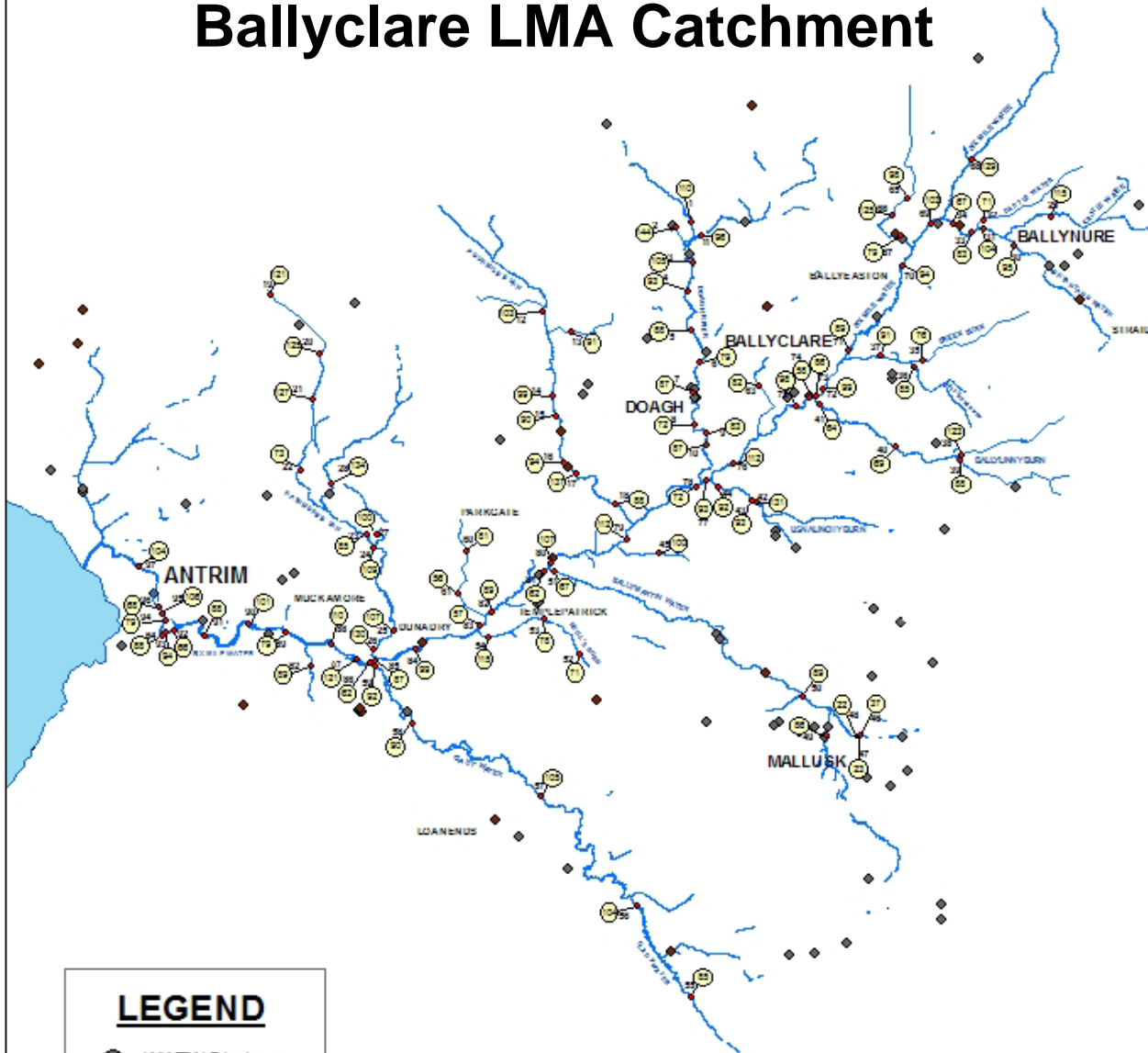
# Lough Neagh LMA Statistics



# Reasons for Failure Lough Neagh LMA

NAME	Invertebrates	Macrophytes	Fish	Diatoms	Phytoplankton	DO	SRP	MORPH SITE VISIT
Glenavy River	2	3	0	0		1	2	3
Stoneyford River	2	2	0	0		3	1	0
Glenavy River	3	3	2	4		3	3	0
Crew Burn	4	3	0	0		1	3	3
Crumlin River	3	2	0	4		1	3	3
Dundesert River	3	3	3	4		1	2	0
Crumlin River	2	3	0	0		2	2	3
Dunore River	2	0	4	4		1	3	3
Doon Burn	0	0	0	0		0	0	0
Kells Point Neagh	5	0	0	0		0	0	0
Salterstown Burn	3	2	0	0		1	3	0
Derrycaw Burn Neagh	0	0	0	0		0	0	0
Closet River	0	0	0	0		0	0	0
Ballinderry River	3	2	0	0		1	3	0
Aghalee Burn	4	0	0	0		0	0	0
Closet River	0	0	0	0		0	0	0
Crumlin River Upper	2	3	0	0		1	2	3
Lough Neagh Peripherals	5	4	0	0		1	3	0
Portmore		5		4	3	1	4	
Stoneyford		5		4	3	1	5	
Neagh		5		4	4	1	5	2
No Failed	9	10	2	7	3	2	10	6
No Poor/Bad	4	4	1	7	1	0	3	0
No Bad	2	3	0	0	0	0	2	0
% Failed	42.9%	47.6%	9.5%	33.3%	14.3%	9.5%	47.6%	28.6%
% Poor/Bad	19.0%	19.0%	4.8%	33.3%	4.8%	0.0%	14.3%	0.0%
% Bad	9.5%	14.3%	0.0%	0.0%	0.0%	0.0%	9.5%	0.0%

# Ballyclare LMA Catchment



## LEGEND

- WWTW Discharge
- Industrial Consent Discharge
- Sampling Site

57 Biotic Score

**Chart 12. Biotic and ASPT Scores along Six Mile Water during Six Mile Water Investigation 2008**

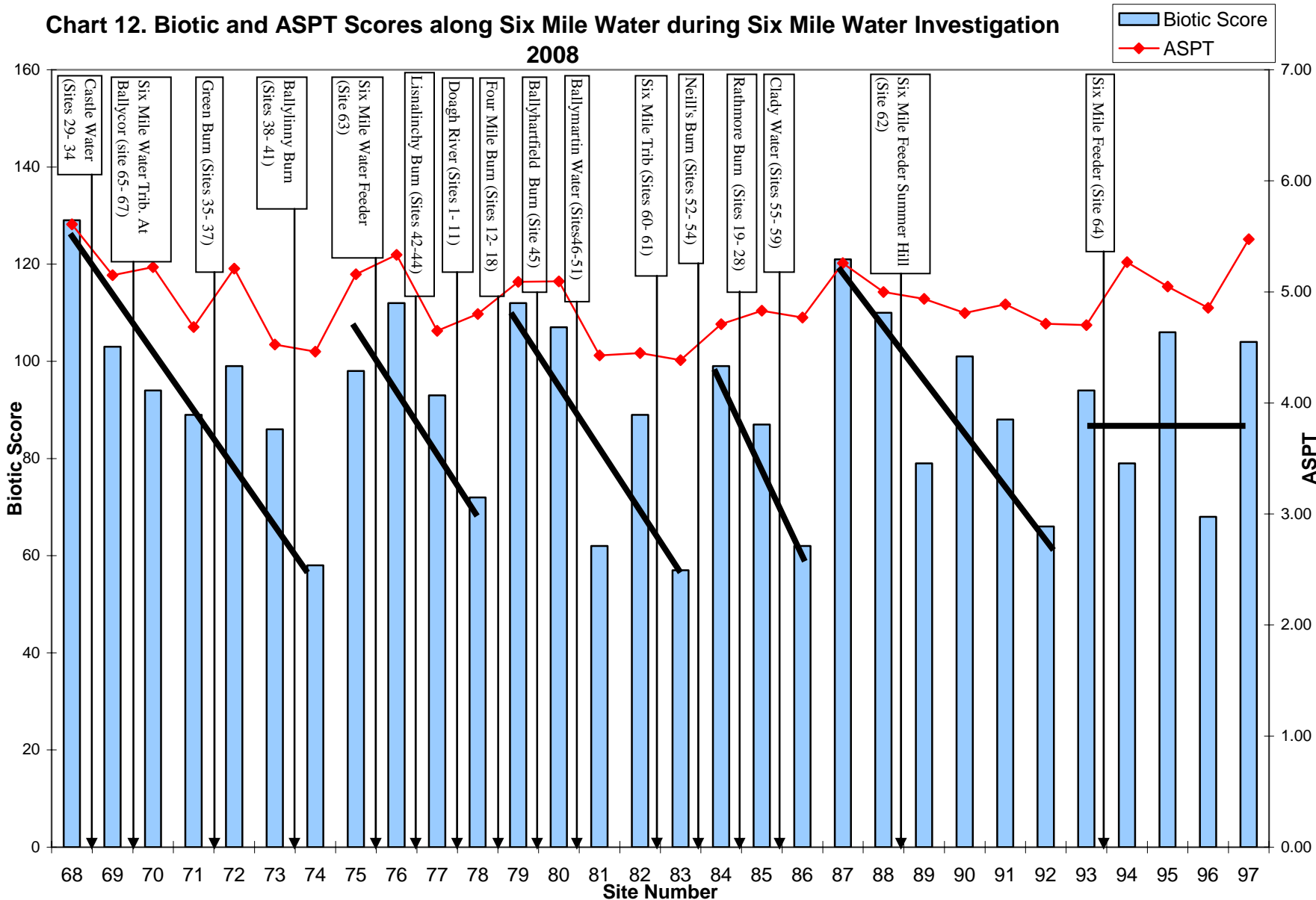
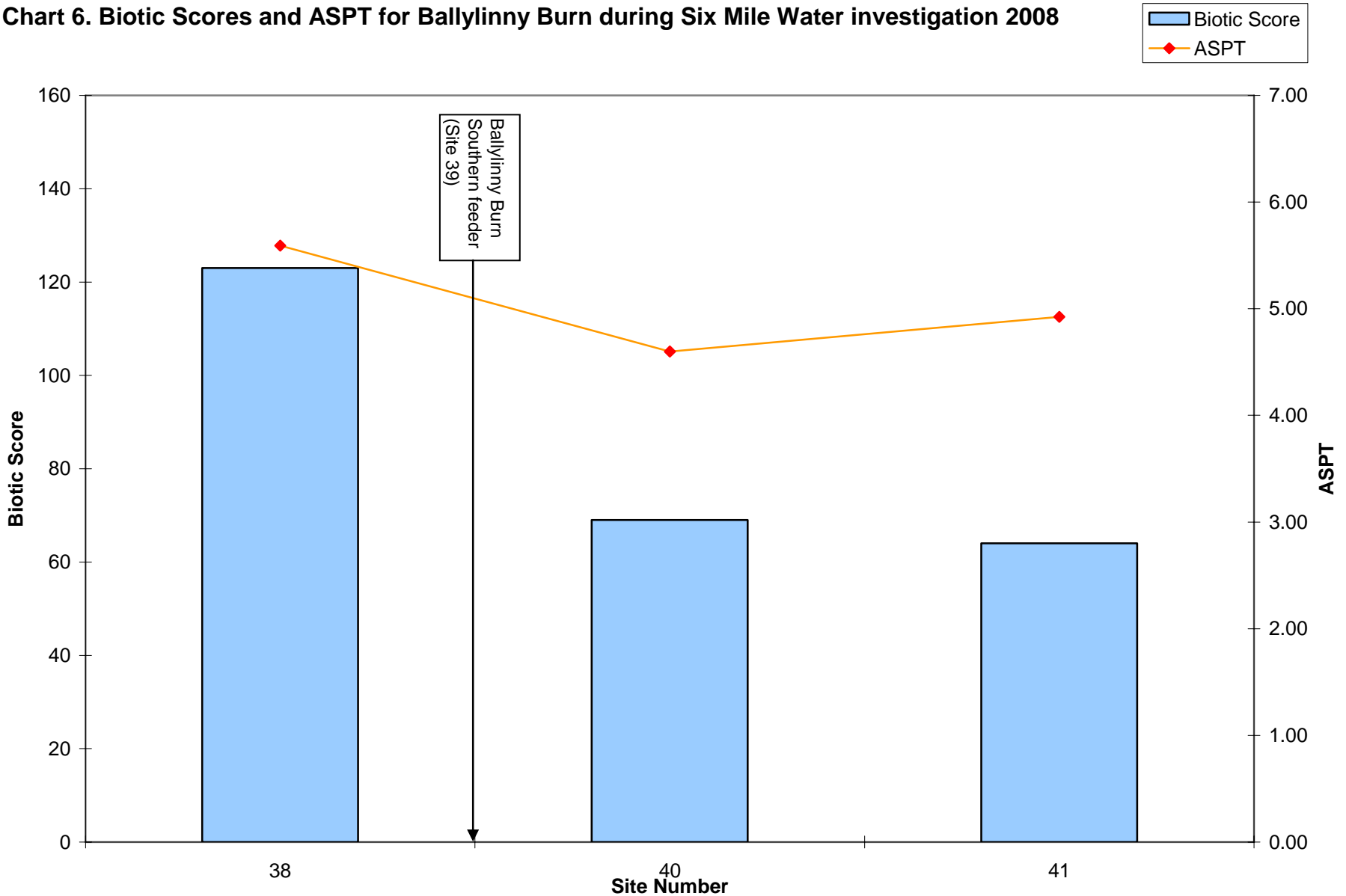


Chart 6. Biotic Scores and ASPT for Ballylinny Burn during Six Mile Water investigation 2008



# Proposed Implementation Programme for Lower Bann CSG

<b>Programme Year</b>	<b>LMA to focus attention on</b>
2010	Lough Neagh
2011	Lower Bann
2012	Moyola
2012	Sixmile Water
2012	Braid and Main
<b>Programme Year</b>	<b>Review situation in LMA</b>
2013	Lough Neagh
2014	Lower Bann
2015	Moyola
2015	Sixmile Water
2015	Braid and Main

**Any Questions ?**  
**Discussion / Suggestions?**