NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

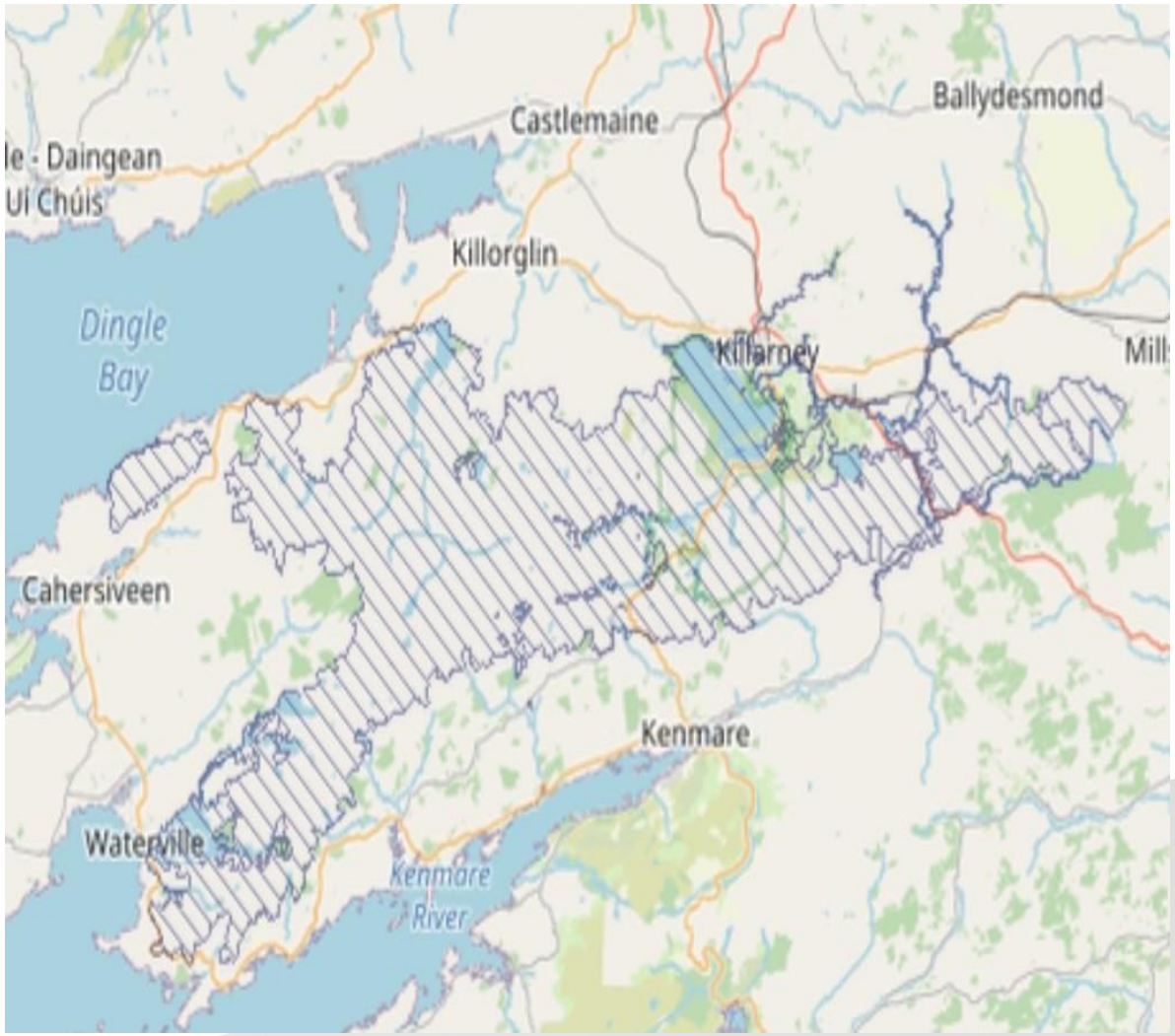
NPWS Conservation Kerry

Éamonn Meskell
14 October 2025

NPWS

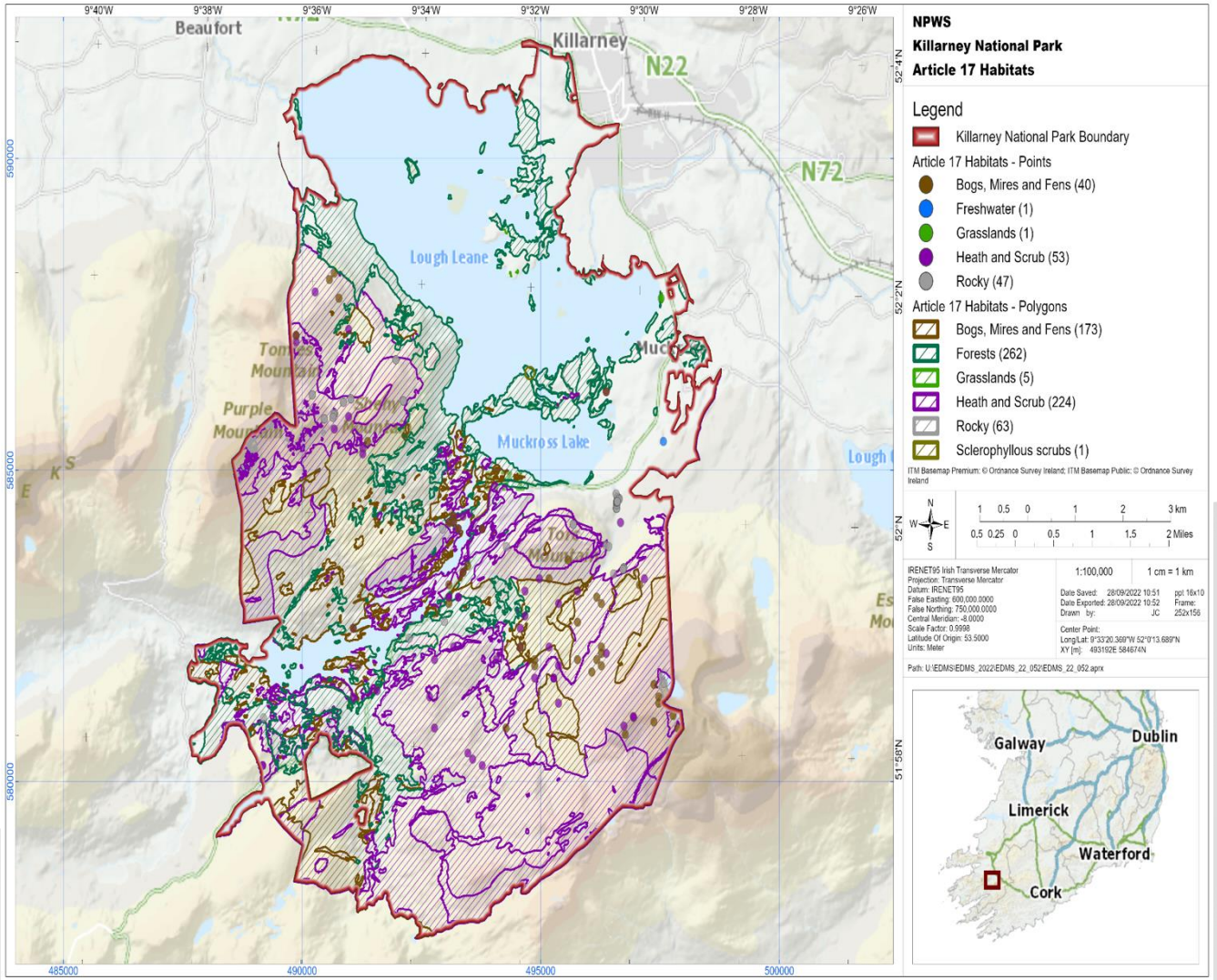
An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service

- Killarney National Park , Macgillycuddy Reeks and Caragh River Catchment SAC Site 365
- Natura 2000 site under the Habitats Directive
- 764 Kmsq / 76,444Ha (168,176 acres)
- 14 Habitats and 26species contained within the Habitats directive
- Atlanticbiogeographical region



NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service



NPWS

An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

7 National Parks

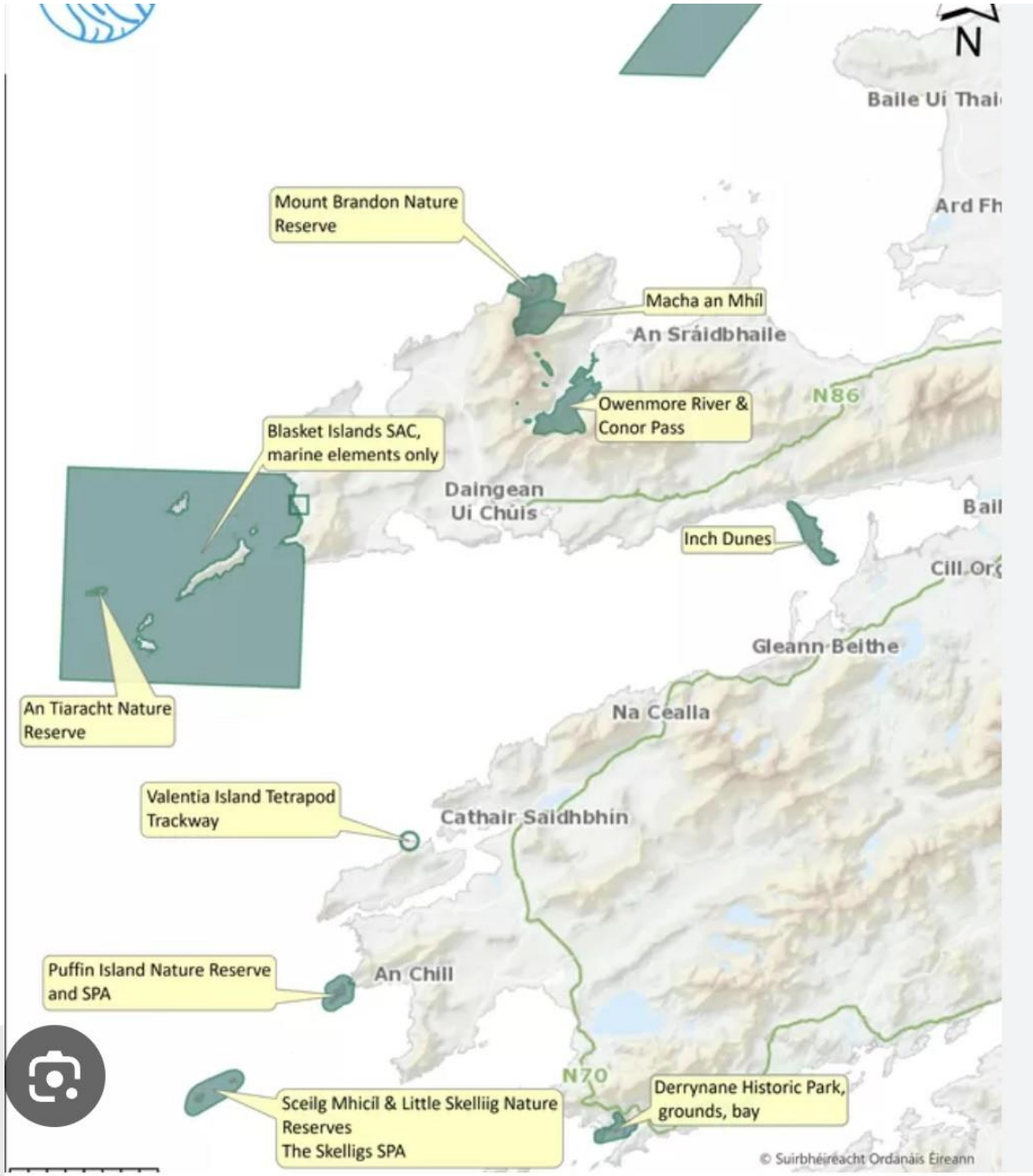
KNP Irelands 1st National Park

100th anniversary in 7 years time.

NPWS

An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Pairc Naisiúnta na Mara Ciarraí



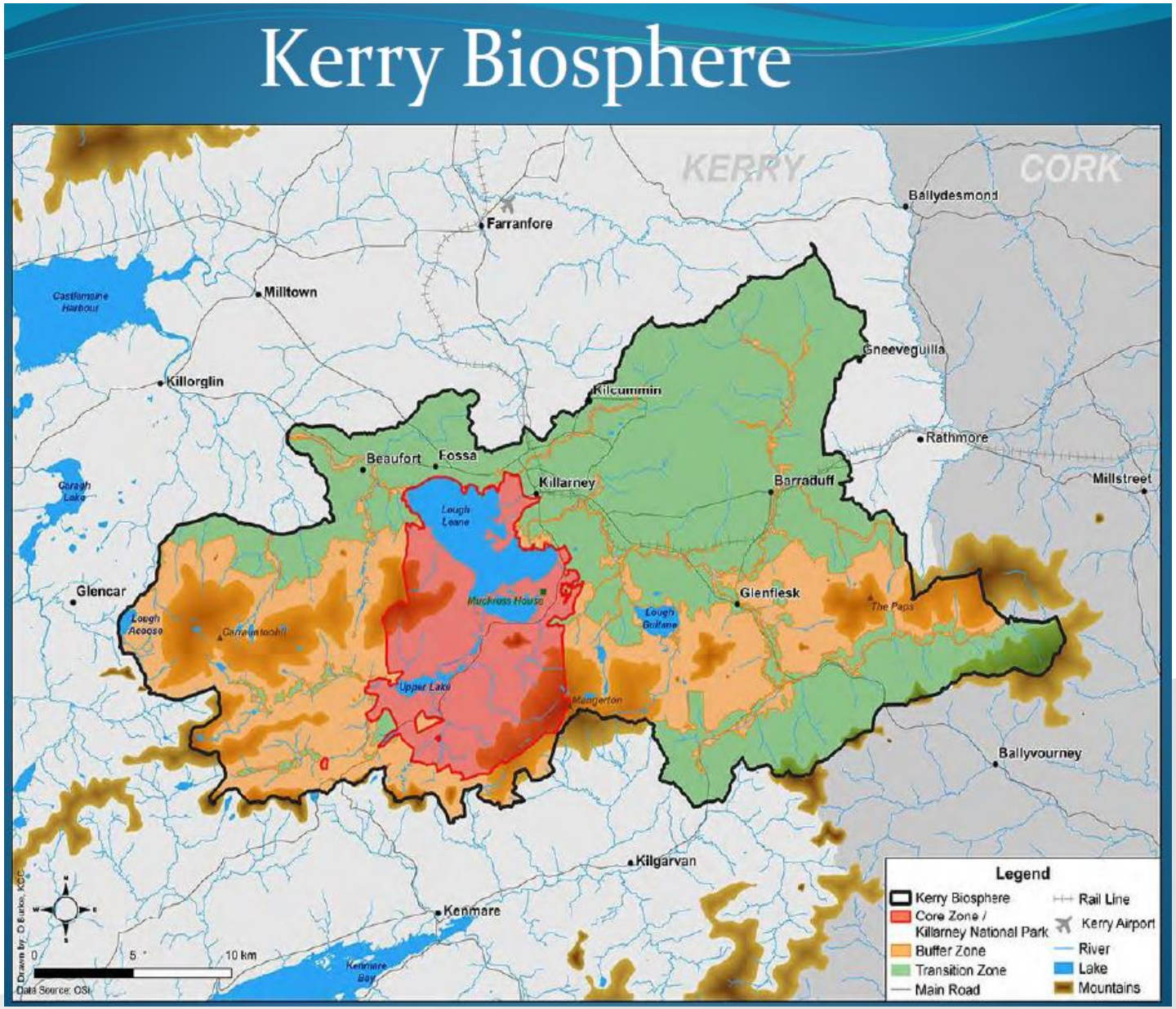
NPWS

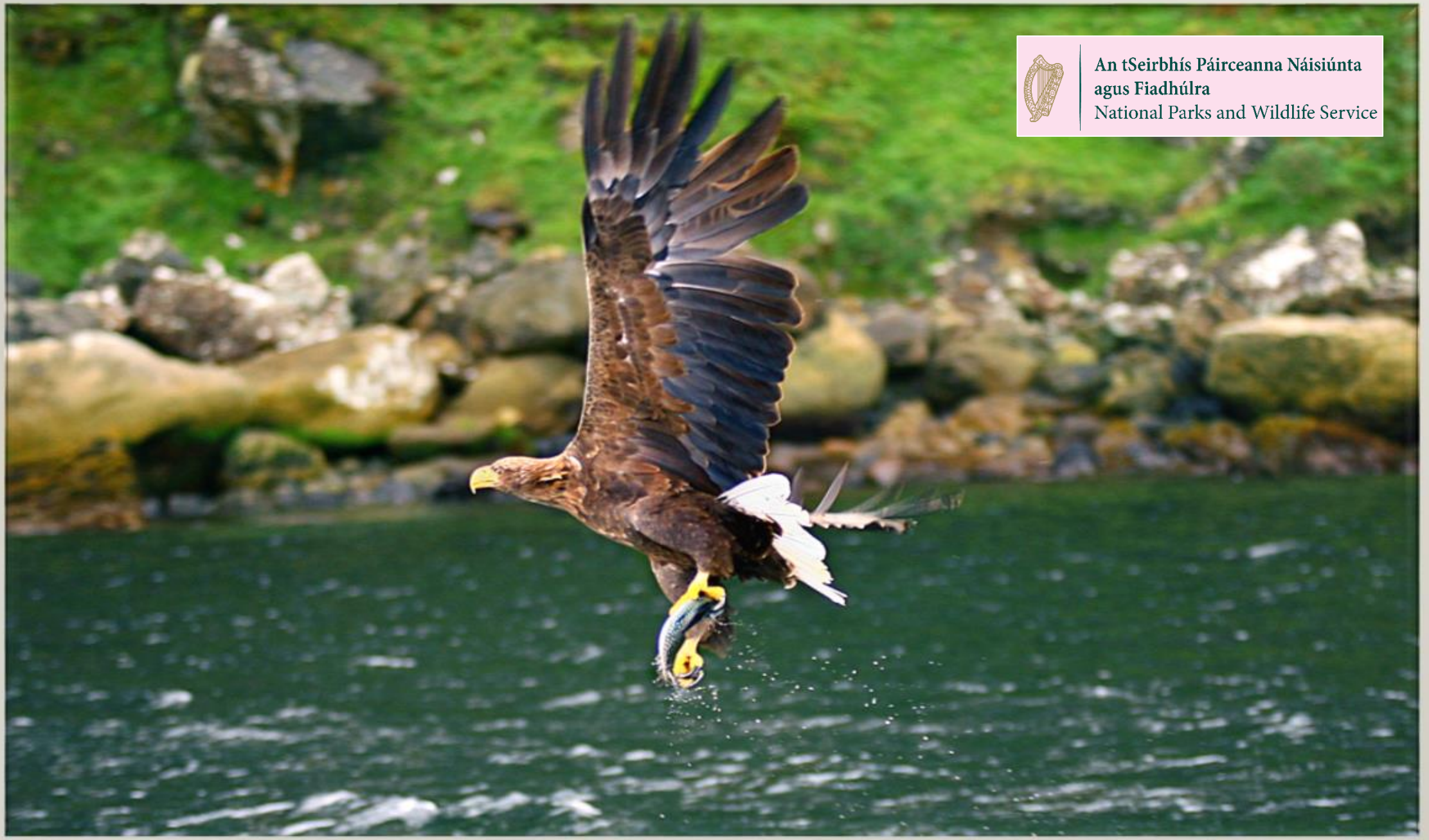
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Kerry Biosphere

- Sixty-five thousand Hectares
- Core – Killarney National Park
- Buffer – additional mountains
- Transition – wider river catchment
- A global resource

Kerry Biosphere reserve
(Kerry and Dublin)
(UNESCO designation)
Nature reserves within KNP
Managed to the highest level laid out by IUCN criteria
SAC and SPA under EU Habitats designations




An tSeirbhís Páirceanna Náisiúnta
agus Fiadhúlra
National Parks and Wildlife Service

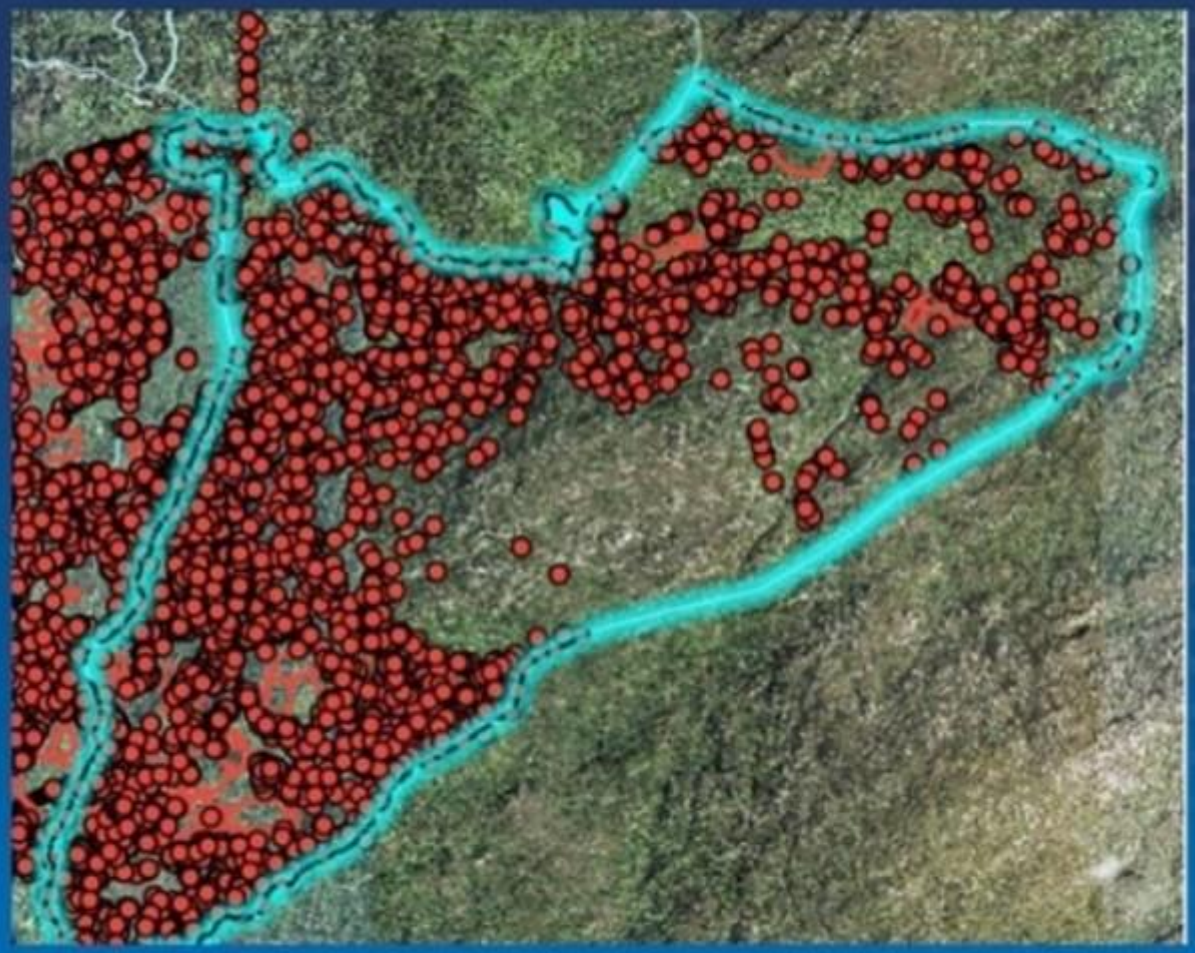
Monitoring Contract - 2024

Rhododendron Monitoring Statistics

Zones Monitored: 16, 17, 18, 37, 44

Hectares Covered: 814.5 Ha

Area Protected: Ullauns
Glaishin Na Marbh
Muckross Peninsula



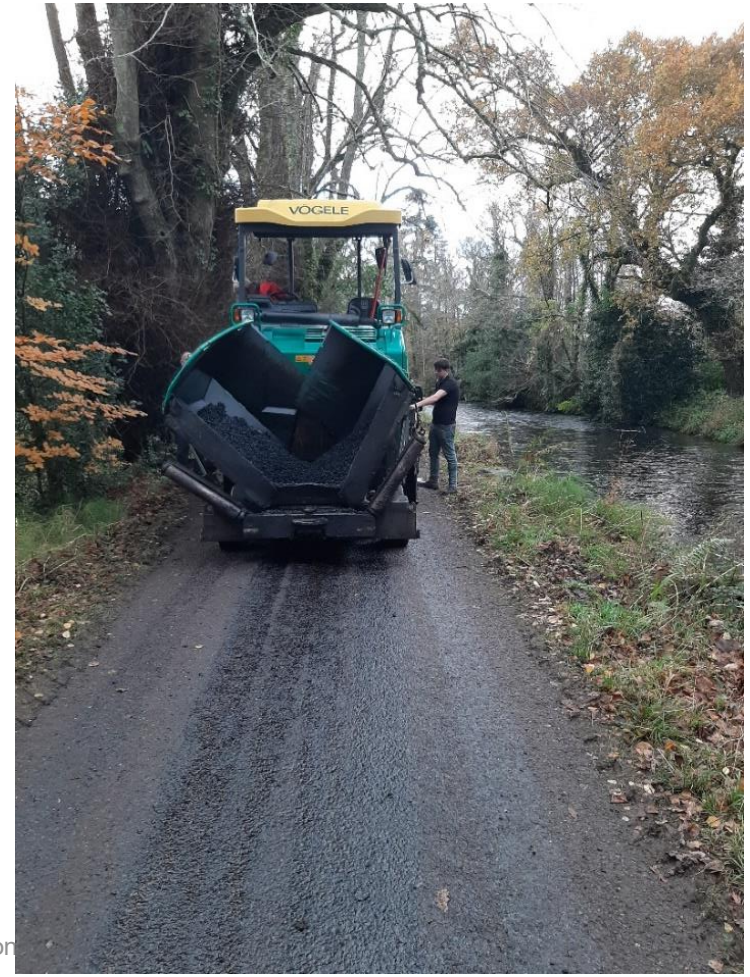
ECOLAB


Cromaglan Cliffs
97.2 Ha
Derrycunihy


No entry

Con Courtneys Cottage and KNP Nursery

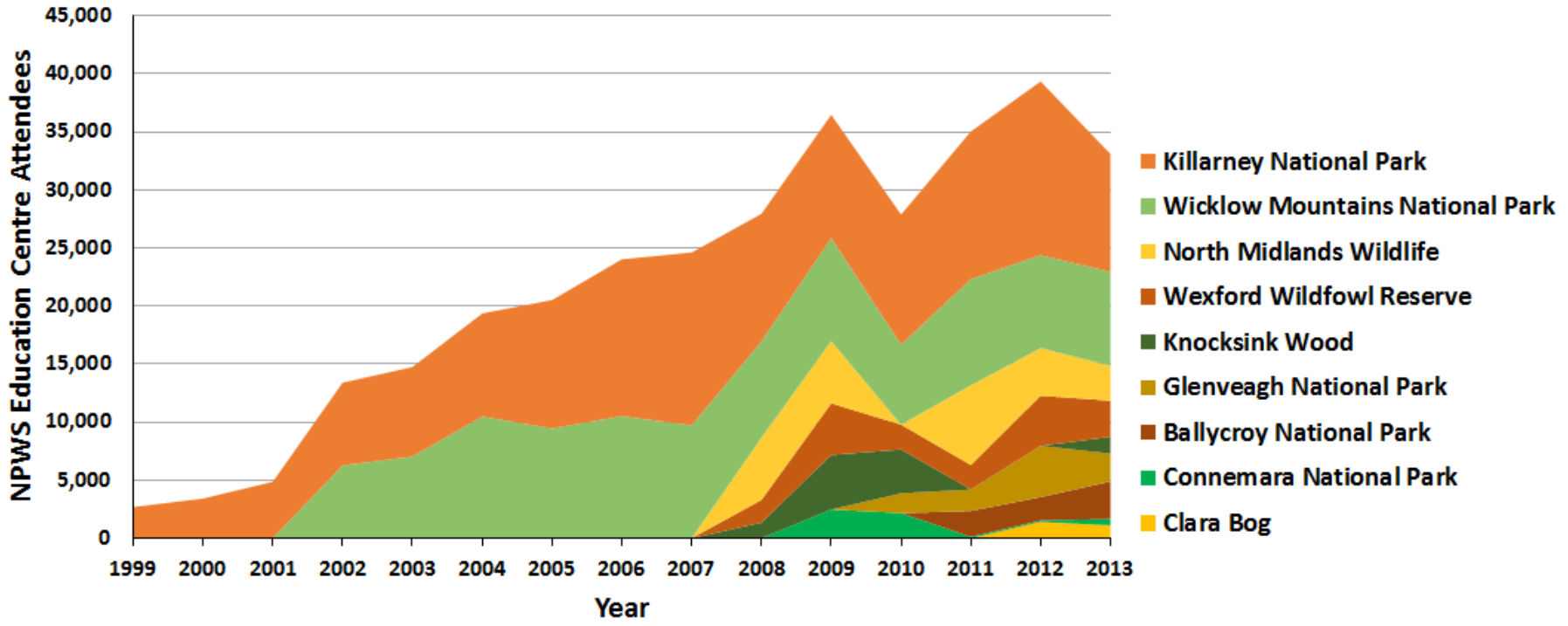
Capital projects /Roads and Tracks



Killarney House and gate lodge

Education centre at Knockreer

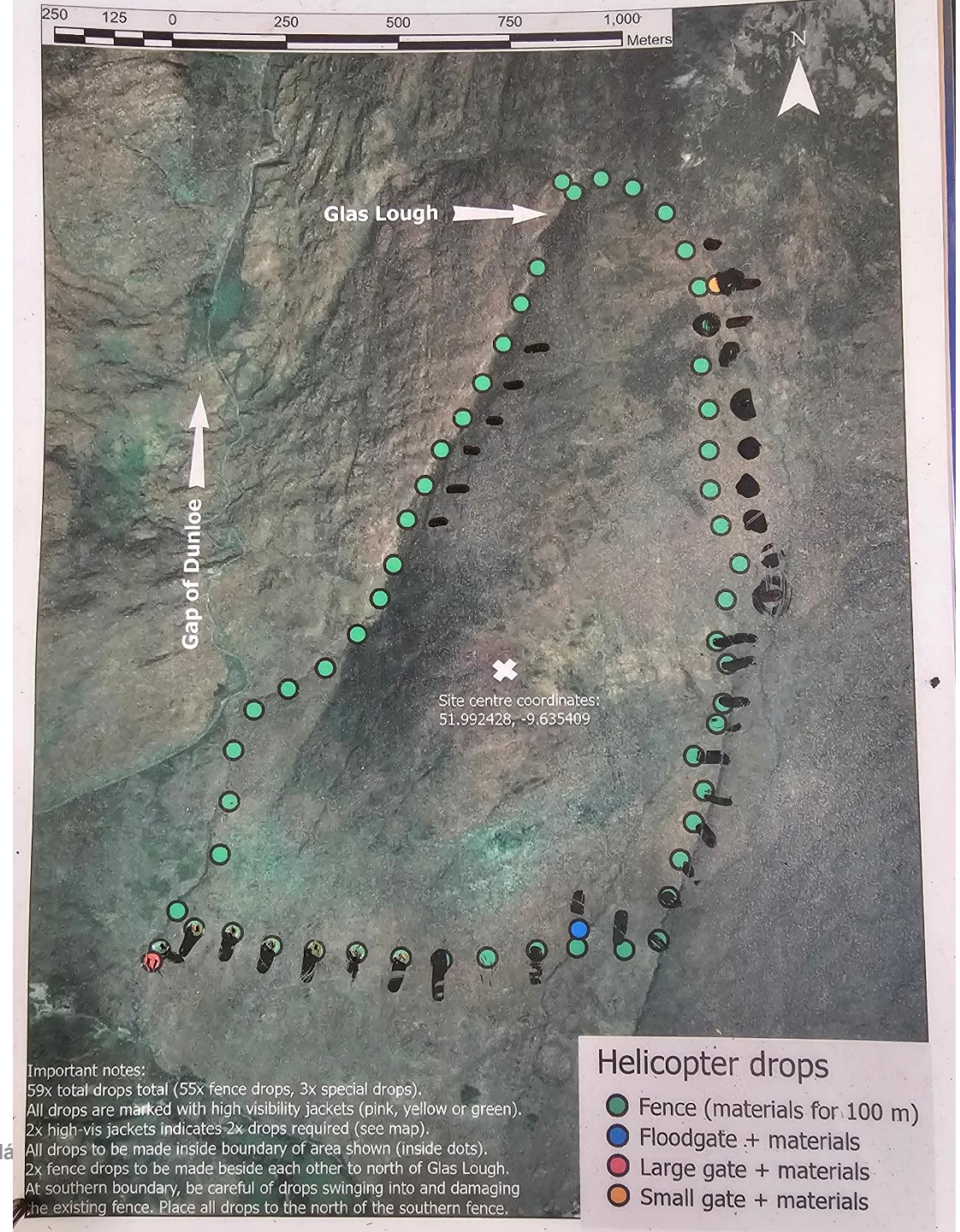
KNP Education Centre



KNP Cottages Capital projects

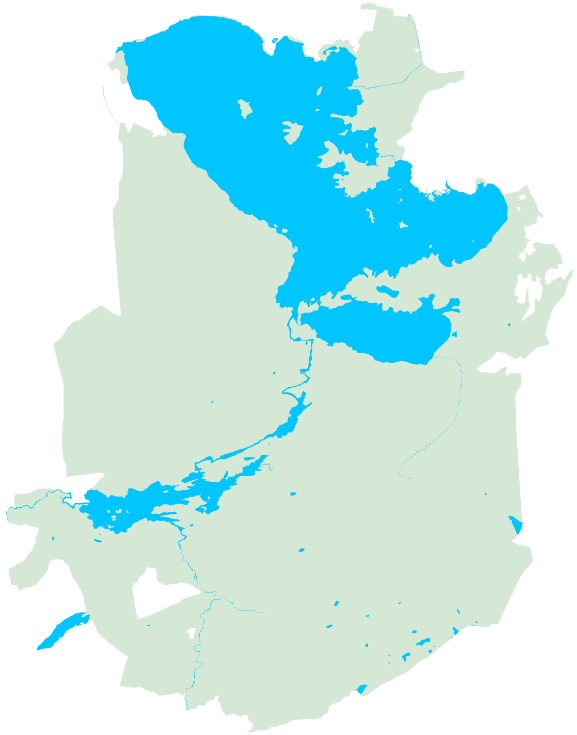
Deenagh Lodge. Rethatch project Lesserhorshoe bat site


STOP
Fan anseo
ar dearg
STOP HERE
ON RED


250 125 0 250 500 750 1,000
Meters
N
Glas Lough
Gap of Dunloe
Site centre coordinates:
51.992428, -9.635409
Important notes:
59x total drops total (55x fence drops, 3x special drops).
All drops are marked with high visibility jackets (pink, yellow or green).
2x high-vis jackets indicates 2x drops required (see map).
All drops to be made inside boundary of area shown (inside dots).
2x fence drops to be made beside each other to north of Glas Lough.
At southern boundary, be careful of drops swinging into and damaging
the existing fence. Place all drops to the north of the southern fence.
Helicopter drops
Fence (materials for 100 m)
Floodgate + materials
Large gate + materials
Small gate + materials

NPWS

An tSeirbhís Páirceanna
Náisiúnta agus Fiadhúlra
National Parks and Wildlife
Service



Killarney National Park (KNP) is part of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment Special Area of Conservation (SAC Code 000365).

Habitats and species in KNP rely on water quality either directly or indirectly to achieve favourable conservation status.

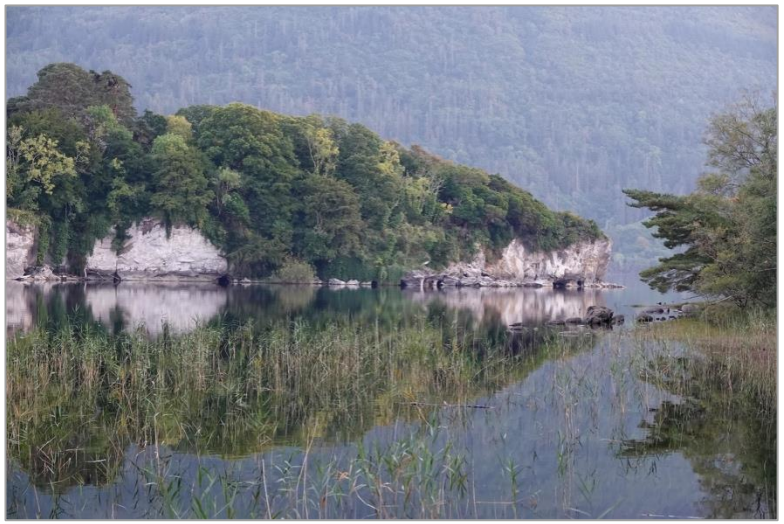
Regarding the Water Framework Directive, in KNP
62% (8 out of 13) of the total number of qualifying interest habitats, and;
83% (10 out of 12) of the total number of qualifying interest species are **DIRECTLY** dependent on water

Lakes habitats are indicated in blue on this map, it is clear to see that lake lands make up a significant portion of the National Park.

Water Quality is **KEY** to conservation

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Habitats Directly Dependant on Water



Lake habitats: Oligotrophic waters [3110] and Oligotrophic to mesotrophic standing waters [3130]

Other habitats: Molinia meadows [6410], Northern Atlantic wet heaths [4010], Blanket bogs [7130] Calaminarian grasslands [6130], Rhynchosporion Depressions [7150] and Alluvial forests [91E0]

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Species Directly Dependant on Water

Freshwater Pearl Mussel	(*Margaritifera margaritifera*)	[1029]
Slender Naiad	(*Najas flexilis*)	[1833]
Killarney Shad	(*Alosa fallax killarnensis*)	[5046]
Salmon	(*Salmo salar*)	[1106]
Sea Lamprey	(*Petromyzon marinus*)	[1095]
Brook Lamprey	(*Lampetra planeri*)	[1096]
River Lamprey	(*Lampetra fluviatilis*)	[1099]
Otter	(*Lutra lutra*)	[1355]
Marsh Fritillary	(*Euphydryas aurinia*)	[1065]
Killarney Fern	(*Trichomanes speciosum*)	[1421]

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Other Species and Habitats

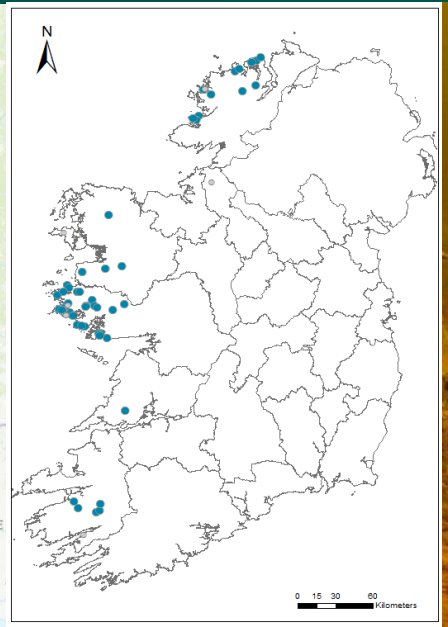
The Killarney Shad is endemic to Ireland and completes its entire life-cycle in Lough Leane. Important for other fish species such as Trout and Eel

Water dependent breeding birds such Dipper, Grey Wagtail, Kingfisher, Teal, Common Sandpiper, Red-breasted Merganser, Moorhen, Mute Swan and Mallard (not exhaustive list) as well as wintering flocks of waterbirds

Invertebrates such as Northern and Downy Emerald Dragonflies, Stoneflies such as *Capnia atra*

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Slender Naiad (*Najas flexilis* Code 1833)



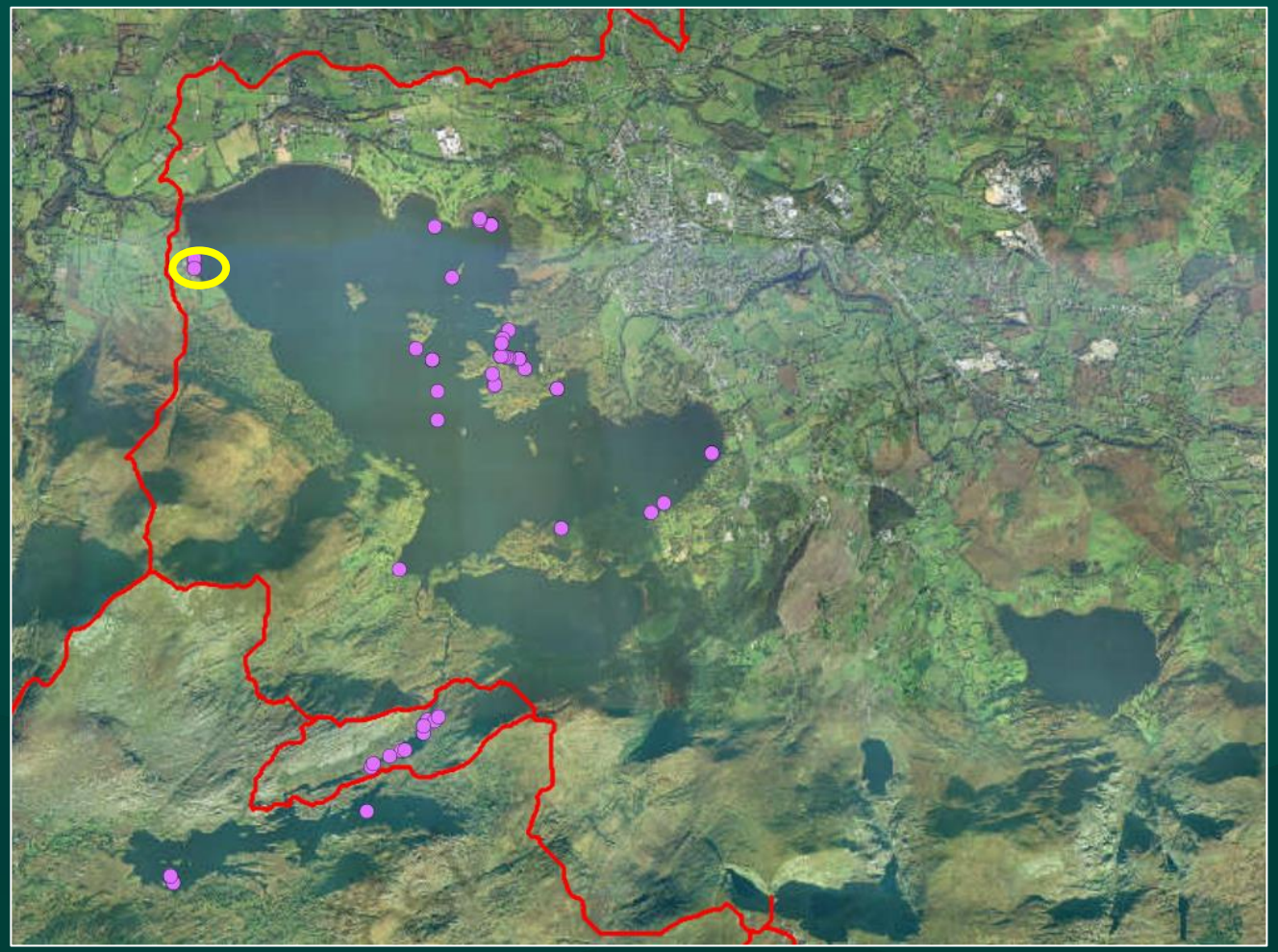
Conservation status	Trend	
Favourable	↑	Improving
Unfavourable Inadequate	=	Stable
Unfavourable Bad	↓	Deteriorating

1833	Range	Population	Species' Habitat	Future Prospects	**Overall**
2013-2018	↓	↓	↓		↓
2019-2024	↓	↓	↓		↓

Slender Naiad is a fragile, annual, plant that grows permanently submerged, commonly in deep water, in clear lowland lakes. Found commonly in North America but more restricted in Europe and Asia, where it is rare and declining. It was assessed as Vulnerable to extinction on the European Red List. The core of the species' current European range is Ireland and Scotland.

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Slender Naiad (*Najas flexilis* Code 1833)



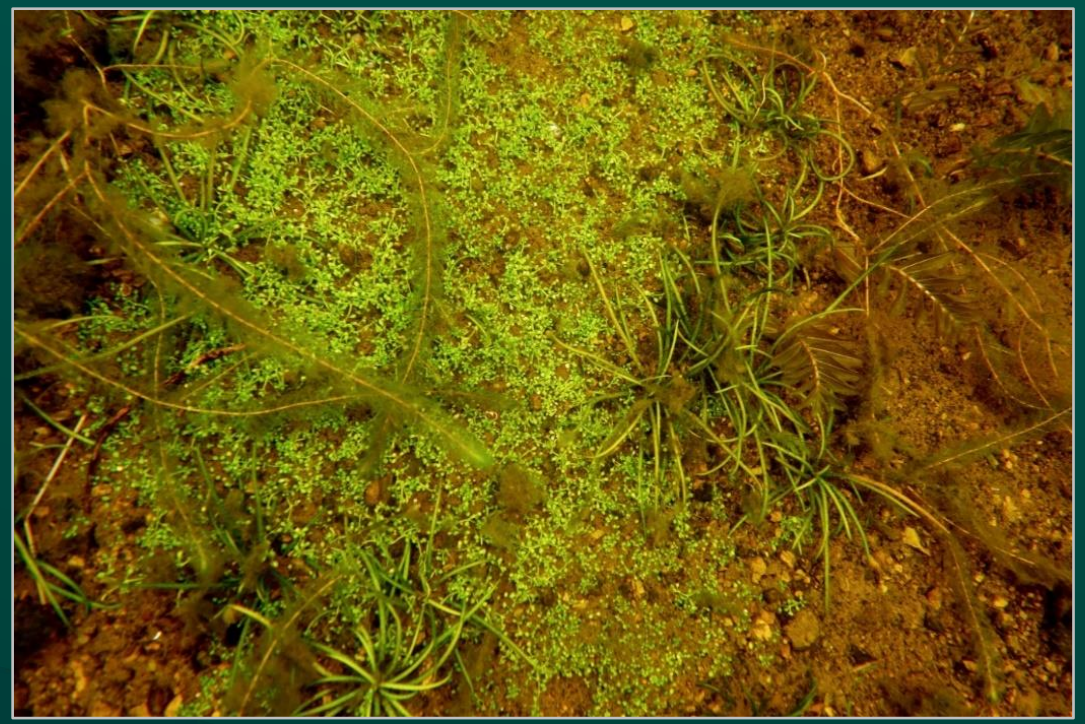
Formerly the largest population of the species in Ireland and likely in Europe occurred in Lough Leane

Population collapse with just five plants found in 2019,marked by a yellow circle is the last known sighting of this plant in Lough Leane

Both the population and habitat of Slender Naiad are in Bad condition in Lough Leane (almost 20km^2 in area)

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Slender Naiad type Lakes
Oligotrophic to mesotrophic standing waters [3130]



The Slender Naiad is a typical species of the Annex I habitat 3130 – Intermediate-alkalinity- or Slender Naiad-type Lakes

This is one of the rarest and most species-rich lake habitats found in Ireland and is of High Conservation Value

The deep-water flora is highly-sensitive, particularly to changes that reduce the amount of light reaching the lake bed.

Lough Leane at almost 20 km^2 is one of the largest sites for the habitat

Conservation status	Trend	
Favourable	↑	Improving
Unfavourable Inadequate	=	Stable
Unfavourable Bad	↓	Deteriorating

3130	Range	Area	Structure & functions	Future Prospects	**Overall**
2013-2018	=	=	↓		↓
2019-2024	=	=	↓		↓

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Slender Naiad and Oligotrophic to mesotrophic standing waters

Pressures

Habitat 3130 is under significant pressure from land uses including agriculture, intensively managed amenity areas, peat-extraction, forestry and rural and urban wastewaters.

Chemical fertilisers, decomposition of organic compounds and waste waters are sources of nutrient pollution leading to nutrient enrichment and eutrophication impacts

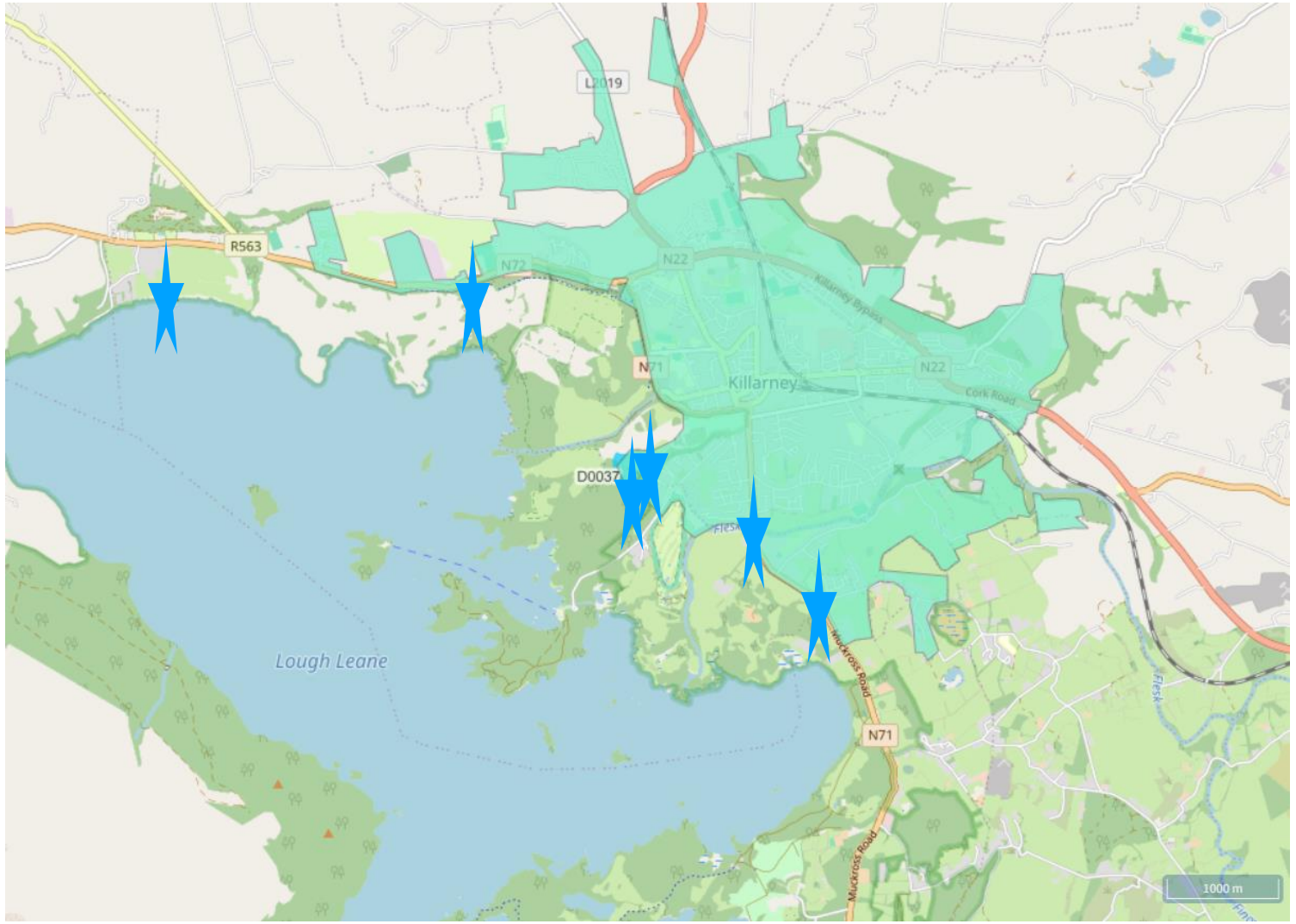
Furthermore invasive aquatic species are also a pressure. The invasive response of non-native species is believed to be driven by environmental disturbance (predominantly eutrophication)

NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Slender Naiad and Oligotrophic to mesotrophic standing waters

Protecting and restoring Slender Naiad populations and habitat (Slender Naiad type Lakes) requires
appropriate catchment management and, consequently, its conservation objectives and specific ecological requirements need to be included within the Water Framework Directive and other policies and programmes that aim to protect and restore water quality and quantity.

The future of this protected species and its habitat, in a site that once contained the species' largest Irish population, are very uncertain unless practical **steps are taken to reduce eutrophication**



PRESSURES

Killarney WWTP D0037-01 (Úisce Éireann)

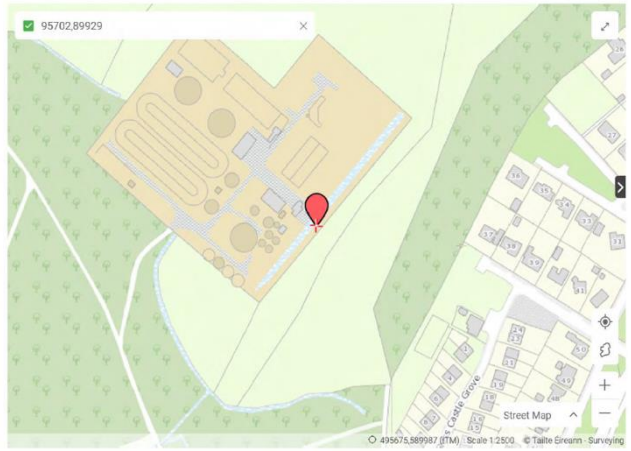
- Waste Water Treatment Plant (WWTP)
- Storm Water Overflows (SWOs)
- Misconnections (sewers)

SWO

Agglomeration

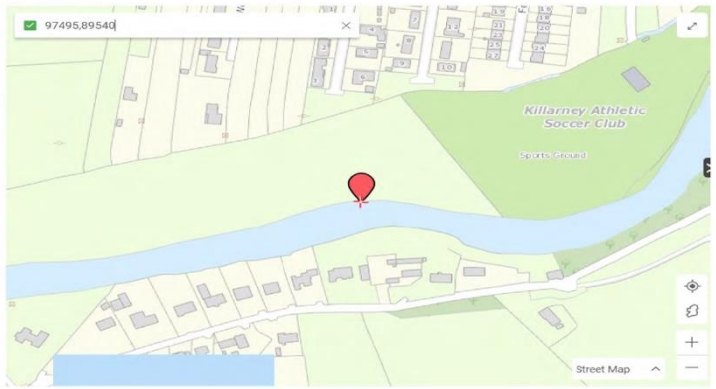
Storm overflows

Overflow opposite the treatment plant located at Rodd Rd Killarney into the Folly Stream



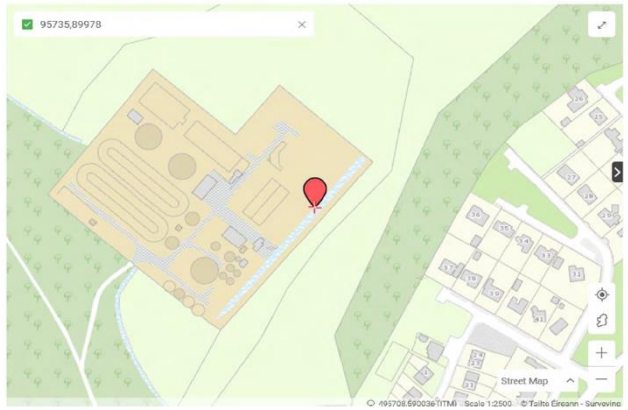
Sewage Overflow points into Lakes and Rivers -Ref Irish Water Data Base

Overflow at Woodlawn adjoining Killarney Athletic FC into the Flesk River

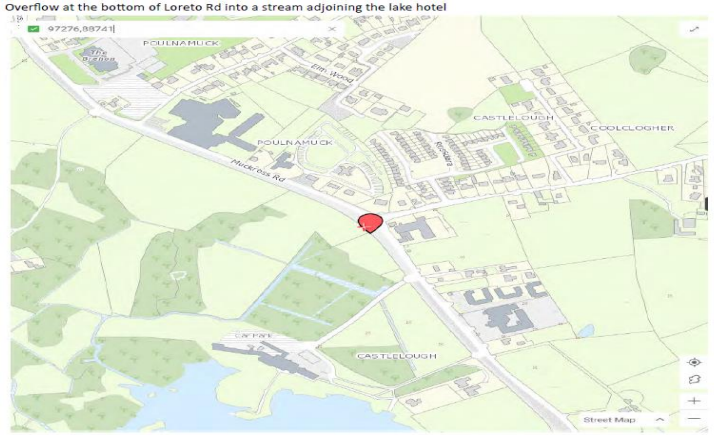


Overflow at Flesk Bridge on the Muckross Rd into the River Flesk

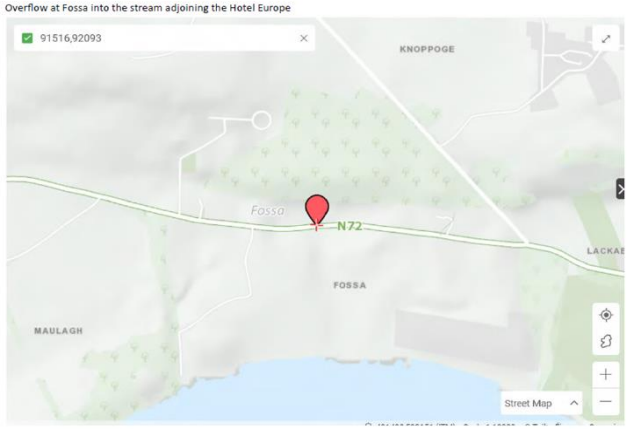
2nd Overflow into the Folly Stream at the Treatment Plant



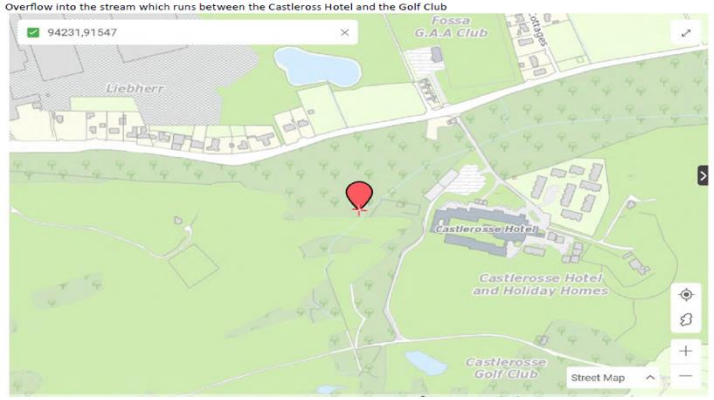
Overflow at the bottom of Loreto Rd into a stream adjoining the lake hotel



Overflow at Fossa into the stream adjoining the Hotel Europe



Overflow into the stream which runs between the Castleross Hotel and the Golf Club



Overflow into the Flesk River at Ballycasheen (Bottom of Rookery Rd)

húlra | Natic

The Starting Point

Blooms in 1983 and 1984 considered to be due to Killarney WWTP

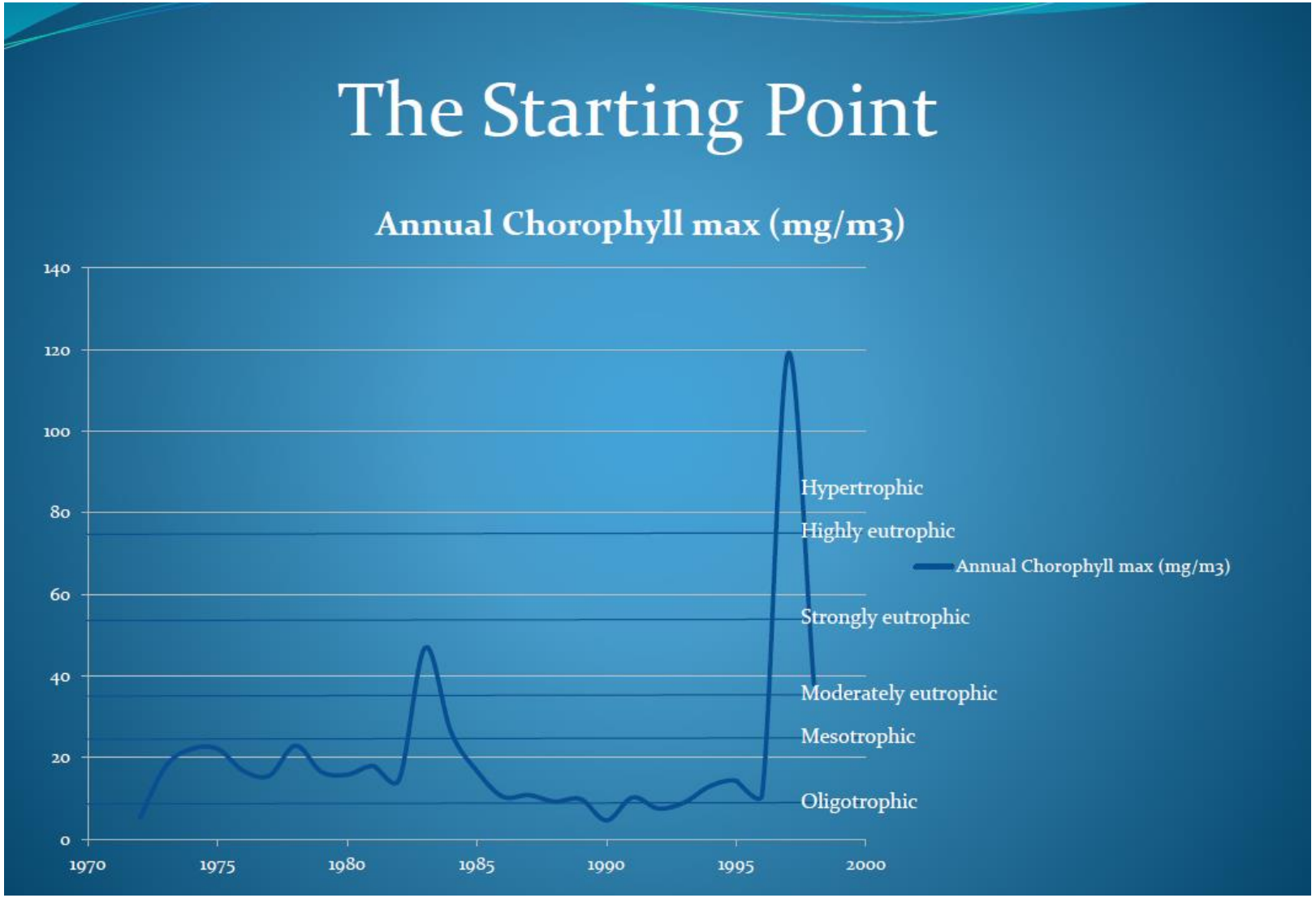
Modern plant built in 1985

Later blooms thought to be linked to high spring rainfall, followed by calm, warm water conditions in spring and summer, when lake P > 20 ug/l

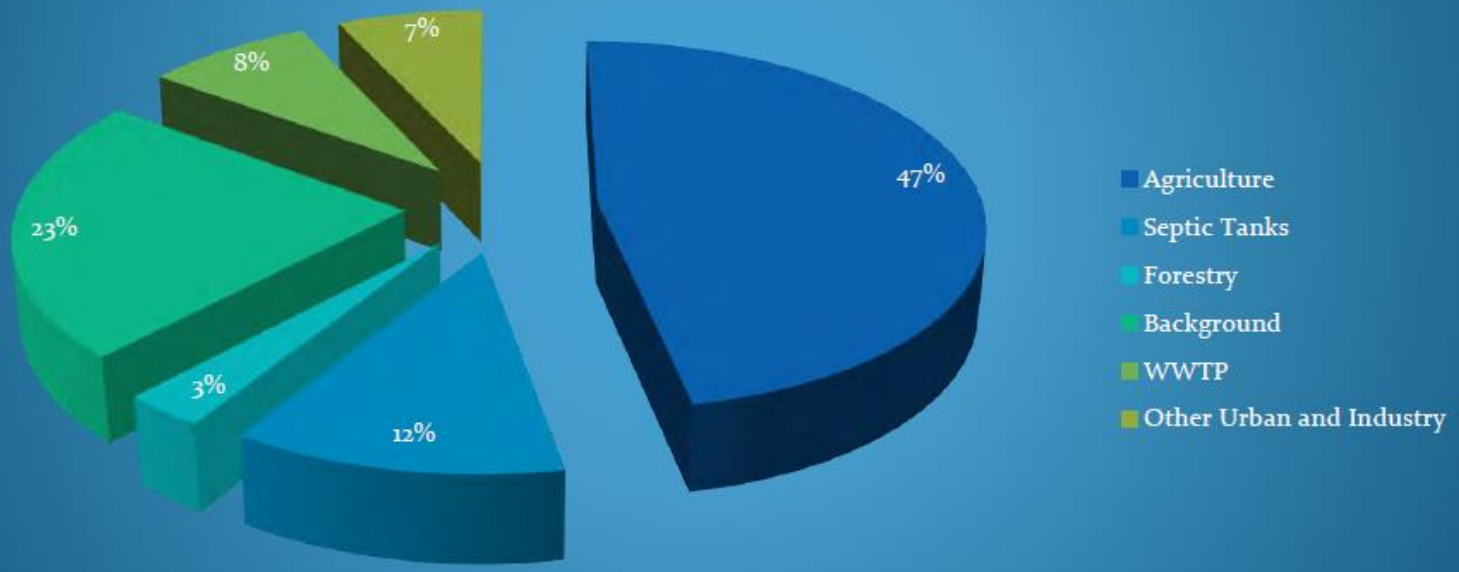
Rising lake P levels between 1985 and 1997 considered to be from general catchment

Lake sediment P sinks not thought to be a causal factor

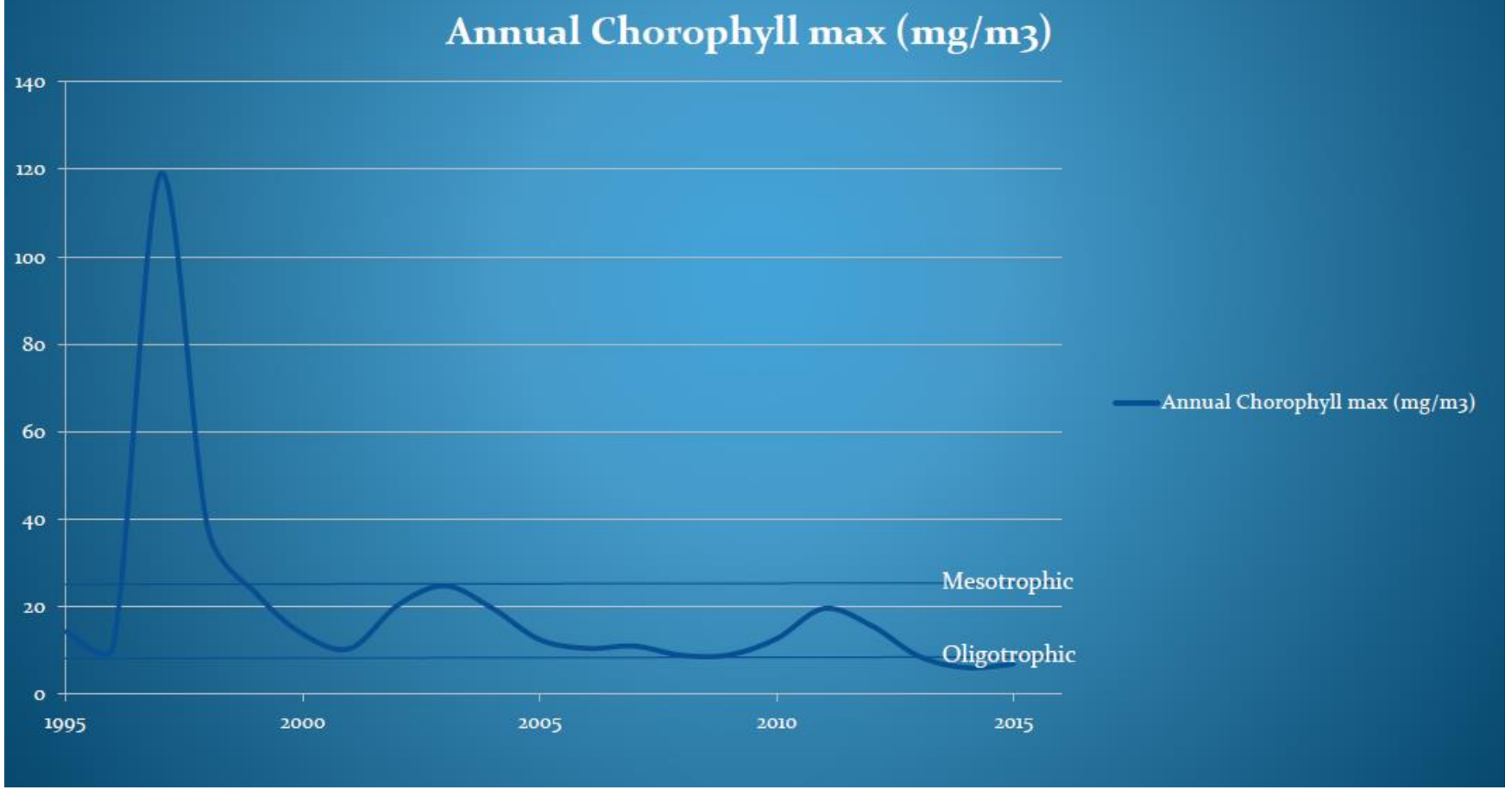
The Starting Point



The Project Findings



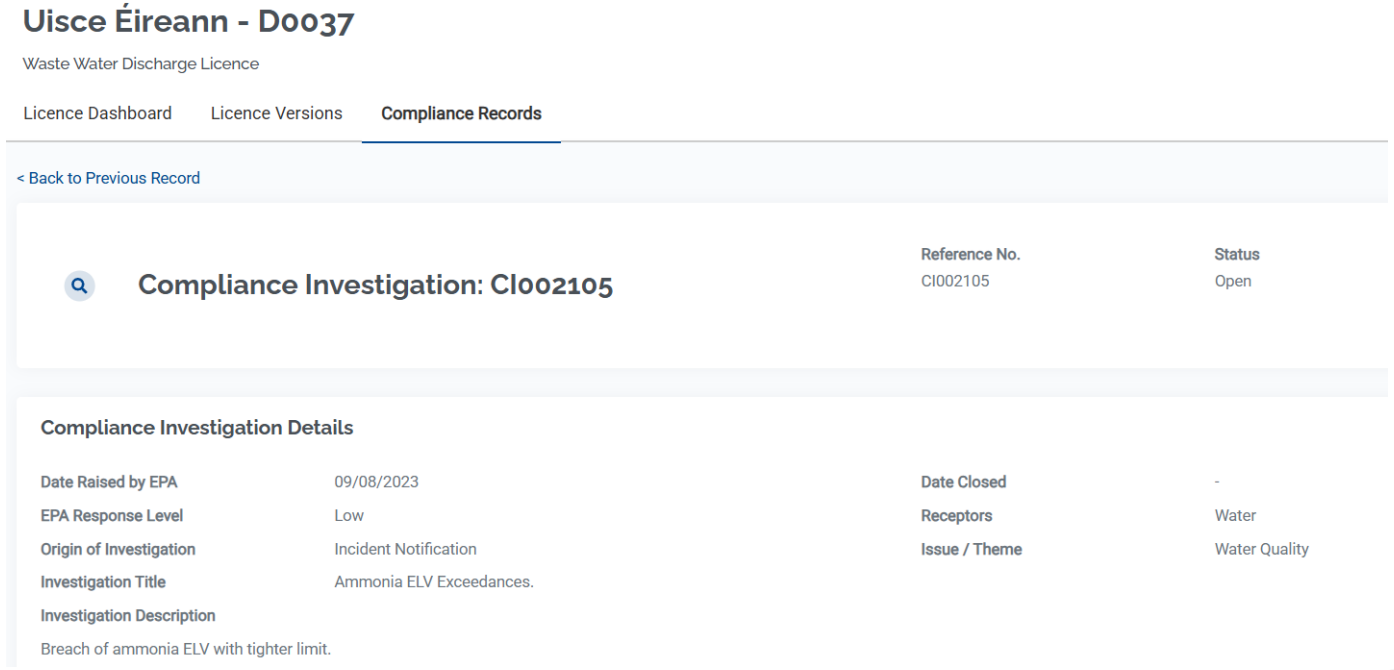
From Then To Now



EPA Compliance Investigation

Opened by EPA in 2023 due to treated discharge breaching the Ammonia Emission Limit Value

Still open in 2025



Uisce Éireann - D0037

Waste Water Discharge Licence

Licence Dashboard | Licence Versions | Compliance Records

< Back to Previous Record

Compliance Investigation: CI002105

Reference No. CI002105

Status Open

Compliance Investigation Details

Date Raised by EPA	09/08/2023	Date Closed	-
EPA Response Level	Low	Receptors	Water
Origin of Investigation	Incident Notification	Issue / Theme	Water Quality
Investigation Title	Ammonia ELV Exceedances.		

Investigation Description

Breach of ammonia ELV with tighter limit.

KILLARNEY NATIONAL PARK AQUATIC HABITATS AND SPECIES PRESSURES: WASTEWATER

The treated discharge from WWTP is discharged into Folies Stream

Úisce Éireann's 2024 annual mean ambient monitoring results indicate that there is a significant deterioration in water quality downstream

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS22F100080	1.18	RS22F100100	3.59	1.50	160.9
Ammonia-Total (as N) mg/l	RS22F100080	0.037	RS22F100100	0.305	0.065	411.6
ortho-Phosphate (as P) - unspecified mg/l	RS22F100080	0.032	RS22F100100	0.063	0.035	89.9
Nitrite (as N) mg/l	RS22F100080	0.035	RS22F100100	0.107	N/A	
Apparent colour Hazen	RS22F100080	17	RS22F100100	27	N/A	
pH pH units	RS22F100080	7.52	RS22F100100	7.21	N/A	
Total Phosphorus (as P) mg/l	RS22F100080	0.063	RS22F100100	0.143	N/A	

EQS is the environmental quality standards for surface waters established by the Water Framework Directive and defined in the European Communities Environmental Objectives (Surface Waters) Regulations (as amended)

Data from D0037-01 Annual Environmental Report for 2024 (Úisce Éireann)

KILLARNEY NATIONAL PARK AQUATIC HABITATS AND SPECIES PRESSURES: WASTEWATER

8 Storm Water Overflows from Killarney Town & Environs.

These are not monitored

No details regarding how many times these were activated and the volumes discharged.

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2024 (No. of events)	Total volume discharged in 2024 (m3)	Monitoring Status
SW002	95702, 89930	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW003	95735, 89979	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW004	91517, 92094	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW005	94231, 91547	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW006	97998, 89950	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW007	97277, 88741	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW008	96627, 89502	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	97496, 89541	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored

Data from D0037-01 Annual Environmental Report for 2024 (Úisce Éireann)

Status of specified improvement programmes for WWTP & SWO

KILLARNEY NATIONAL PARK AQUATIC HABITATS AND SPECIES PRESSURES: WASTEWATER

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0037-SIP:01	Relocation of Primary Discharge, if required	C	31/12/2020	No	At Planning Stage		
D0037-SIP:02	SW001 to be discontinued	A	01/01/2021	No	At Planning Stage		
D0037-SIP:03	Upgrade of treatment plant, if required	C	31/12/2020	No	At Planning Stage		
D0037-SIP:04	Upgrading of Storm Water Overflows to comply with the criteria outlined in the DoECLG "Procedures and Criteria in relation to Storm Water Overflows, 1995"	C	31/12/2020	No	Not Started	2034	DAP completed 2023.

Data from D0037-01 Annual Environmental Report for 2024 (Úisce Éireann)

WASTE WATER

- Misconnections leading to discharges into Rivers such as the Deenagh. Reported to Kerry County Council (picture below taken during low flow conditions in July 2024)
- Domestic Wastewater (Septic Tanks)

  An EPA report in 2021 shows 76 septic tanks were examined in Kerry in 2021. Of these, 54% - or 41 tanks – failed the inspection.
  In 2022, 65 septic tanks were examined in Kerry with 46% failing.
  In the period 2013-2022, 279 systems failed in Kerry with 86% fixed at the end of 2022.

Other Pressures

- Pressures from Agriculture and Forestry and Peat Extraction up stream in Rivers that flow into Killarney's Lake system
- Impact of Fires
- Unknown impact of activities such as Managed Amenity Grasslands and Abstractions

Agriculture

Forestry

Peat Extraction

Rivers flowing into Killarney National Park

Rivers flowing into Killarney NP

#	River	Approx. area (km^2)
1	Deenagh	31.2
2	Flesk	155.1
3	Owenkeagh	47.2
4	Quagmire	36
5	Beheenagh	24.8
6	Finow	23.1
7	Owgarriff	10.6
8	Loo	28.4
9	Owengarriff	8.6
10	Crinnagh	10.6
11	Galway's	18.5
12	Cascade	3.1
13	Doogary	6.2
14	Gearhameen	32.7
15	Owenreagh	29.5
	Total	465.6

River Sub-catchments

- Clydagh
- Crinnagh/ Owenreagh/ Gearhameen
- Finow/ Owgarrif
- Quagmire/ Beheenagh/ Owneyskeagh
- Flesk/ Woodford
- Laune
- Deenagh
- Loo

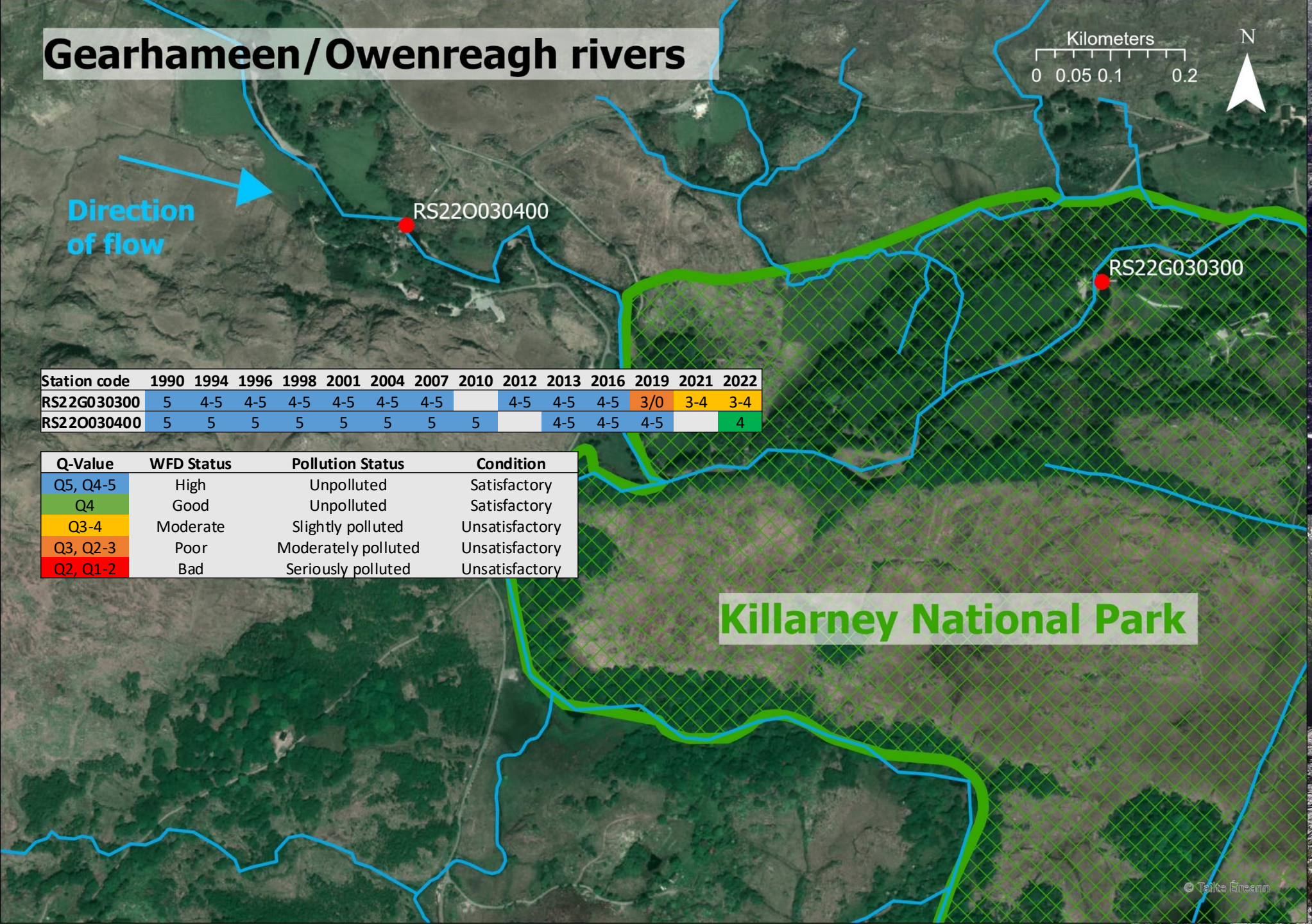
Data sources:
Water Framework Directive,
National Parks & Wildlife Service

Date produced: 24/08/2025
Author: Calum Sweeney

Monitoring observations

- Decline noted in Deenagh at 2 points upstream of Killarney at bridge at Tulloram and bridge near Woodpark
- Same at Flesk just downstream of Finnow confluence
- Noticeable drop from Pristine to good at Poulgorm
- Finnow, severe decline to Q3 in 2015 upstream of L Guitane
- Finnow downstream of L Guitane is still at moderate status Same at 5 occasions since 2007, Prior to this at high status
- The latest biological status figures denote a continuingdeterioration in overall status of Kerry river stations monitored since 2009

Gearhameen/Owenreagh rivers



Station code	1990	1994	1996	1998	2001	2004	2007	2010	2012	2013	2016	2019	2021	2022
RS22G030300	5	4-5	4-5	4-5	4-5	4-5	4-5		4-5	4-5	4-5	3/0	3-4	3-4
RS22O030400	5	5	5	5	5	5	5	5		4-5	4-5	4-5		4

Q-Value	WFD Status	Pollution Status	Condition
Q5, Q4-5	High	Unpolluted	Satisfactory
Q4	Good	Unpolluted	Satisfactory
Q3-4	Moderate	Slightly polluted	Unsatisfactory
Q3, Q2-3	Poor	Moderately polluted	Unsatisfactory
Q2, Q1-2	Bad	Seriously polluted	Unsatisfactory

Changes over time in Q-Values of rivers flowing into Killarney National Park

Q-Value	WFD Status	Pollution Status	Condition
Q5, Q4-5	High	Unpolluted	Satisfactory
Q4	Good	Unpolluted	Satisfactory
Q3-4	Moderate	Slightly polluted	Unsatisfactory
Q3, Q2-3	Poor	Moderately polluted	Unsatisfactory
Q2, Q1-2	Bad	Seriously polluted	Unsatisfactory

Data redrawn from EPA River Quality Surveys: Biological, for Laune-Maine-Dingle Bay catchment, report generated 15/09/2025

River	Station code	Year 1971	1976	1981	1986	1990	1994	1996	1998	2001	2004	2005	2007	2010	2011	2012	2013	2015	2016	2018	2019	2020	2021	2022	2023
Deenagh	RS22D010015					3																			
Deenagh	RS22D010045					3-4	3-4	3	3	3	3		3-4		3		3		3	3	3-4			3	
Deenagh	RS22D010100	5	4-5	4-5	4	4-5	4	4-5	4	4	4		4			4		4-5	4		4			3-4	
Deenagh	RS22D010200	5	5	5	5	4-5	4	4	4	4	4		4			4-5		4-5	4		4			4	
Deenagh	RS22D010300	4	4-5	5	4	4-5																			
Deenagh	RS22D010500					4-5															4-5			4	
Deenagh	RS22D010600						4-5	4	4												4-5			4	
Folies stream	RS22F100200																						2-3	2	2
Flesk (Kerry)	RS22F020010						4-5	5	3-4	4		4	4	4			4		4		4			4	
Flesk (Kerry)	RS22F020040					5	4-5	4-5	4-5	4		4-5	4-5	4-5			4-5		4-5		4-5			4-5	
Flesk (Kerry)	RS22F020060					5	5	5	5	5		5	5	5			5		5	5	5	5	5	5	
Flesk (Kerry)	RS22F020070					5																			
Flesk (Kerry)	RS22F020100		5	5	5	5	5	5	5	5		5	5	5			5		5	5	5	5	4	4	
Flesk (Kerry)	RS22F020200	5	5	5	5	4	4	4	4	4		4													
Flesk (Kerry)	RS22F020250			5	5	4	4	4-5	4-5	4		4-5	4-5	4-5			4-5		4		4-5			4	
Flesk (Kerry)	RS22F020275					4-5																			
Flesk (Kerry)	RS22F020300	5	5	5	5	4-5	4-5	4-5	4	4		4	4	4-5			4	4	4		4		4	4	
Flesk (Kerry)	RS22F020310	5	5	5	5	4-5	3	4-5	3-4	3		4	3												
Crinnagh	RS22C070200					5	5	5	5	5	5		4-5		4-5		4-5		4-5		4-5			4-5	
Gearhameen	RS22G030100						5	4	4-5	4-5	4-5		4-5			4-5	4-5		4-5		4-5			4	
Gearhameen	RS22G030200					4																			
Gearhameen	RS22G030300					5	4-5	4-5	4-5	4-5	4-5		4-5			4-5	4-5		4-5		3/0		3-4	3-4	
Owenreagh	RS22O030100					4-5	4-5	4-5	4-5	4-5	4-5		4-5			4-5	4-5		4-5		4-5			4-5	
Owenreagh	RS22O030200					4-5	4-5	4-5	4-5	4-5	4-5					4-5	4-5		4-5		4-5			4-5	
Owenreagh	RS22O030400					5	5	5	5	5	5		5	5			4-5		4-5		4-5			4	

Deenagh river

- A decline of one quality class in 4 out of 5 stations in 2022.
- Long-term, the upper catchment remains unsatisfactory.
- Key pressures include agriculture, hydro-morphology and urban waste.

Folies Stream

- This water course is 500 m down from Killarney Waste Water Treatment Plant.
- Bad/Seriously polluted.

Gearhameen river

- This river has a consistent history of high water quality.
- However, since 2019 the mouth of the river has been moderately-slightly polluted.
- It is of high importance for Fresh Water Pearl Mussel.
- Agriculture is a key pressure.

Thank you for your attention

Dundag pier KNP