

Protecting natural waters through catchment management

Ruth Hennessy

Catchments Manager

Local Authority Waters Programme

Teagasc ConnectED

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Water Quality in Ireland 2013-2018

Main findings

52.8%

of surface waters are in good or better ecological health

364 water bodies improved in quality

481 water bodies declined in quality

4.4% net decline

Rivers

53%

in good or better ecological health

5.5%

net decline since 2007-09

26%

increasing nutrient concentrations

91

fewer higher status river water bodies since 2007-09

110

more poor status river water bodies since 2007-09

40 fish kills in 2018

Lakes

50.5%

in good or better ecological health

28.8%

increasing total phosphorus concentrations

Estuaries

38%

in good or better ecological health

16%

increase in loads of nitrogen

31%

increase in loads of phosphorus

Inputs of phosphorus and nitrogen from rivers increasing since 2002-2014

Canals

87%

in good or better ecological potential

Coastal

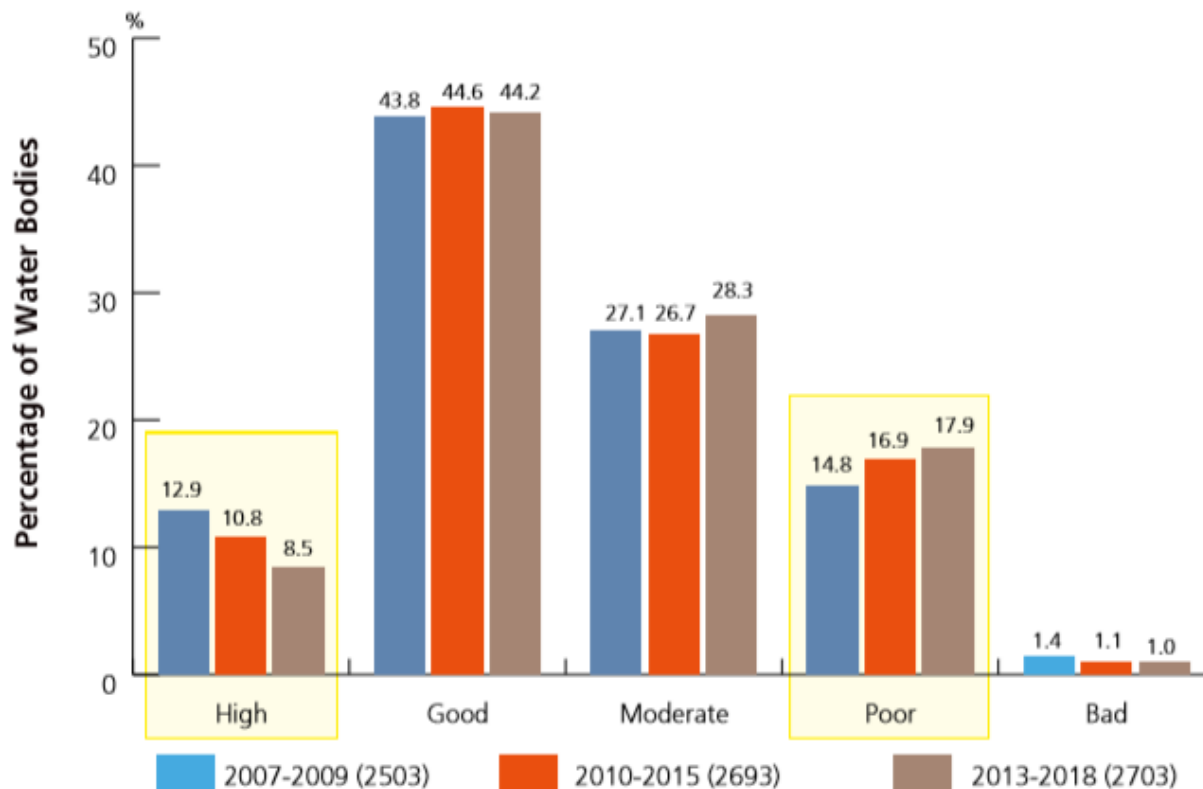
80%

in good or better ecological health

92%

of groundwater bodies are in good chemical and quantitative status

Water quality trends



Change in the percentage of each of the five WFD status classes over three assessment periods for all surface waters – key trends highlighted.

RBMP 2018-2021

Expected Outcomes	
255	Urban waste-water treatment projects progressed
€73m	Invested to reduce water leakage by 61million m ³ per annum. Reduce leakage from 45% - 38%
30	Sustainability advisors in place to deliver the Agricultural Sustainability Support and Advisory Programme
43	Technical personnel deployed to regionally-based Local Authorities Water Support and Advisory Teams
23,000	Farmers will receive sustainability advice under the Dairy Sustainability Initiative and the Agricultural Sustainability Support and Advisory Programme
4,000	Inspections under the National Inspection Plan for Domestic Waste Water Treatment Systems
3,000+	Water abstractions registered and an authorisation system implemented
	Guidance for planning authorities on physical planning and the Water Framework Directive
726	Water bodies to achieve general water quality improvements
152	Water bodies to experience improved water quality status



Teagasc Agricultural Sustainability Support and Advisory Programme (ASSAP)
 AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

Farming For Water Quality

Measures to Protect and Improve in RBMP 2018-2021

Domestic wastewater treatment

Agriculture diffuse and point source pollution

Urban wastewater

Forestry

Harvesting of peatlands

Physical conditions of waters

Invasive alien species

Abstraction pressures

Others (land use planning, climate change, flood risk, hazardous chemicals etc)

Local Authority Waters Programme



We work with...



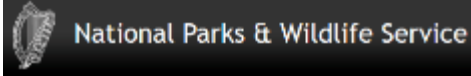
An Roinn Talmhaíochta,
 Bia agus Mara
 Department of Agriculture,
 Food and the Marine



Iascach Iníre Éireann
 Inland Fisheries Ireland



Comhairle Contae Loch Garman
 Wexford County Council



An Roinn Tithíochta,
 Pleanála agus Rialtais Áitiúil
 Department of Housing,
 Planning and Local Government



Ní weart go cur le chéile

FISHERIES
 SECTION
 AUTHORITY

Environmental Protection Agency



Kildare County Council
 Comhairle Contae Chill Dara



An Roinn Talmhaíochta,
 Bia agus Mara
 Department of Agriculture,
 Food and the Marine

Forest Service



KILKENNY
 COUNTY COUNCIL



OPW
 Oifig na nOibreacha Poiblí
 Office of Public Works



Laois County Council
 Áras an Chontae, Portlaoise, Co. Laois



Communities
Team



Catchment
Assessment Team



Communities Team



Department of Rural and
Community Development

*An Roinn Forbartha
Tuaithe agus Pobail*

Waters and Communities Award – Prize Fund €7,000

*Sponsored by Inland Fisheries Ireland, Waterways Ireland and the Local Authority
Waters and Communities Office.*



STORIES FROM THE WATERSIDE

WRITING COMPETITION

"If the waters could talk"

GREAT PRIZES TO BE WON!
 CATEGORIES FOR U18S AND OVER 18S
 FOR DETAILS VISIT WWW.LAWATERS.IE



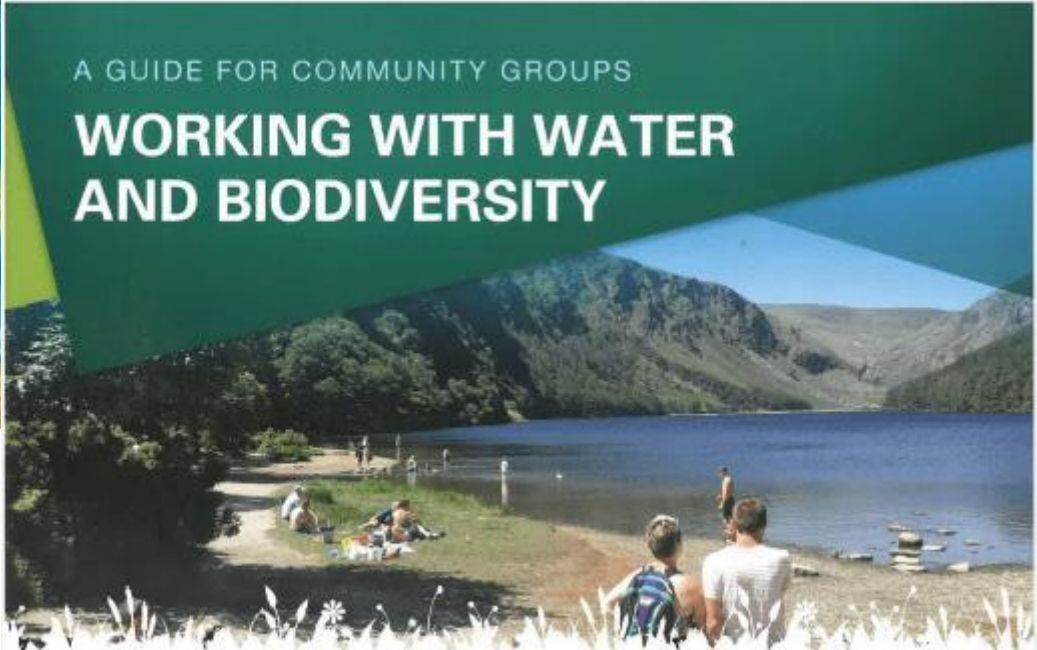
T&CS APPLY CLOSING DATE 31ST MAY



As part of the... 

A GUIDE FOR COMMUNITY GROUPS

WORKING WITH WATER AND BIODIVERSITY



GUIDANCE FOR COMMUNITIES ON ENVIRONMENTAL PROJECTS
 THAT CAN BE FUNDED THROUGH THE LEADER PROGRAMME 2014-2020

Community Water Development Fund

Objectives:

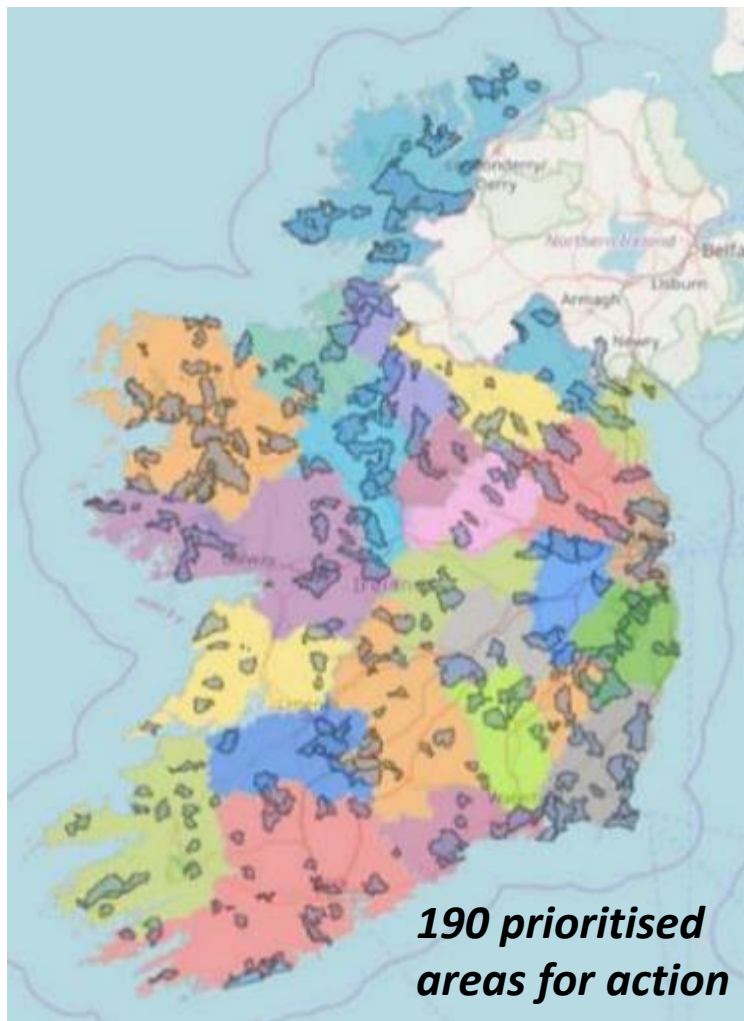
- To support communities in progressing water related projects and initiatives
- To help meet the objectives of RBMP and the WFD
- 2018: 104 applications
- 2019: 151 applications
- 2020: 145 applications

What kind of local actions are communities looking to undertake?

Community Water Development Fund 2020

Applications Received by Project Type – Open Call



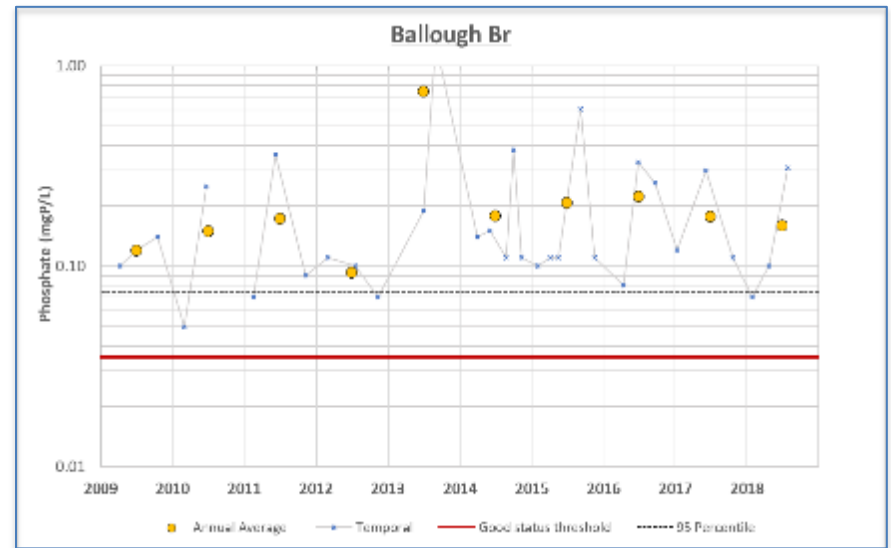




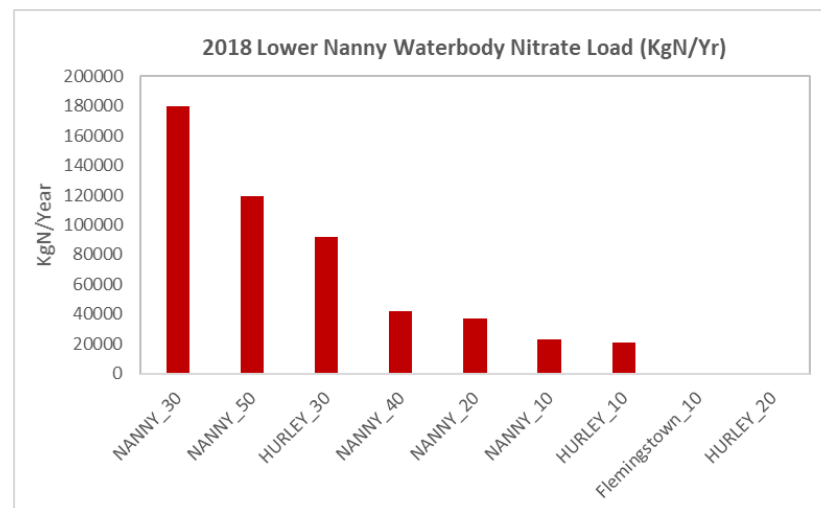
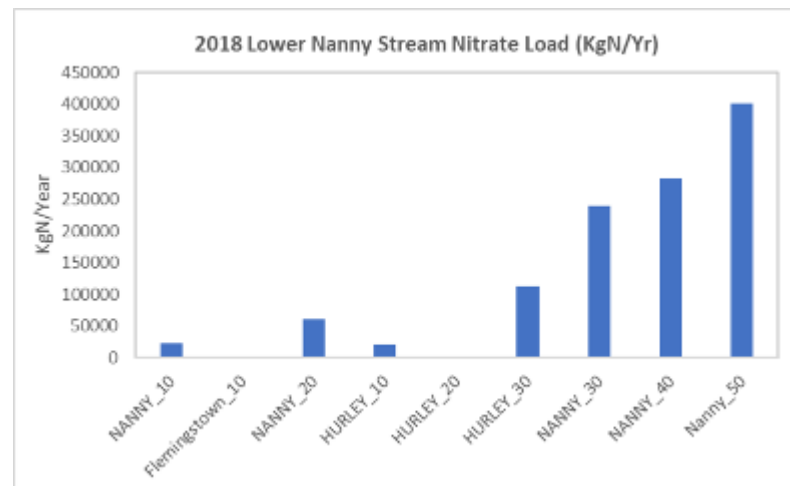
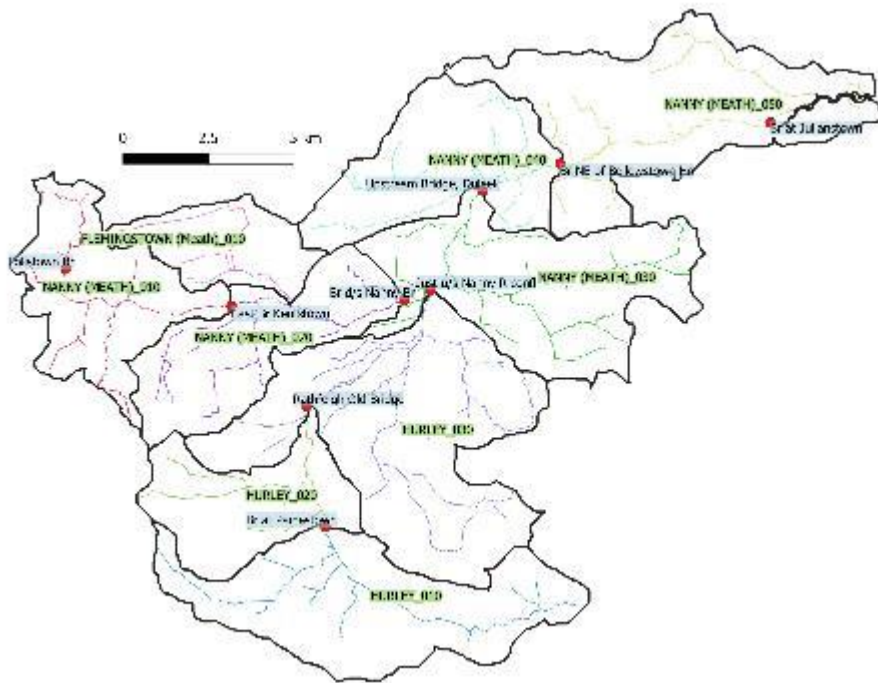
What do our assessments look like?

Desk Study Receptor Information

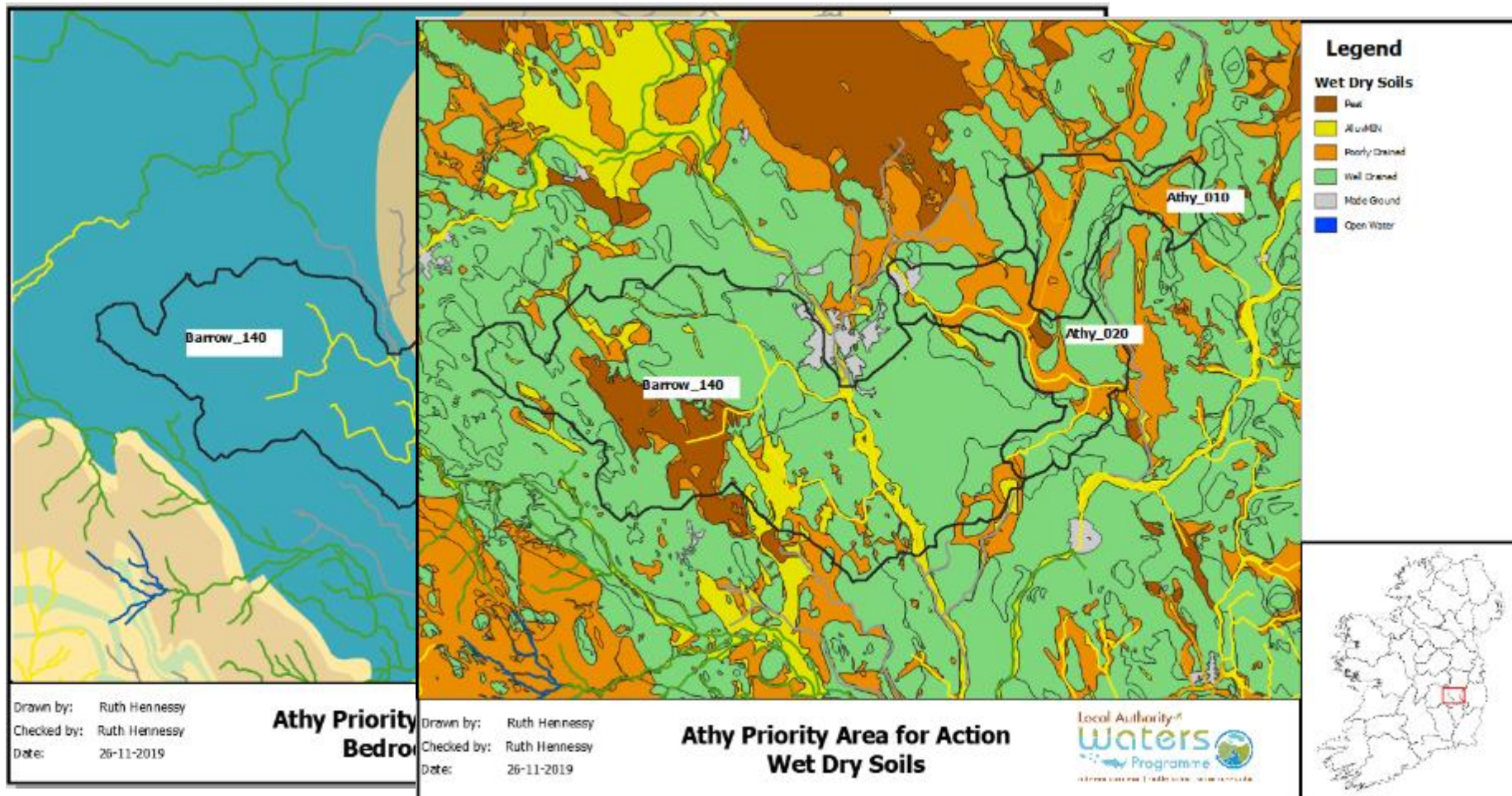
Factor	Figure/ Table	Comment/Description
Risk Category		<i>At Risk</i>
Biological Status Monitoring Station(s) with Q-Values 2009-2015 Status Trends in Q value since 2009 2016-2018 Q value data	Fig. 2 Fig. 3 Fig. 3	Br SW of Xxxxx 3.5 (Moderate) Decreased from Good (2011) to Moderate (2014) 2017: 3.5 (Moderate)
Hydrochemistry Data Monitoring Station(s) with data Existing (up to 2015) New (post-2015)	Fig. 2	Br SW of Xxxxx PO ₄ , NH ₃ , TON, BOD BOD: 2016-2019. PO ₄ , NH ₃ & TON: 2016-2018
Summary & Trends in PO₄, NH₃ and NO₃ Breaches in Annual Average Thresholds Other water quality data 2016-2018 Baseline Concentration (mg/l) Other relevant values	Fig. 5	PO₄ (0.035 mg/l): 0.043 mg/l (2017), 0.046 mg/l (2016), 0.036 mg/l (2013), 0.044 mg/l (2011), 0.052 mg/l (2010) NH₃ (0.065 mg/l): None TON (3.5 mg/l): None PO ₄ : 0.039 mg/l NH ₃ : 0.024 mg/l TON: 1.95 mg/l
Supporting Conditions Chemical Conditions Oxygenation Conditions Acidification Conditions		Pass Pass Pass
Hydromorphology RHAT Score Evidence of arterial drainage		N/A N/A
Ecological Status (2010-2015) Trends 2010-2015		Moderate Deteriorated from Good (in 2012)
Protected Areas	Fig. 7	Yes
WFD Objective		Good
EPA biologist notes (if any)		2017: Only one station was surveyed on the Xxxx in 2017 due to the subsequent outbreak of crayfish plague. Low numbers of pollution sensitive macroinvertebrate species were present at the surveyed station (0200) where oxygen levels were low (71% dissolved oxygen saturation) on the survey day.
Significant issue		Phosphate



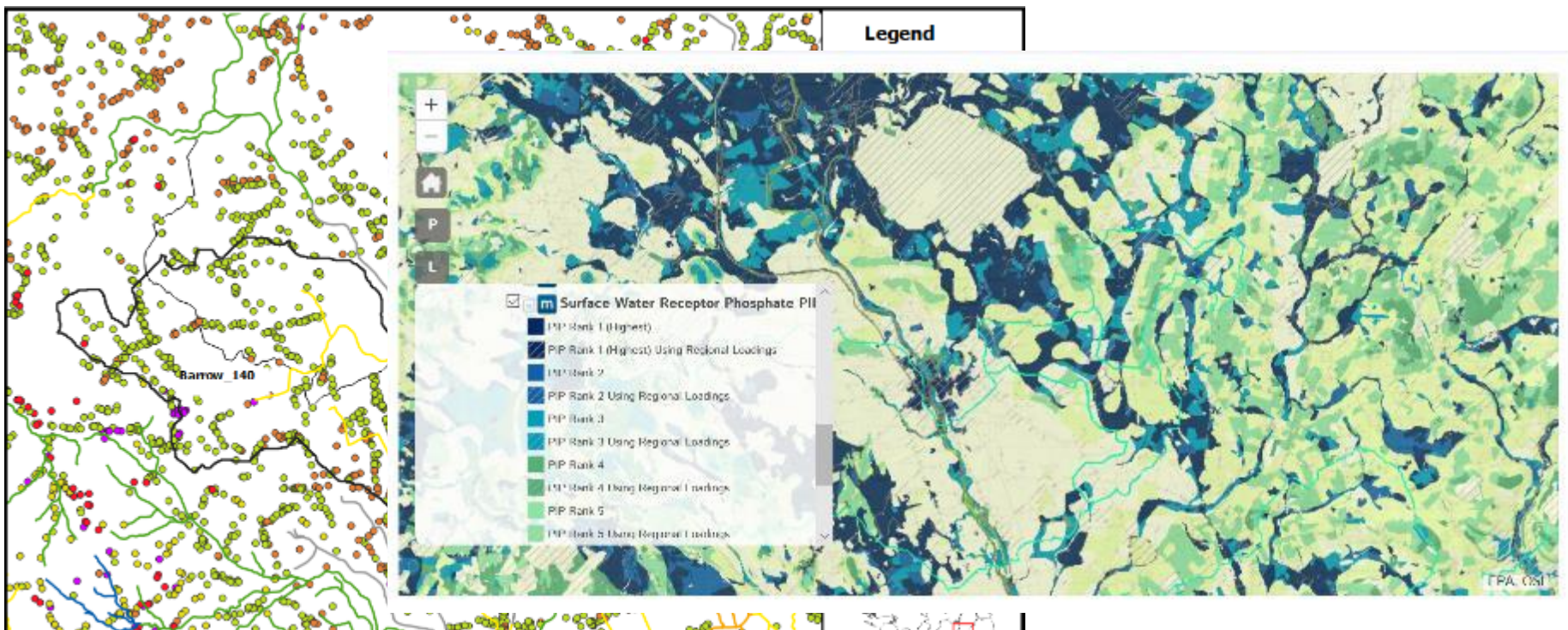
Example of desk study analysis



Conceptual modelling – understanding water flow



Risk Models & Pressures

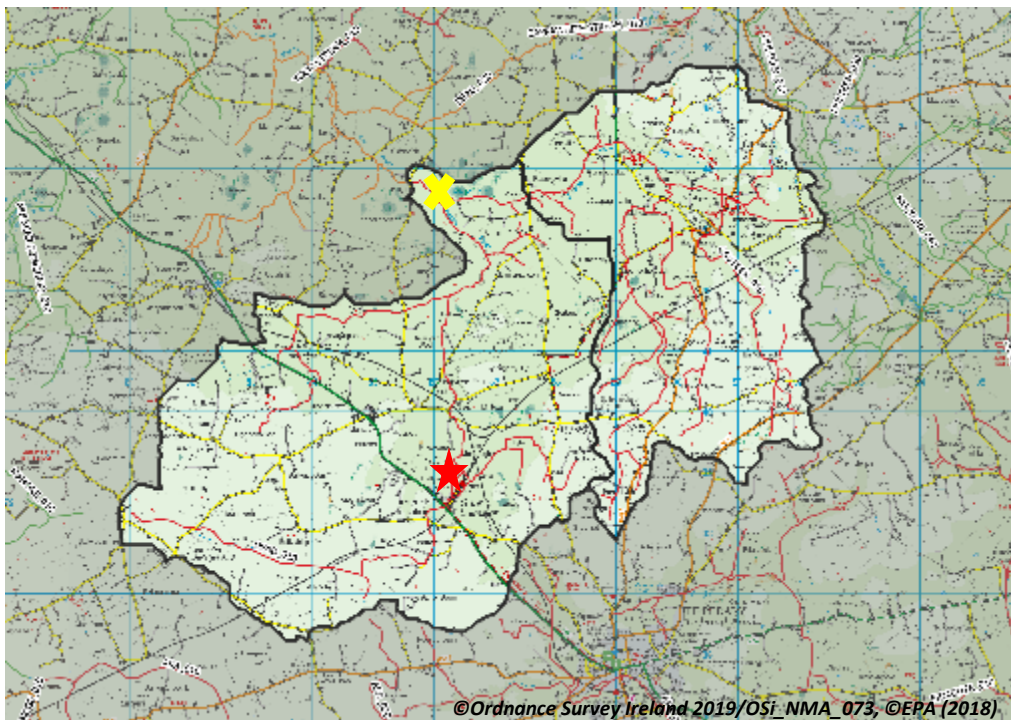


Drawn by: Ruth Hennessy
 Checked by: Ruth Hennessy
 Date: 26-11-2019

**Athy Priority Area for Action
 Septic tank - risk**



Examining the Pressures



	Ortho-Phosphate Pope's Bridge
Load	2,669 kg/yr
Load Reduction	1,668 kg/yr
WWTP	240 kg/yr

Community Information

Local Authority Waters Programme

Waters & communities
 Healthy Waters supporting Vibrant Communities

Waters
 catchment assessment
 Working together for healthy waters

Public meeting on the Athy Stream


This public meeting follows on from the local consultations on the draft River Basin Management Plan in 2017 and water quality issues identified in the Athy stream. Information will be provided on the Local Authority Waters Programme, its work to assess and understand what is happening to water quality in the Athy stream and how we can all play a part in protecting this natural resource.

This is a new approach to water quality management in Ireland and you can be part of it!

Where: Glanard Court Hotel, Athy

When: 24th of October 7.30pm - 8.30pm - refreshments afterwards.

Further info on www.watersandcommunities.ie




Area of interest: Athy RAA

Ruth Hennessy
 Catchments Manager
 South East Region
rhenness@waters.ie
 085 8621061

Paul Morrison
 Community Water Officer
 South East Region
pmorrison@waters.ie
 085 8624971

Athy Stream Priority Area for Action



www.waters.ie/athy-part-of-the-community-waters-programme


The **Athy Stream** catchment is one of the 43 catchments in the South East region that have been selected as a Priority Area for Action (PAA) in the River Basin Management Plan 2018-2021.

Staff from the Local Authority Waters Programme will be working in the Athy Stream answering queries, streams and lakes to identify causes of water quality deterioration and identify areas where actions can be taken to improve water quality.

Any action taken to improve water quality will be in collaboration with public authorities, land owners and interested groups.


The Athy Stream was prioritised for the following reasons:

- Athy_C00 declined between the 2011 and 2014 monitoring periods. It recovered slightly in 2017 but it is still below good status.
- Swimmability is the significant issue in the Athy BFD.
- High nitrate concentrations are the significant issue in the Athy_C00.
- Phosphate and nitrate concentrations are also high in the Remove_140.



Useful Links:

- www.watersandcommunities.ie/area-for-action/
- www.delmara.ie
- <https://www.housing.gov.ie/water/water-quality/river-basin-management-plans/river-basin-management-plan-2018-2021>



via our communities | catchment assessments | healthy waters

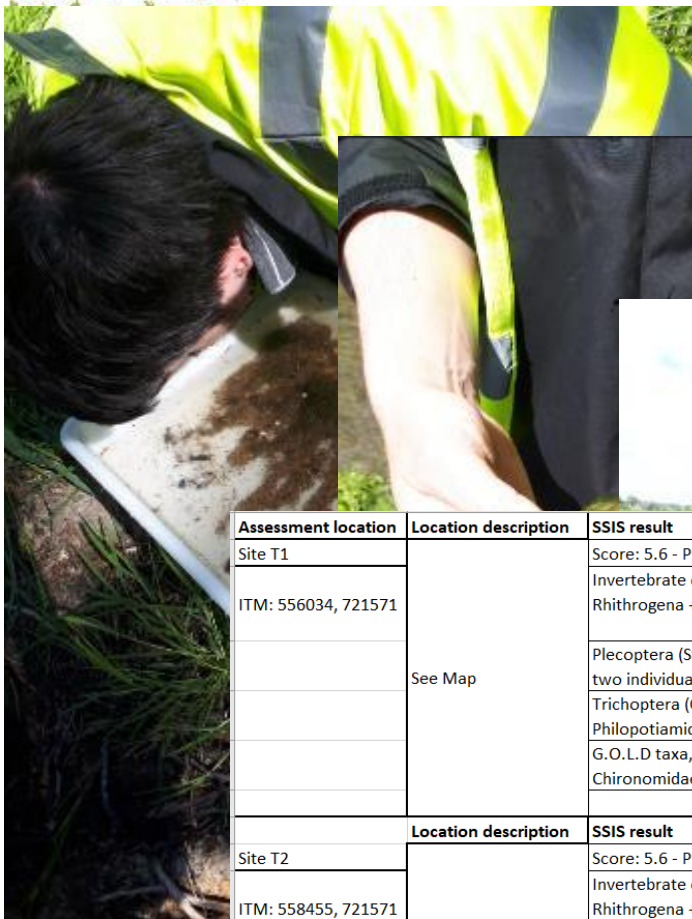


ASSAP Farmer Meetings

- **Farmers only** meetings (following-on from public meetings)
- **Presentation** from Teagasc Advisors and Catchment Assessment Team
- **Explanation of surveys & overall programme** including equipment & mapping on display



Fieldwork



Assessment location	Location description	SSIS result	Probe readings		Comments
Site T1	See Map	Score: 5.6 - Probably impacted	D.O: %	95.8	Algae cover was Abundant (>50% to <75%) across the site, dominated by <i>Vaucheria</i> . The Abundant (>50% to <75%) algae cover indicates nutrient pollution of the site (See photos sheet). Significant sedimentation was noted at the site, particularly under the cover of macroalgae, which traps sediment within its filaments.
ITM: 556034, 721571		Invertebrate community: Ephemeroptera (Mayfly) Rhithrogena + Ephemerellidae (Index Score 4)	pH:	8.2	
		Plecoptera (Stonefly) absent with exception of two individuals of <i>Isoperla</i> (index score 4).	Temp: °C	12.2	
		Trichoptera (Caddisflies) 3 <i>Limnephillidae</i> and 3 <i>Philopotiamidae</i> (index score 2).	Conductivity: µS	673	
		G.O.L.D taxa, Simullidae (>100 individuals) and Chironomidae (index score 0).			
	Location description	SSIS result	Probe readings		Comments
Site T2	See Map	Score: 5.6 - Probably impacted	D.O: %	95.8	Algae cover was Abundant (>50% to <75%) across the site, dominated by <i>Vaucheria</i> . The Abundant (>50% to <75%) algae cover indicates nutrient pollution of the site (See photos sheet). Significant sedimentation was noted at the site, particularly under the cover of macroalgae, which traps sediment within its filaments.
ITM: 558455, 721571		Invertebrate community: Ephemeroptera (Mayfly) Rhithrogena + Ephemerellidae (Index Score 4)	pH:	8.2	
		Plecoptera (Stonefly) absent with exception of two individuals of <i>Isoperla</i> (index score 4).	Temp: °C	12.2	
		Trichoptera (Caddisflies) 3 <i>Limnephillidae</i> and 3 <i>Philopotiamidae</i> (index score 2).	Conductivity: µS	673	
		G.O.L.D taxa, Simullidae (>100 individuals) and Chironomidae (index score 0).			
	Location description	Rapid assesment			Comments
Site T3	See Map				
ITM: 559967, 723077		Could not carry out a kick sample due to sedimentation and impact from works at the N65			Hymo impacted by culverting for N65 and straightened

Table 1: Assessment results



1 Wednesday 10 October 2018 11:56



2 Friday 16 November 2018 12:08

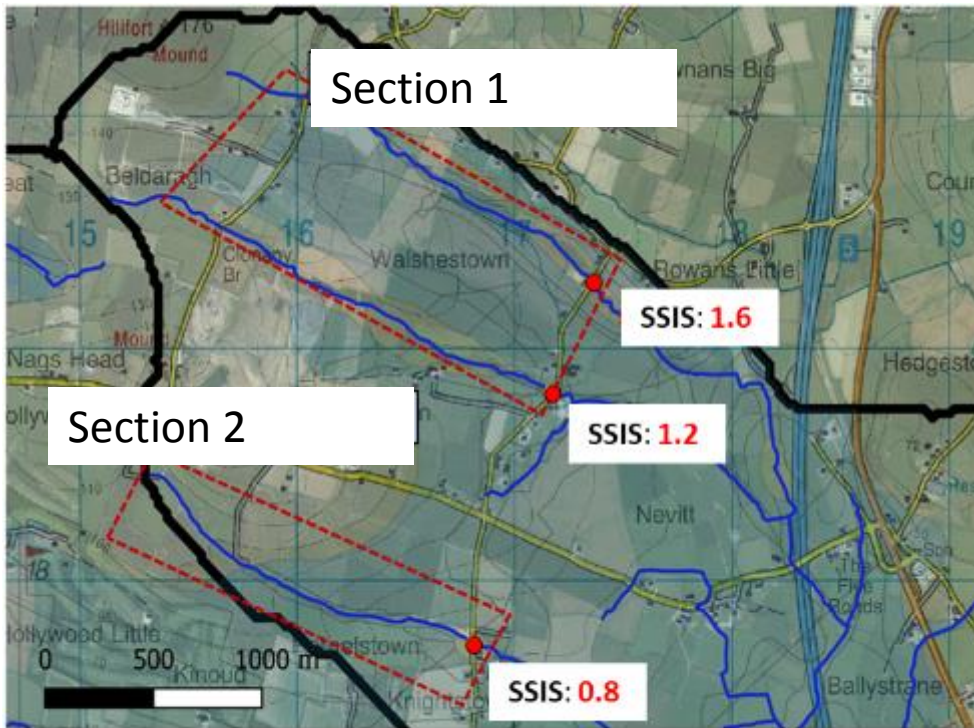
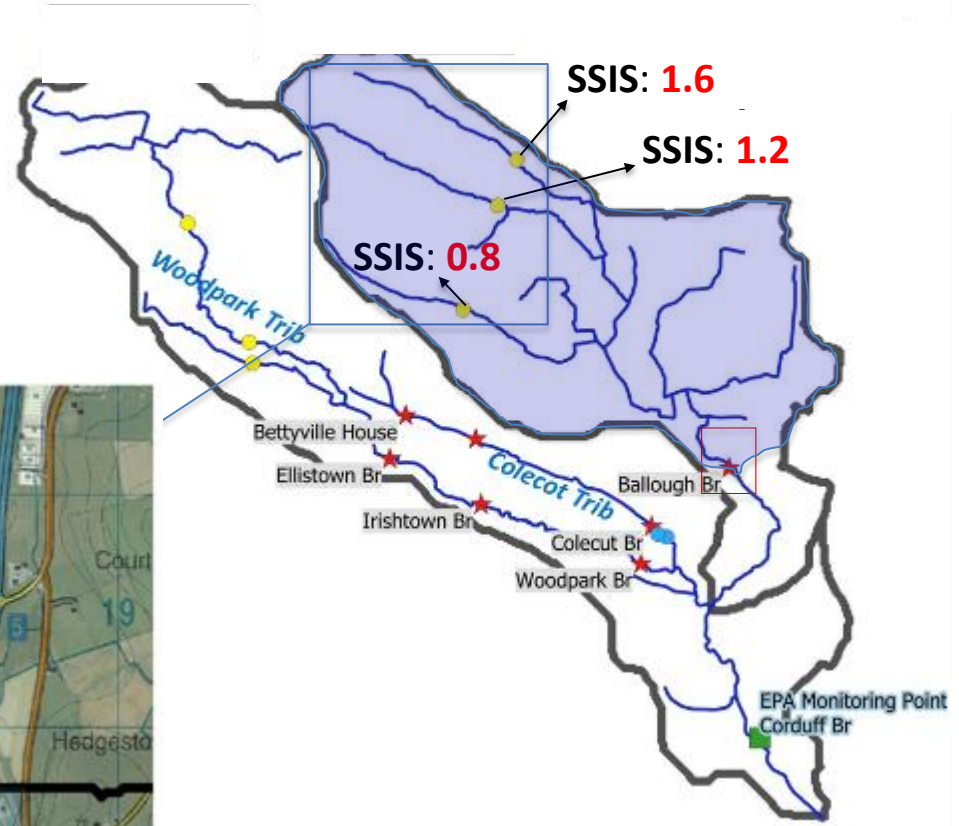


3 Friday 18 October 2019 10:01

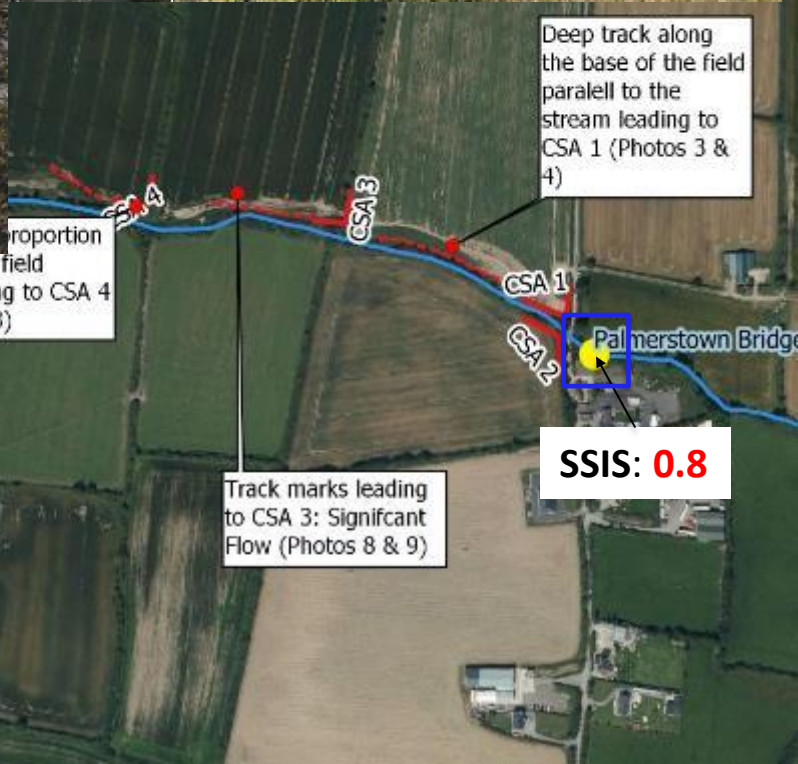


Fieldwork – gather the evidence

- Carried out SSIS in Summer
- Confirmed headwaters impacted
- **90% sediment cover & higher P in rainfall**



Low Subsoil permeability: High slope: Tillage Enterprise



Proportion of the field draining to CSA 4 (Pic 13)

Deep track along the base of the field parallel to the stream leading to CSA 1 (Photos 3 & 4)


Track marks leading to CSA 3: Significant Flow (Photos 8 & 9)

Palmerstown Bridge

SSIS: 0.8

Referrals to Implementing Bodies = Action Plans

Referral Ref	Athy_010_RFL01	Referral Date:	
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👤 Ruth Hennessy
🏠 Local Authority Waters Programme (LAWPRO)

🏠 Home
📄 Notify/Manage
⚙️ EPA Services
🔧 EDEN Modules
?

Home / Programme of Measures

Name: WFD Cycle 2

Status: Open

Programme of Measures

Area for Action

Referral & Action

Area for Action

Q athy

Start Year: Select Year...

Progress: All Open Completed

Show 10 entries

Actions	Code	Name	Start Year	Progress
	AFA0010	Athy Stream	2018	Open - Initial Public Engagement

Showing 1 to 1 of 1 entries (filtered from 189 total entries) Previous 1 Next

To view Area for Action Plan please click on a row in the table.

significant issue in this catchment. Measures should focus on changes to channel maintenance practices along main river channel and tributaries throughout catchment to reduce sediment losses to the river

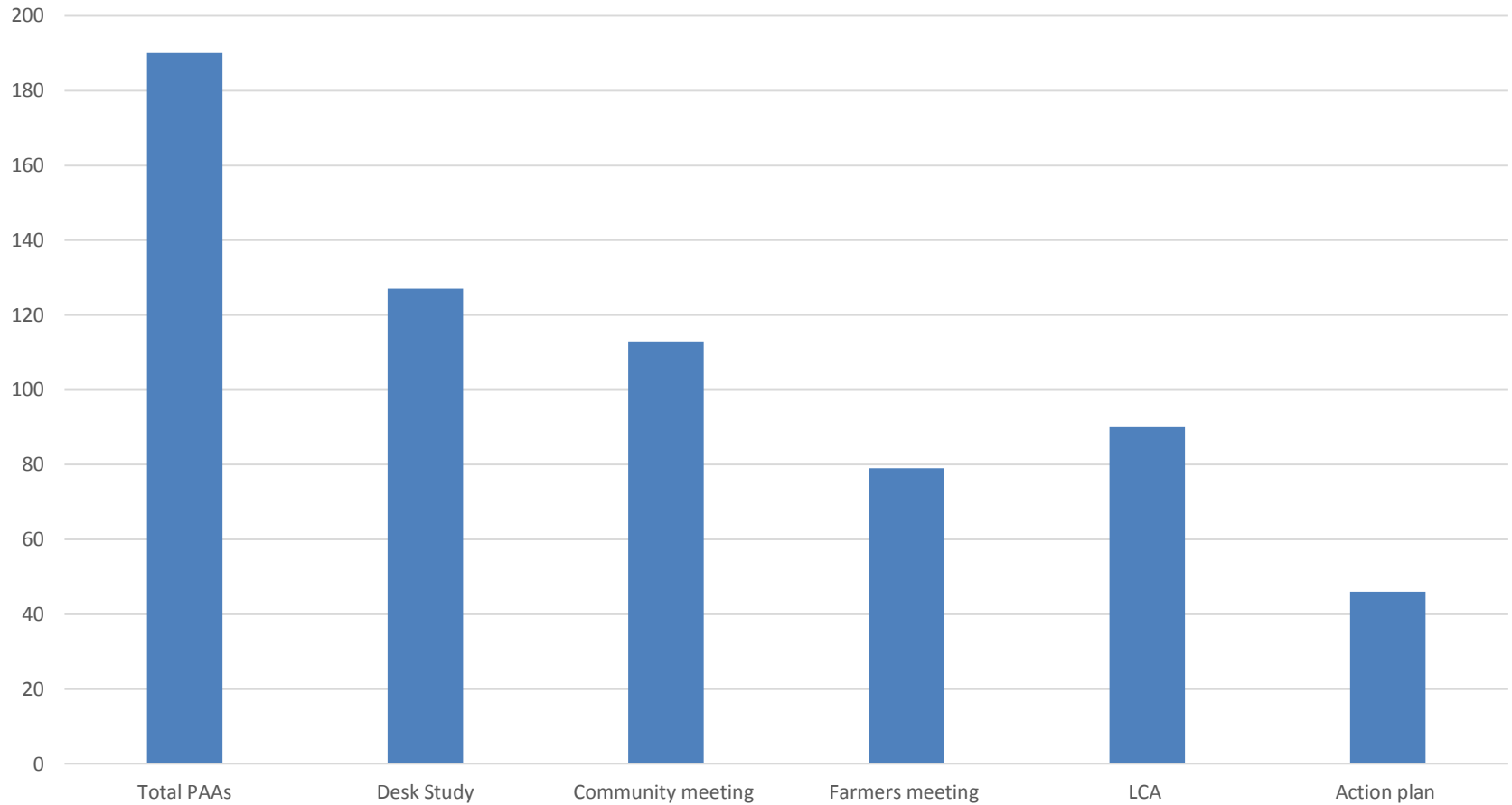
ASSAP discuss with landowner need to cease current channel maintenance practices and emphasise need to abide by best practice during any future maintenance (see guidance by OPW)

Reprofile banks to allow for a more gentle slope

Riparian vegetation should be planted/allowed to grow naturally

Progress so far

Progress in Priority Areas for Action



Concluding remarks

- Great start
- Early signs are positive
 - Water quality improvements in PAA's
 - Engagement & participation
- Opportunities & challenges

I'd like to acknowledge and
thank my LAWPRO
colleagues 😊

