

# Managing Catchments to Improve Coastal Waters



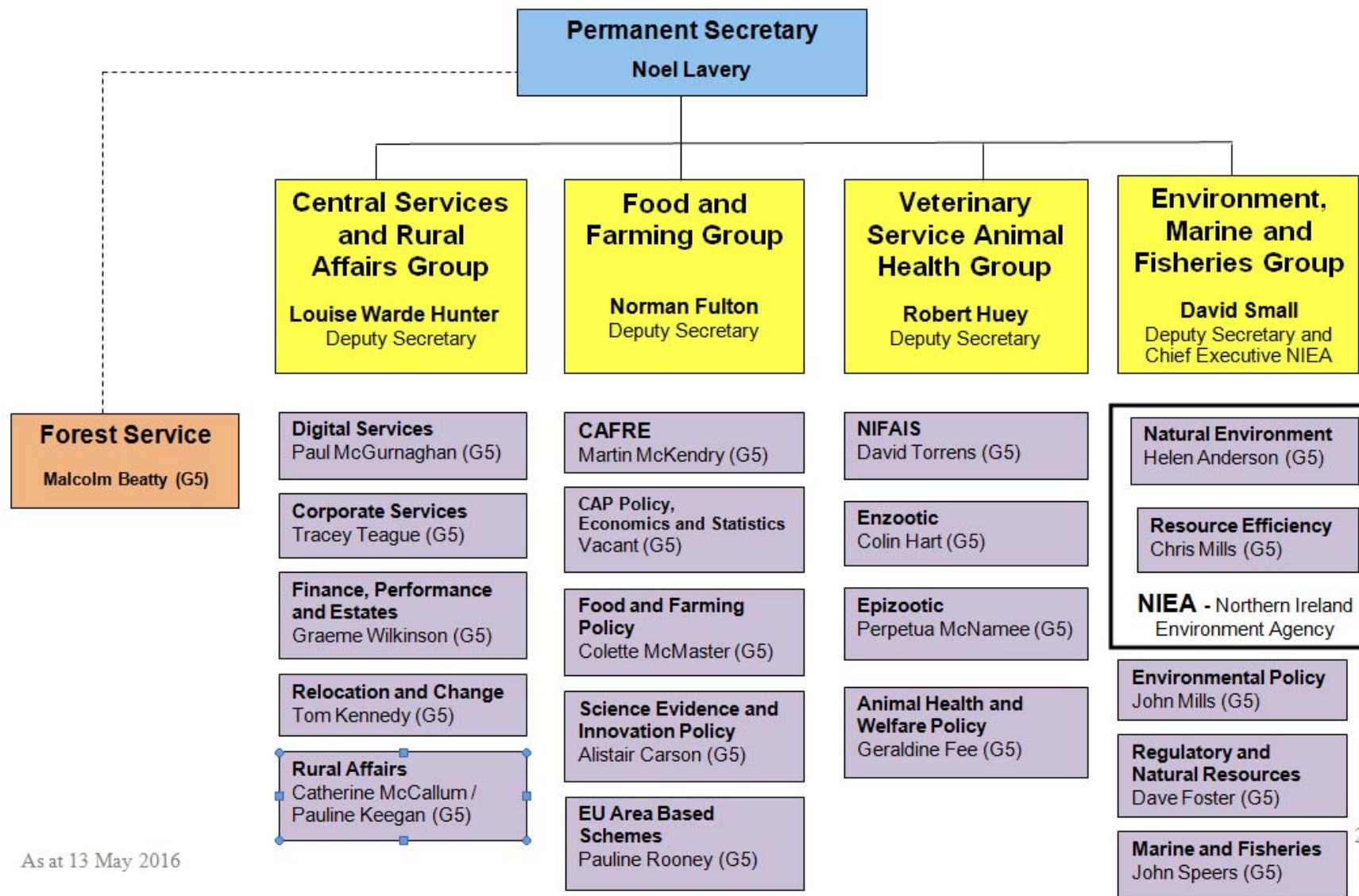
Claire Vincent, Marine and Fisheries Division  
Greenmount, 25 November, 2017

# Introduction



- Marine and Fisheries Division – Who are we?
- Draft Programme for Government
- Coastal Waters - Where are we failing?
- What are we doing about it?
  - Generally
  - 3 short case studies
    - Ballyholme
    - Dundrum Bay
    - Inner Belfast Lough
- Key messages - future challenges.

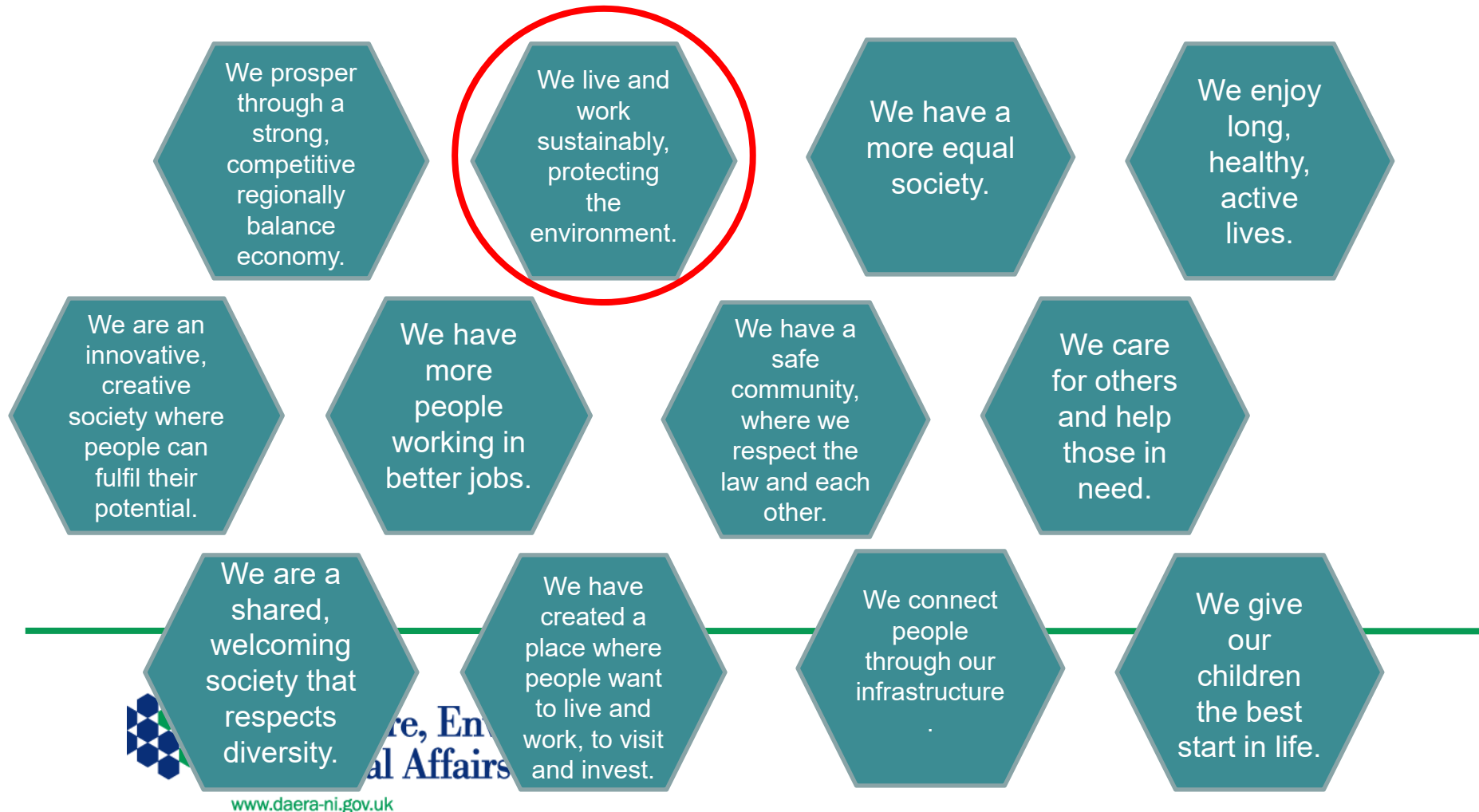
# DAERA Structure



As at 13 May 2016

# Draft Programme for Government

Our purpose – Improving well-being for all – by tackling disadvantage and driving economic growth.



# DAERA Vision - “A thriving and sustainable economy, environment and rural community”



## Strategic Outcomes

*To work with stakeholders and partners to:*

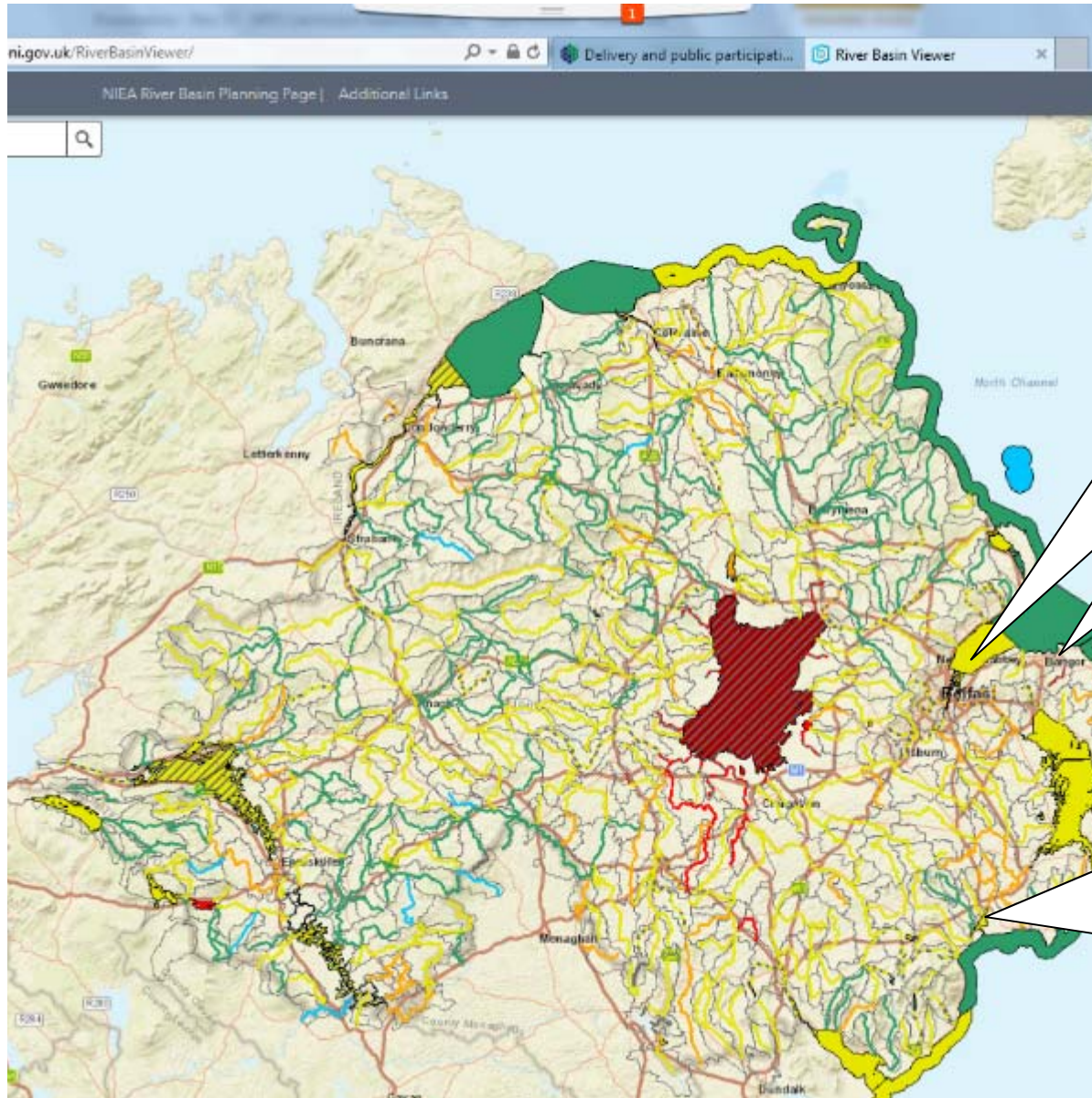
- develop sustainable agricultural, fisheries and industrial sectors (Goal 1);
- protect and improve the environment (Goal 2); and
- champion rural needs (Goal 3).

**PfG Indicator 44. Levels of soluble reactive phosphorus in our rivers and level of dissolved inorganic nitrogen in our marine waters.**

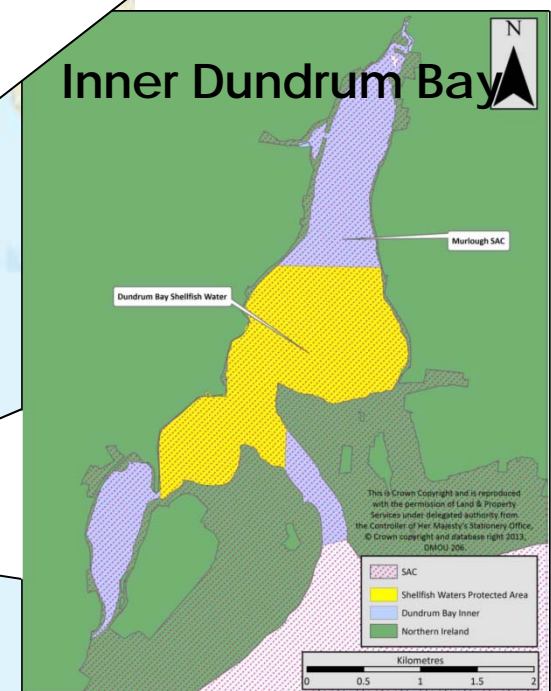
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# Where are we failing?



## Ballyholme Bathing Water



What are we doing to improve coastal water quality (general).....

Working with  
NIW  
Agriculture  
INTERREG

# Regulating Northern Ireland Water – bathing waters

## Bangor – £11.6M

- Sewerage infrastructure - to complete 2018

## Millisle - £1.4M

- Sewerage system upgrade – to complete 2018

## Newcastle - £17M

- Sewerage network and wastewater treatment facilities

## Magilligan/Benone - £8M

- Sewerage network and wastewater treatment facilities  
Circa £1.5M-£2M further investment involving the upgrade of the Benone vacuum network

## Improving sewer mapping GIS

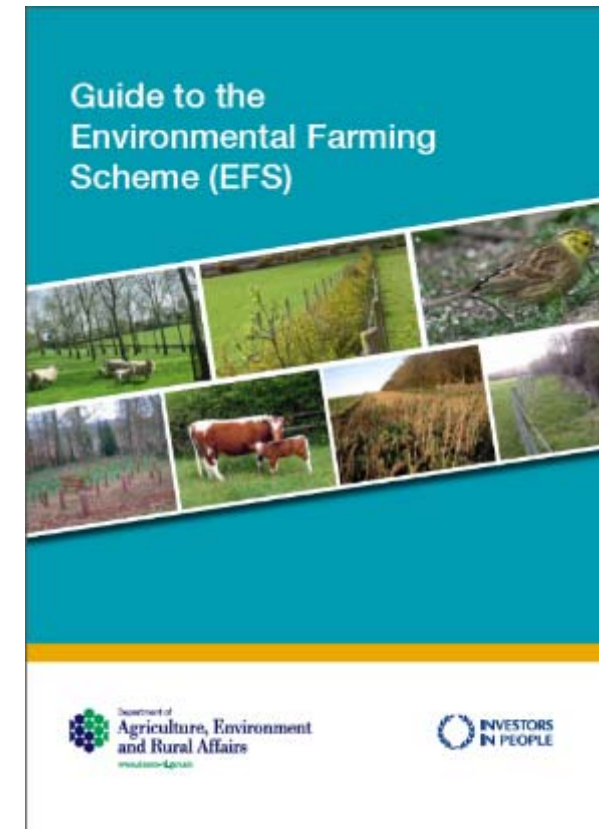
## CSO Monitoring at bathing and shellfish waters



# Managing water quality - agriculture

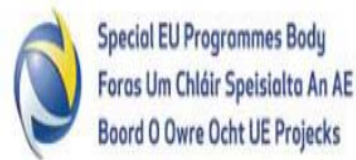
## Environmental Farming Scheme

- Opened 28 February 2017
- Closed 31 March 2017
- Over 1300 applications
- 1187 accepted
- Over 650 applications for water quality measures covering over 500 kms of protection e.g.
  - riparian zones
  - buffer strips
  - fencing
- Grants of up to £2.85M
- Linked to WFD/Bathing Water problem areas.



## Departmental involvement in other INTERREG projects:

- SWIM
- SWELL



INTERREG VA Programme – Objective 2.3

“Improve water quality in transitional waters”



System for Bathing Water Quality

Modelling (SWIM)

Interreg VA United Kingdom-Ireland

(Northern Ireland-Ireland-Scotland) 2014-2020



- Cross-border partnership - NI Water, Irish Water, AFBI, Loughs Agency and East Border Region.
- Improve water quality within the shared waters of Carlingford Lough and Lough Foyle.

Continued:

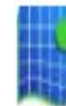
Network of oceanographic monitoring buoys across the regional seas of the Republic of Ireland, Northern Ireland and West Scotland

- Mammals
- Salmon
- Eels



**COMPASS**

COLLABORATIVE OCEANOGRAPHY AND MONITORING  
FOR PROTECTED AREAS AND SPECIES



*Marine Institute*  
Fiosas na Mara

marine scotland  
science



# Managing in Catchments

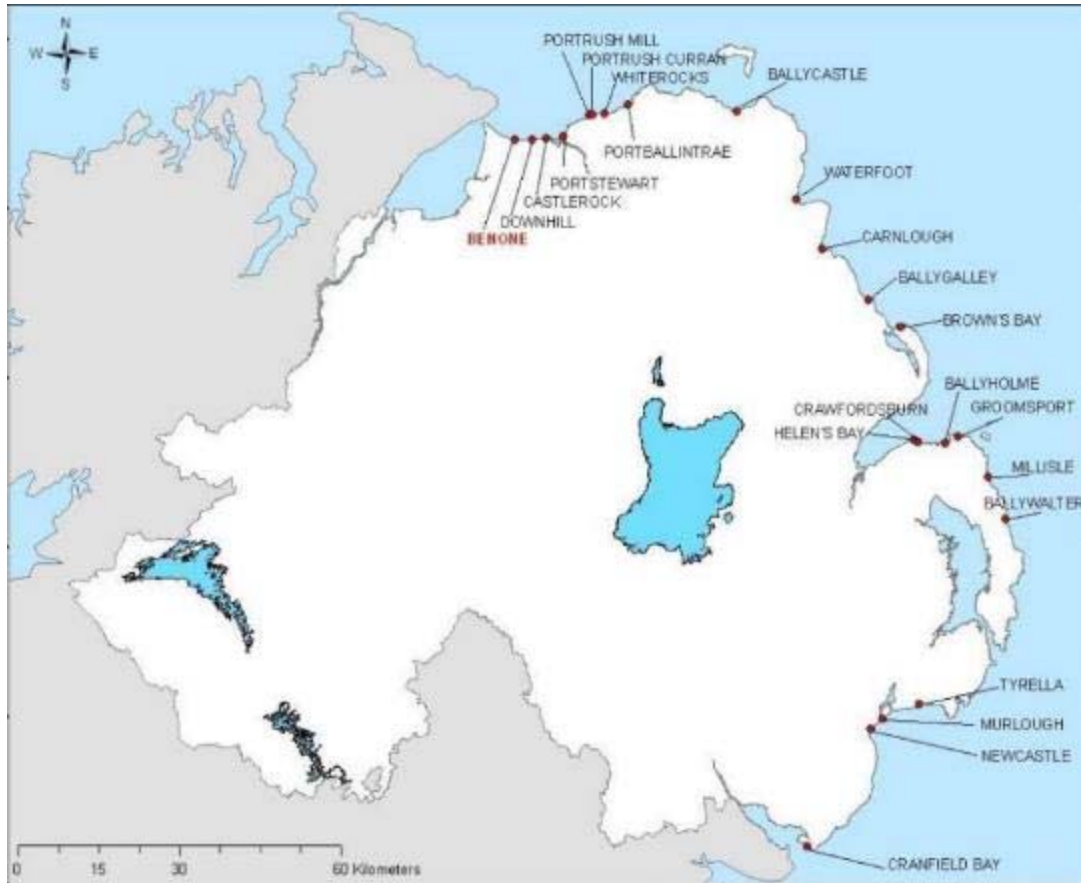
Ballyholme Bathing Water  
Dundrum Bay Shellfish Water  
Inner Belfast Lough Sensitive Area







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# Managing our Bathing Waters Ballyholme



- 20 samples per site per season
- 1<sup>st</sup> June to 15<sup>th</sup> September
- Faecal indicator bacteria – E. coli & intestinal enterococci
- Sites are classified as
  - Excellent 
  - Good 
  - Sufficient 
  - Poor 



# Provisional Compliance for Northern Ireland's Identified Bathing Waters

BATHING WATER	2015	2016	2017
Magilligan (Benone)	Excellent	Excellent	Excellent
Magilligan (Downhill)	Excellent	Excellent	Excellent
Castlerock	Excellent	Good	Excellent
Portstewart	Excellent	Excellent	Excellent
Portrush (Mill) West	Excellent	Excellent	Excellent
Portrush (Curran) East	Good	Sufficient	Sufficient
Portrush (Whiterocks)	Excellent	Excellent	Excellent
Portballintrae	Excellent	Excellent	Excellent
Ballycastle	Good	Good	Good
Waterfoot	Good	Sufficient	Sufficient
Carnlough	Sufficient	Good	Sufficient
Ballygally	Good	Excellent	Excellent
Brown's Bay	Excellent	Excellent	Excellent
Helen's Bay	Excellent	Excellent	Excellent
Crawfordsburn	Excellent	Excellent	Excellent
Ballyholme	Sufficient	Excellent	Excellent
Groomspoint	Excellent	Excellent	Excellent
Millisle	Good	Excellent	Excellent
Ballywalter	Good	Excellent	Excellent
Tyrella	Excellent	Excellent	Excellent
Murlough Co Down	Excellent	Excellent	Excellent
Newcastle	Good	Excellent	Excellent
Cranfield (Cranfield Bay)	Excellent	Excellent	Excellent

Excellent	Excellent
Good	Good
Sufficient	Sufficient
Poor	Poor



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# Ballyholme - Catchment Investigation

	2017	2016	2015
Ballyholme			

**M&FD, NIEA & NIW** investigating

- Agriculture, domestic and industrial inputs
- Microbial source tracking throughout catchment
- Tracing of waterways/culverts
- Advisory / regulatory follow up work with farms, business, NIW
- £11.6M NIW upgrades to sewerage infrastructure



# Findings

2017 Bathing water sample results at Ballyholme

	Excellent	Good	Sufficient	Poor
Ballyholme	16	2	1	1

- Complex catchment of
  - Upper catchment – agricultural inputs,
  - Lower catchment – urbanised and industrial.
- Elevated counts - repeatedly at Silverbirch and Briarwood areas, determined through MST methods - due to human pollution sources.
- Land use composition within the catchment suggest agricultural practices also contribute to short term pollution at Ballyholme beach.



## Better Beaches Forum - DAERA-led

- Partners are – councils, National Trust, community groups, KNIB, NIW

### Outcomes are

- Improving water quality
- Improving beach cleanliness, facilities management and signage
- Keeping the public and media better informed
- **Thereby supporting the coastal economy**



## Better Beaches Forum Action cont.

- Accessibility at CC&G Beaches
- Clean Coasts Week
- NIW infrastructure upgrades
- KNIB – 2016/17 Campaign focusing on public access to beach information, beach awards and marine litter



**KEEP  
NORTHERN  
IRELAND  
BEAUTIFUL**



	2013	2014	2015	2016
Groups	200	208	210	214
Volunteers	4,044	4,108	4,610	4642
Bags lifted	3,217	4,602	4,807	29,479*
Events	102	173	251	349



# Managing Inner Dundrum Bay



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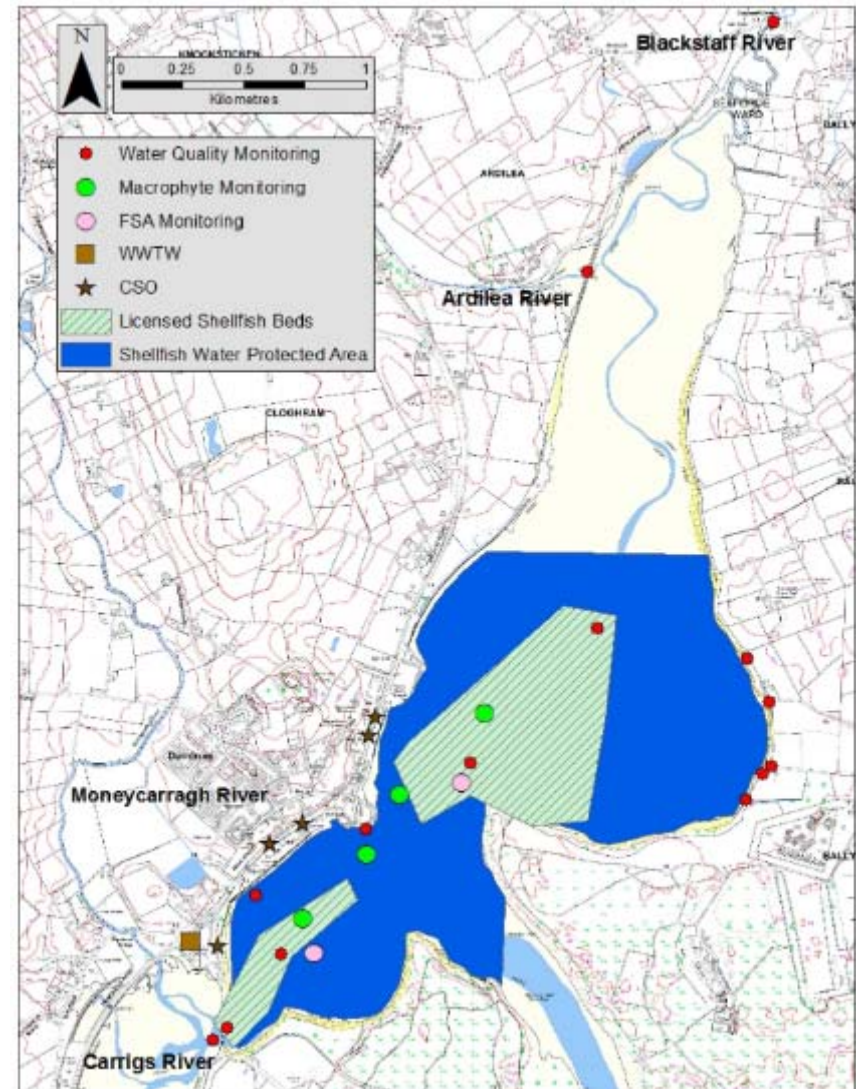
## The issues to address.

Lies within the South Down catchment area of the North Eastern River Basin District and covers an area of approximately 500km<sup>2</sup>.

Failing in:

- WFD classification and associated freshwater inputs.
- Shellfish Water Protected Area (SWPA).
- Sensitive area under the UWWTD
  - Trophic status (IIAa)
  - Shellfish Water (IIAc)
- The wastewater treatment works (WWTW) at Dundrum overloaded.
- Significant agricultural inputs

## Dundrum Bay Inner with key inputs and monitoring.



# Inner Dundrum Bay Priority Catchment Working Group.

## Aim of Group:

- Address, manage the catchment issues and
- **pilot a mechanism to address better linkage with teams within DAERA.**



Chaired by the Marine Strategy team with representatives from:

- Marine & Fisheries Division
- Catchment Officer
- Water Quality Inspectors
- Water Quality Planner
- WADE
- Water Regulation
- NIW & their consultants

## Management measures and Outputs.

Deliver **environmental outcomes** i.e. the water quality objectives in the river basin management plans:

- Reduce nutrients and thereby improve trophic status;
- Reduce bacteria to move towards Class B / A shellfishery.

We will deliver this by:

- Understanding better all catchment issues – **NIW catchment monitoring and modelling**
- Improving the catchment approach across EMFG and wider
- Enforcement notices with NIW on Dundrum sewerage infrastructure & WwTW
- Group scheme or equivalent through **Environment Farming Scheme???**

The outputs of the work will be:

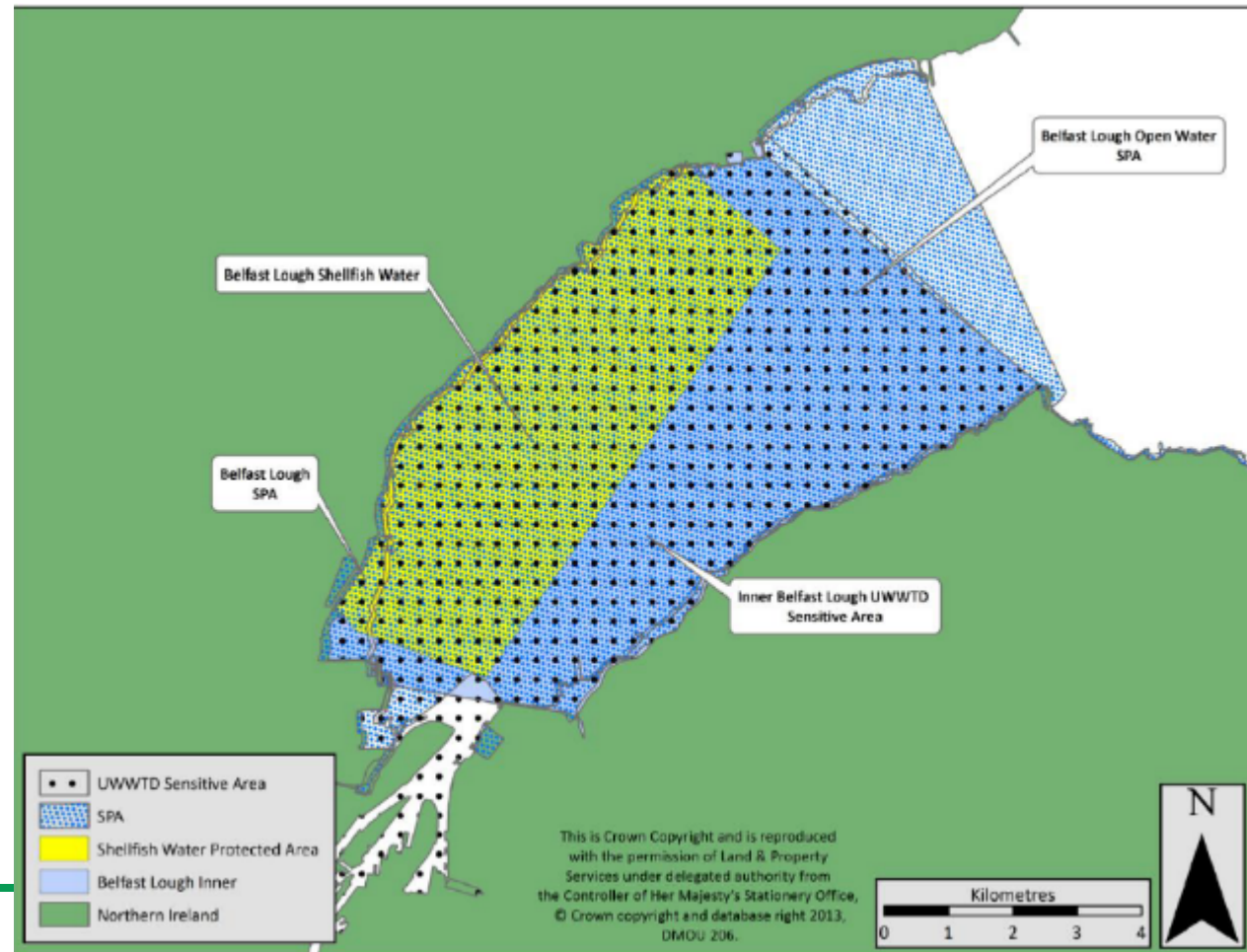
- A **revised Pollution Reduction Programme** for Inner Dundrum Bay SWPA.
- Concise updates to all relevant parties.



# Inner Belfast Lough

Failing in:

- WFD classification and associated freshwater inputs.
- Shellfish Water Protected Area (SWPA).
- Sensitive area under the UWWTD
- Trophic status (IIAa)
- Shellfish Water (IIAc)







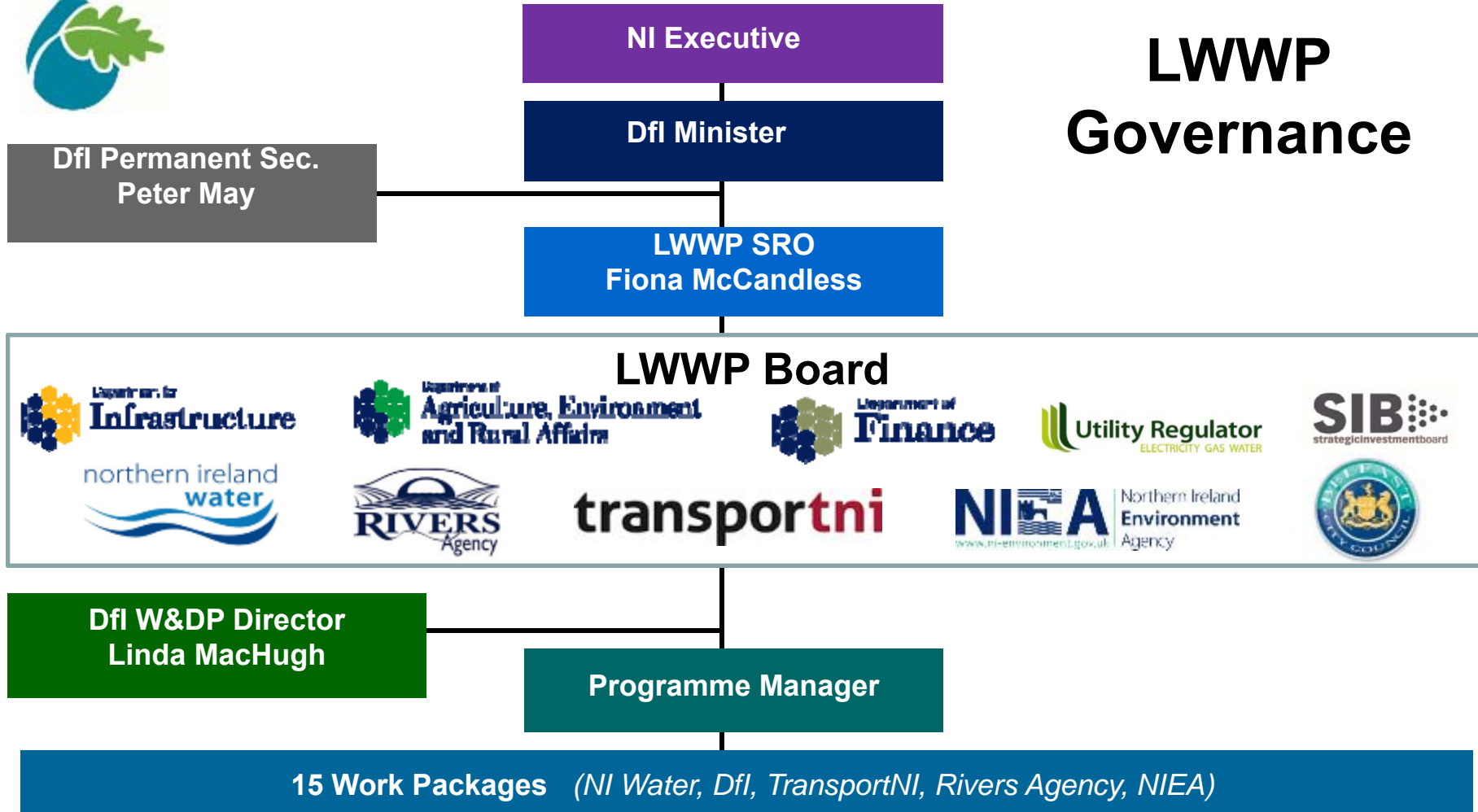
## Living with Water Programme Scope & Objectives

To develop a Strategic Drainage Infrastructure Plan for Belfast to protect against flood risk, enhance the environment and support economic growth.

	Risk / Issue	Objectives
1	Flooding	Reduce the risk <b>(Protect)</b>
2	Compliance with Environmental Legislation (UWWTD & WFD)	Comply <b>(Enhance)</b>
3	Constraint to economic development due to lack of drainage & wastewater treatment capacity	Enable growth <b>(Grow)</b>
4	Assets require essential maintenance	Maintain
5	Climate Change	Adapt

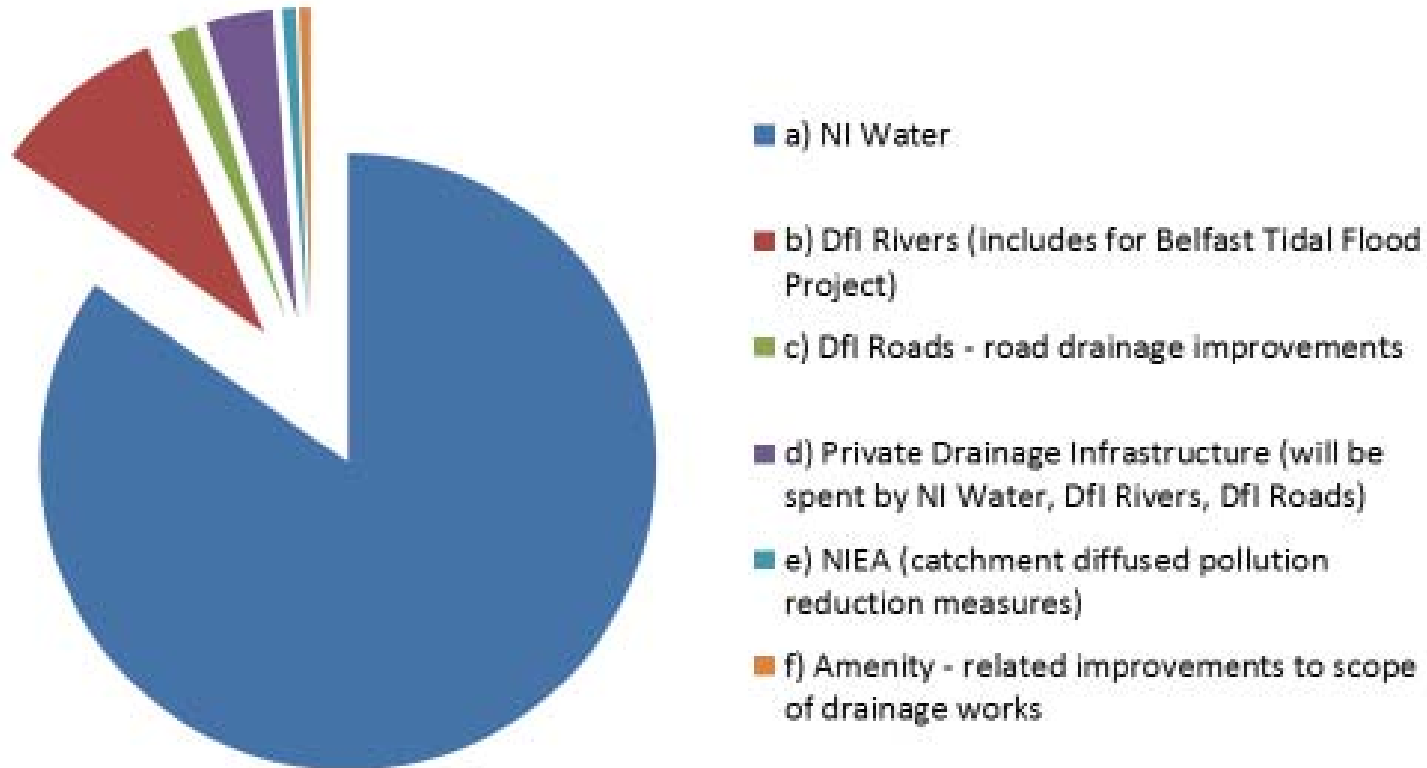


# LWWP Governance





## Implementation Cost: Initial View £860m\*



(\*nominal terms)



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## Key messages

- Managing coastal waters is usually a mix of complex catchment issues
- In all cases, this requires partnership working
- Particularly in times of public service cut-backs
- Challenges – climate change, heavy summer rainfall events impacting bathing and shellfish waters
- Increasing need to manage water quality and quantity issues together
- DAERA invested heavily in time spent specifying departmental needs and is now benefitting considerably through the INTERREG programme.





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