Submission	
Submitter:	Mr Ian Lennon
Submission Title:	Objection to WWDL for Naul WWTP
Submission Reference No.:	S010215
Submission Received:	21 February 2022
Application	
Applicant:	Irish Water
Reg. No.:	D0546-01

See below for Submission details.

Attachments are displayed on the following page(s).

Pollution of the Delvin River

OBJECTION TO PROPOSED WASTE WATER DISCHARGE LICENSE (WWDL)

NAUL WASTE WATER TREATMENT PLANT

Reg No. D0546-01

Date: 18/02/2022

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Overview of points of Issue with the proposed

WWDL Application for Naul WWTP

Reg No. D0546-01

I make this submission to highlight a number of observations in relation to the proposed WWDL.

As a resident born and raised in Naul (26 years) I make the following observations informed by local information and research which can only be understood by a person residing in the area with an intimate understanding of the locality. An understanding which has not yet been given the opportunity to be shared through meaningful stakeholder dialogue with the relevant authorities involved in the project.

I feel that the proposed WWDL application for proposed upgrades of the plant at this location is totally unsustainable given local insight and knowledge of the impact the WWTP has had and the changed environmental context on the Delvin River.

This proposal is based on an unsustainable outdated model which cannot continue in Naul. A long term sustainable solution is need for UWWT in the locality, to reverse damage to our local river and ensure there is sufficient capacity for the community going forward. A new approach is needed.

The main points of concern I would like to raise are:

1) **ELV Breech**
2) **Waste Assimilative Capacity**
3) **Abstraction downstream of Naul WWTP**
4) **Geological Features on the site**
5) **Hydromorphology of the Delvin River has been altered**
6) **Insufficient River ambient water quality monitoring in place**
7) **Pollution Historical Legal Precedent in Naul**
8) **Pollution affecting the amenity use of the Delvin River**
9) **Effect of Pollution on cultural heritage and landscape of the Delvin River and Roach Valley**
10) **Delvin River Fishery**
11) **Underestimation of existing loading on Naul WWTP**
12) **'Future Upgrades'**
13) **Pollution / Groundwater Impact**
14) **Observations on the 3rd Cycle Draft Nanny Delvin Catchment Report (HA 08)**
15) **Surface Water Overflow of Naul WWTP is noncompliant with DoEHLG criteria**
16) **Hazardous Site Access**
17) **The Flow Chart for the current Certificate of Authorisation is erroneous**
18) **Identified Habitats of Conservation Value on the Delvin River**
19) **Identified Species of Conservation Value on the Delvin River**
20) **Protected Bird Species**
21) **Rare Flora in Vicinity of Naul WWTP**
22) **Delvin River falls within SPA Zone of Nanny Shore SPA Species Counts**
23) **Appropriate Assessment and Natura Impact Statement needed**
24) **Cumulative and in Combination Impacts**
25) **Insufficient Buffer Zone Between Residential Units**
26) **Potential Pathways to other sites**
27) **Concluding comments**

These will be outlined on the following pages:

Application for WWDL Naul WWTP

https://epawebapp.epa.ie/terminalfour/wwda/wwda-view.jsp?regno=D0546-01

1. **On at least one occasion Naul WWTP has exceeded Emission Limit Values under the WFD**

UWWT Regs ELV's

S.I. No. 254/2001 - Urban Waste Water Treatment Regulations, 2001

https://www.irishstatutebook.ie/eli/2001/si/254/made/en/print

Directive 91/271/EEC – urban wastewater treatment

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=legissum:l28008

Directive 2000/60/EC of 23 October 2000 - the Water Framework Directive.

S.I. No. 254/2001 - *See Second Schedule (Part 1)*

This outlines the following ELV's (Emission Limit Values) parameters:

Biochemical oxygen demand (BOD) - **25** mg/l O2

Chemical oxygen demand (COD) – **125** mg/l O2

Total suspended solids (SS) - **35** mg/l

In my submission I noted that there has been at one instance on 14/02/2019 when a sample of the effluent was taken, and the Suspended Solids (SS) exceeded the ELV parameter of 35mg/l @ 46mg/l as set out under *S.I. No. 254/2001 - Urban Waste Water Treatment Regulations, 2001 & Directive 91/271/EEC – urban wastewater treatment.*

I.e. infringing on the Water Framework Directive (WFD).

		UWWT Reg ELV's							25		125		35	
Licence Details	Details/Coordinates	Monitoring Result Source	Sampling Method	Sample Date	Temperature °C	pH pH units	Toxicity TU	BOD mg/l	UWW Regs cBOD mg/l	cBOD mg/l	UWW Regs COD mg/l	COD mg/l	UWW Regs SS mg/l	Suspended solids mg/l
	(49102) Naul Works Effluent													
	(49102) Naul Works Effluent			14/02/2019		7.5			21	21	46	46	46	46
	(49102) Naul Works Effluent			20/06/2019		7.5			8	8	37	37	13	13

(Irish Water, 2020)

2. **Waste Assimilative Capacity** (WAC) Calculations

Given the existing very serious environmental issues on the Delvin River as the result of 2x overloaded UWWTP's at Naul and Stamullen (According to the respective NCAP Reports on both plants by RPS), compounded by a series of abstraction points, including a large abstraction point used for supplying water to a concrete batching plant in Naul, along with legacy quarry infill pollutions along the Delvin River, it would be unwise to place further pressures/anthropogenic pressures on the river, such as disturbances to wintering birds, bats at Delvin Bridge, Otters, Brown and Sea Trout and Annex I and II species which use the Delvin Estuary and Delvin River.

Any further disturbances, where they do not already exist on the Delvin River may impact migration of species up the river and interrupt the Delvin River Ecological network, which will have a knock on affect for riparian and rural ecosystems along the river as far as Garristown.

Currently the eight following wastewater treatment plants operate within the sub catchment, which discharge into the Delvin River. These are arranged in relation to their order from the source of the Delvin River:

- **Garristown WWTP** – *Insufficient effluent data available*
- **Clonalvy WWTP** ***– Potential Impact to Groundwater***
- **Naul WWTP** ***– Overloaded – Observed ELV Breech***
- **Stedalt WWTP** (Redwood Care Facility Stamullen) *– Status, Operation and Compliance unknown*
- **Stamullen WWTP** ***– Overloaded – Continued ELV Breeches - Possible observable impact on WFD Status***
- **Silverbanks WWTP** (east of Stamullen WWTP) *– Status, Operation and Compliance unknown*
- **Gormanston College WWTP** – *Status, Operation and Compliance unknown*
- **Trinity Care WWTP** (Delvin Bridge, Gormanston) *– Status, Operation and Compliance unknown*

Estimated loading on Delvin River::

- **Garristown WWTP** – *c.550 P.E.*
- **Naul WWTP** – *c.700 P.E.*
- **Stedalt WWTP** – *c.120 P.E.*
- **Stamullen WWTP** – *c.5,000 P.E.*
- **Silverbanks WWTP** – *Unknown*
- **Gormanston College WWTP** – *c.550 P.E.*
- **Trinity Care WWTP** – *c.100 P.E.*

Estimated total P.E. discharge to Delvin River: 7,000P.E

**This does not include other private treatment plants and domestic WWT systems/septic tanks which may discharge into watercourses adjacent to Delvin River.*

Assessment is needed to determine the WAC of the Delvin River, giving consideration to unquantifiable background nutrient concentrations from other sources. Each WWTP (inc. commercial plants) discharging to the Delvin River needs to be assessed to determine exactly what impact UWWT loading is having on the river i.e. what is the volume of effluent and nutrients being discharged to the Delvin River.

It is clear there are issues identified with three of the plants within the sub catchment, with two plants which are overloaded discharging directly to the Delvin River. The impact of four other plants on the river is not clear.

As the Delvin River is home to Otter, a threatened species which is protected under the Habitats Directive and also home to White Clawed Crayfish which Ireland supports a globally important population of this crustacean, increasingly under threat from alien species and the river hosts migratory protected eels and nationally significant numbers of protected birds, such as brent geese, cormorants and golden plover, it is important that any proposal does not impact on the delicate ecological network of the Delvin River.

Can the Delvin River handle this effluent loading?

It is clear there are in combination issues with other WWTP in the Catchment:

Table 5-1 – Summary of Impact to Receiving Waterbody

Parameters Assessed	Traffic Light Risk	Conclusion
Effluent Data Availability		There is insufficient data available.
Groundwater Assessment		There is potential impact to the groundwater from the WWTP.
Storm Water Overflow		Not Applicable.

Clonalvy WWTP - Discharges to groundwater

Table 5.1 – Summary of Impact to Receiving Waterbody

Parameters Assessed	Traffic Light Risk	Conclusion
WAC Assessment		The WAC calculation indicates that there no impact to the receiving water body.
Effluent Data Availability		There is less than sufficient effluent data available for the WAC calculation to be completed. There is only 2 data points available for BOD and one data point available for each Ammonia and Orthophosphate.
SSRS		The SSRS indicates that there is no apparent impact from the WWTP discharge on the stream.
Storm Water Overflow		Not applicable.

Garristown WWTP – Insufficient Effluent Data

- Sludge records 2020 & 2021

1. Certificates of Authorisations

		Answer	Condition Number	Non Compliance	Observation
1.1	Has there been any equipment breakdown/failure at the plant in the last year?	Yes			

Comment / Action Required

Irish Water reported 2 incidents to the EPA in the past 12 months. One incident in December 2020, related to an uncontrolled release caused by a faulty programme logic controller (PLC) which was repaired (INCI020197). The other incident in April 2021, related to an equipment breakdown which was caused when the sequence batch reactor (SBR) decant arm failed, this was subsequently repaired (INCI020820). Both incidents were resolved and closed.

Irish Water shall implement preventative and corrective actions to minimise incidents at the waste water works.

In 2020 the Naul, Garristown and Stamullen WWTP's appear to have had enforcement issues, including uncontrolled sewage releases.

Freedom of Information Requests also show there are serious issues with the Stamullen WWTP, which appears to have consistently (almost) breeched ELV's set out under the Wastewater Directive. Stamullen WWTP also appears to be the subject of an infringement case for these breeches.

3. Abstraction downstream of Naul WWTP

Currently there is an abstraction point registered 23m Northeast of the primary discharge point of Naul WWTP at: 53.588396, -6.290363 which is used to service the concrete batching plant on the north side of the Delvin River in Co. Meath. This abstraction is not registered with the EPA.

According to email correspondence with an EPA staff member, Mr. Maher, Kilsaran told the EPA that this is used as a potential 'back-up source', however it is noted the use of a well as a ground water source was only recent development (c.2019). The well/groundwater abstraction is licensed and visible on the *EDEN* portal.

Abstractions over 25 cubic meters per day (m^3/d) are required to be registered as per the *Water Abstractions Registration Regulations 2018 (S.I. No. 261 of 2018)* to address the requirement of the *Water Framework Directive (2000/60/EC).*

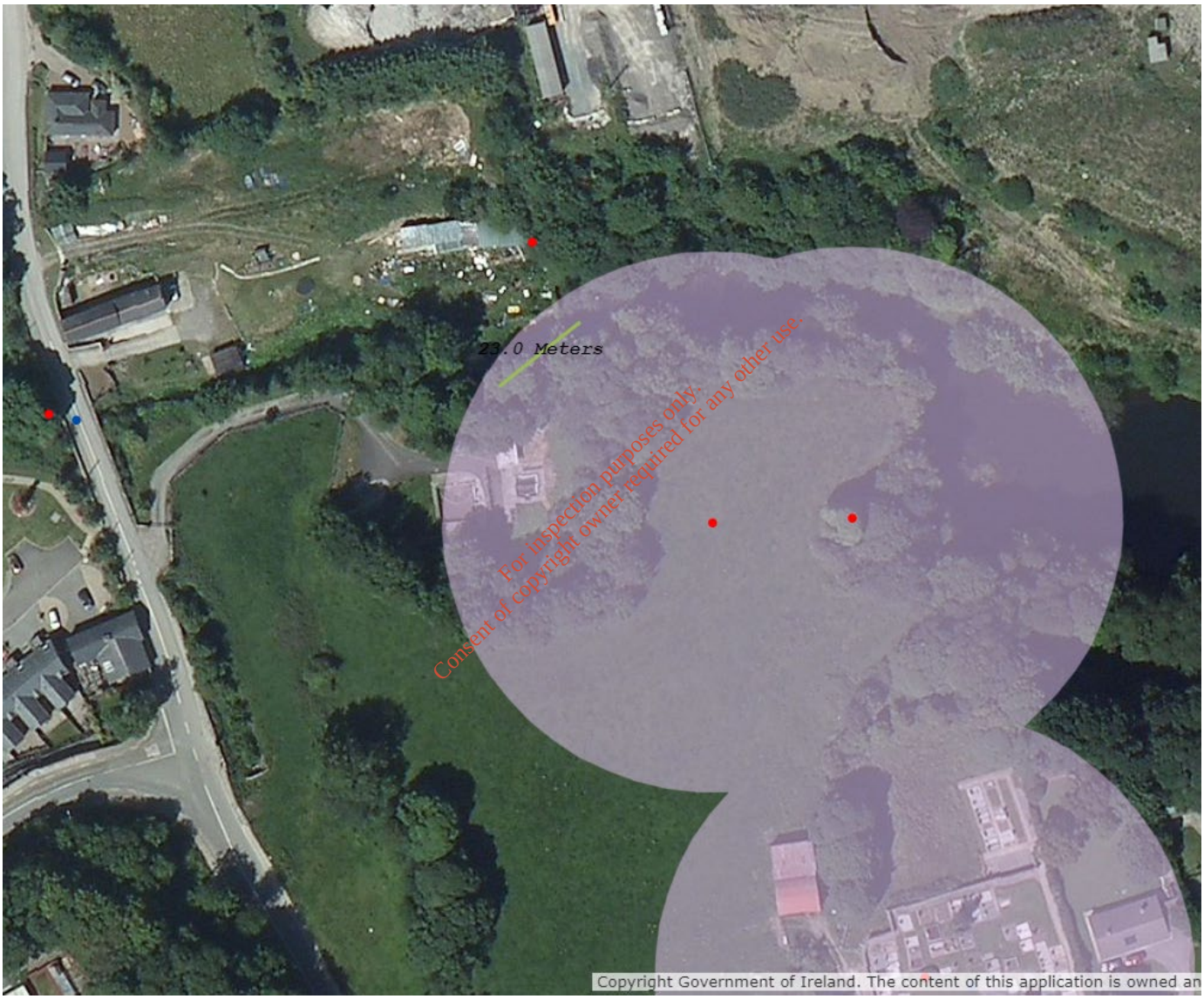


Figure 1- Map outlining the distance of the Kilsaran abstraction point to the primary discharge point of Naul WWTP

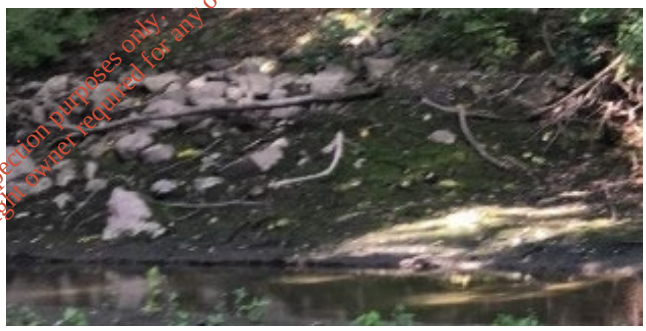
Inland Fisheries are the body responsible for maintaining the Delvin River. According to the *Guidelines On Protection Of Fisheries During Construction Works In And Adjacent To Waters:*

'8. Dust suppression and water abstraction, 8.2 IFI Require that: (8.2.2) Abstraction is confined to only those larger waters identified and agreed as being of sufficient size and volume so as to allow abstraction without adverse impact. (8.2.3) Abstraction points shall be screened so as to ensure that fish and aquatic plants are not removed from waters in the abstraction process' (Inland Fisheries Ireland, 2016, p. 14)

The following images are of the abstraction pipe located in the riverbed of the Delvin River 23m northeast of the primary discharge outfall of Naul WWTP. This does not appear to be screened to prevent fish becoming trapped.

On the 28/08/2019 workers employed by the adjacent facility excavated the riverbed directly adjacent to the primary discharge point of Naul WWTP. It is not clear where the primary discharge point is now located.

Below is an image of another pump hose removed from the river downstream in 2018. Adjacent to it is the remains of hardened concrete from a concrete spill which flowed down the bank into the river in 2016.



According to the *Guidelines on Protection of Fisheries During Construction Works in and Adjacent To Waters* there are obligations on developers, designers and contractors to consult IFI on in-river works*:*

'2.1 Contact should be made with IFI at the earliest possible stage in the planning and design process where works such as road construction, installation of culverts and bridges, the crossing of rivers/streams with pipelines and works on and in the environs of waters are planned. Such consultation will enable those concerned to comply with the provisions of the Fisheries Acts and Habitats Regulations. (2.2) In addition to the general guidance and requirements detailed herein, there will be design and construction issues specific to individual projects and locations. In such cases IFI will issue detailed operational and construction requirements' (Inland Fisheries Ireland, 2016, p. 3)*.*

The purpose of this notification is to avoid unnecessary damage to the habitat and fishery *'3. Issues of concern: (3.1) Damage to the Aquatic and Associated Riparian Habitat, e.g. Removal and loss of instream spawning gravels and larger stones. Loss of submerged and emergent aquatic vegetation. Loss or damage to bankside cover including removal of trees, shrubs and bankside root masses. Undesirable changes in watercourse morphology and hydrology'* (Inland Fisheries Ireland, 2016, p. 4)*.* It is not known whether IFI were contacted in this instance.

A brown trout at the alevin stage shortly after hatching. This life stage is very sensitive to pollution and physical disturbance.

(Inland Fisheries Ireland, 2016)

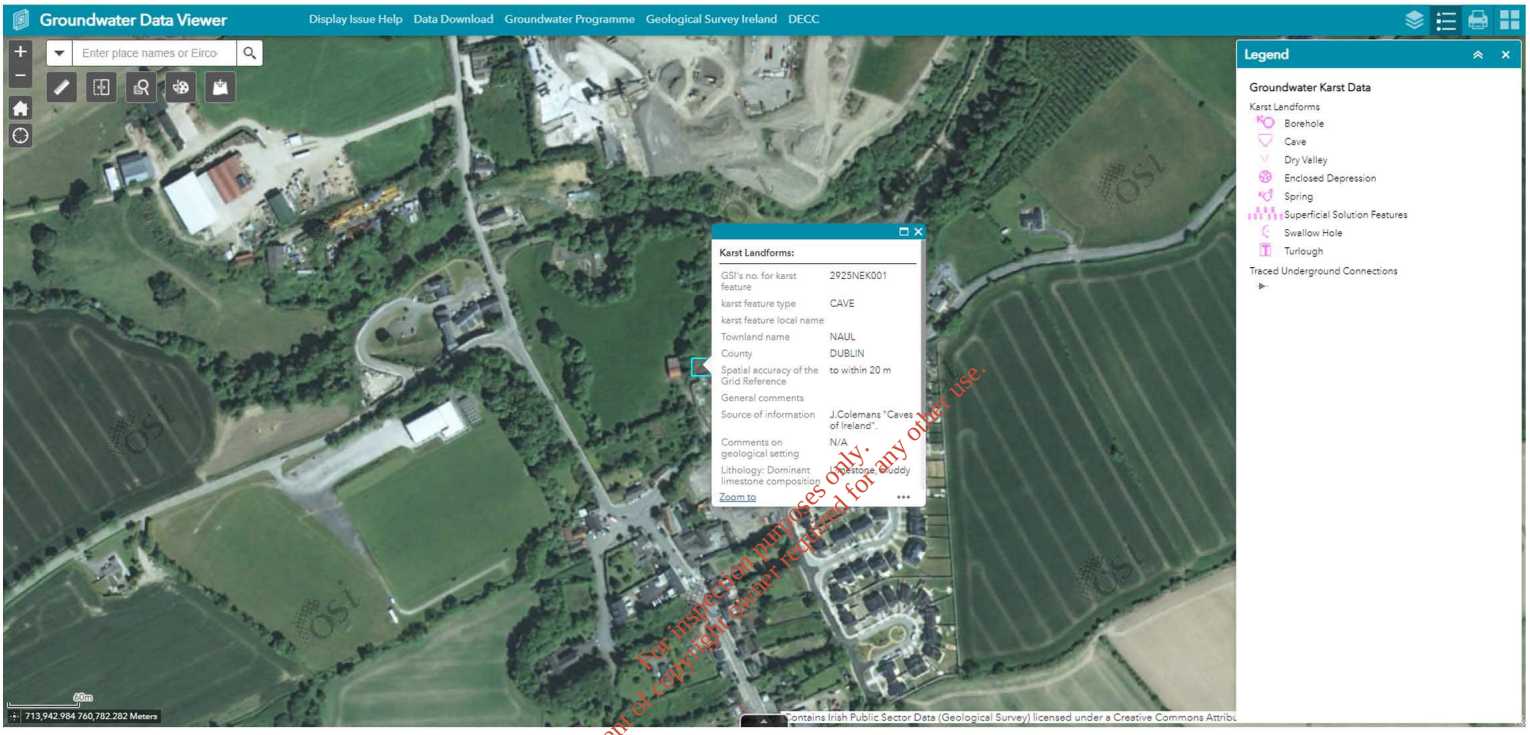
Increasingly in recent years farmers have relied on the Delvin River to irrigate their crops due to increasing droughts during the summer months (RTE, Fran Mc Nulty, 2020).

As such, it is apparent that there are other unregistered abstraction points on the Delvin River downstream of the primary discharge point and in close proximity to Naul WWTP which have not been factored into the WWDL application for Naul WWTP. This demonstrates the need for additional environmental assessment to support this application. This also demonstrates there is other activity/plans/development near Naul WWTP to be considered.

4. Geological Features on the site

Naul WWTP is constructed directly above a karst feature, many of which are still visible today. The Geological Survey of Ireland need to be consulted about this development and the impact effluent may have on groundwater recharge features and open Karst/Cave Features in the vicinity of the Primary discharge point. The siting of Naul WWTP appears to have been a poor choice in the 1970's, when the site was CPO'd from a local farmer (1975). There are questions about groundwater recharge pollution impact in this location. Karst limestones are vulnerable to pollution and need special protection measures in place.

The below GSI Groundwater Vulnerability dataset shows the likelihood/ease of contaminants moving between the surface and underground aquifers. It was used as proxy data to identify areas where the likelihood was very high; namely areas where the bedrock was very close to the surface. It was assumed that in areas with thicker and less permeable subsoil, the likelihood of groundwater contamination, therefore groundwater flooding when water movement in the other direction is considered, was very limited.



GSI's no. for karst feature: 2925NEK001, karst feature type: CAVE, Townland name: NAUL, County: DUBLIN, Source of information: J.Colemans "Caves of Ireland". (G.S.I., 2022).

Historical references to Karst Features in local Cultural Heritage

"At Naul there is a most romantic glen, overhung with rocks, ***wherein are many caves****. The Old Castle of Naul stands boldly situated over this romantic glen, through which a small stream winds its course, dividing the counties of Dublin and Meath; and a small distance lower down it forms a fine water-fall called the Roches" Page 10 - The Post-chaise Companion:* (Wilson, 1786).

"At the fourteenth mile-stone, on the verge of the county of Dublin, stands the Naul, remarkable for its romantic Glen overhung with rocks, ***in which there are many caves****. The old castle is boldly situated on a postion overlooking this enchanting spot, through which is a stream, dividing the counties of Meath and Dublin, winds its course; and at a small distance, forms a beautiful water-fall, called the roches. This route is not distinguished by any other remarkable, or extraordinary curiosity, either natural or artificial, save only the ruins of a few delapidated churches. The verdant surface of the country indicates its fertility, and it is chiefly occupied by respectable farmers." - The Traveller's New Guide Through Ireland* (Cumming, 1819).

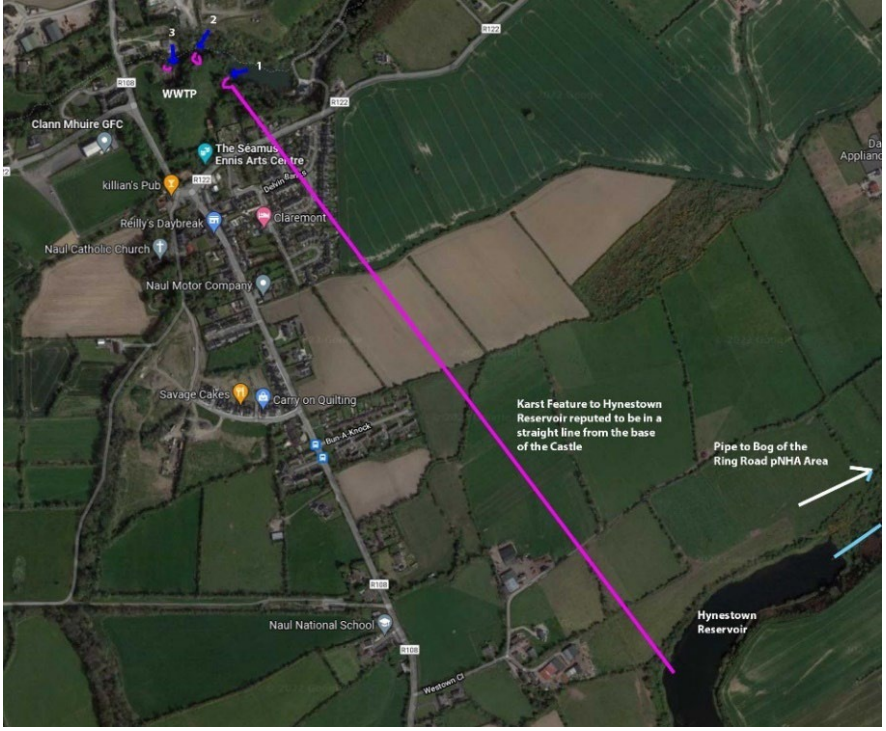
"The glen of Naul is a boldly rocky defile, watered by a rivulet, which here falling over a ledge of rocks, forms a beautiful cascade, called "The Roches". The prevailing rock here is limestone, in which exist several spacious and noble caverns. If the presence of so many dark caves, the bold features f the rocky glen, *the winding and rapid rolling of the river over its rugged bed, together with the ruins of a fine castle, seated on a lofy rock, and frowning over all, be combined by a romantic imagination, they would form a subject of the highest picturesque and poetic interest". – page 6-7, A Topographical Dictionary of Great Britain and Ireland: Volume 3* (John Gorton, 1833).

"Naul, Dublin, distant 14 miles. Naul castle exhibits its ancient wall on the rocks, above a romantic glen. ***Through this narrow vale, which is remarkable for its caves, a river winds along, forming a beautiful fall, and separating the county of Dublin from Meath****". A Topographical Dictionary Of The United Kingdom:, pg 33* (Capper, 1825).

In such an hour it was cooling, as by sympathy, to see the bathers plunging "Their feverent limbs in the refreshing stream," and to look upon that stream itself, gliding is graceful meanders, while the silence of the valley was broken only by its babbling current, or the strokes of the mill-wheel that laboured to impede it. Hence the lovely glen of the Naul, with Westown House peering at its head; and Harbertstown, with its turret on a yet greater elevation, can only be seen to advantage by the pedestrian, who thus reaches a portion of the valley, called the Roches, closely hemmed in by precipitate cliffs, rich with vegetable drapery at their base, ***and in their tall summits caverned to a considerable depth****. The gap of this fine glen is sentinelled at the Meath side by Snowtown Castle, and on the Dublin by the dark castle, especially termed of the Its grey walls, here variegated with mosy streaks, there clothed in the livery of everlasting verdure, or checquered between with those picturesque weather stains, which time only can shed over the works of man. A small lake formed here, and for which there is every facility, without much loss of good ground, would make this a truly enchanting scene.*

The river that waters the glen, enters the sea at Knockingen, working several mills in its course, ***while the caves alluded to are said to have been formerly the receptacle of plunderers and robbers, who retreated here, and were protected by the castle.*** *One of these, called in the Irish Shaun Kittoch, or Left-handed Jack, was famed for many daring depredations. He long eluded the pursuit of justice, but having been at length taken, with an Amazonian female, the intrepid companion of all his exploits, both paid the dept due to the injured of all his exploits, both paid the debt due to the injured laws of their country.*

In the glen is a spa, that Doctor Rutty notices as a comparitively pure chalybeate, of a modern degree of strength, to obtain the benefit of which in perfection it is necessary to resort to the fountain. "It seems worthy of notice," he adds, "that the glyn, in which this spring is found, abounds with a rotten Irish Slate, which is of the mildest kind, or of the least degree of acidity, I have observed, being of a very mildly acid, and sweet, austere, or vitriolic taste, and water poured hot upon it, acquired a strong sulphureous smell, and it struck partly purple and partly blue with galls, the characteristic of maritial vitriol. *I moreover observed a rock of this slate to yield a nitrous efflorescence, as do likewise several stones of the kind in the neighbouring country, which also by decoction yield a calcareous nitre". Lieutenant Archer, in his survey of this county, says, he observed near this crops of different veins of coal, as also fine yellow ochre. - D'Alton* (D'Alton, 1976, 2nd ed.)



Above – Location of Karst features in Pink, the line indicates the rough path of the cave feature from the castle to Hynestown Reservoir which historical accounts reference.

Prominent Feature No.1 *(see map)*

The Environmental Impact Assessment Report of the Clashford recovery site north of the Delvin notes the following: *3.4.9.2 KARST FEATURES "Reference to the Geological Survey of Ireland karst database indicates* ***that a cave is located approximately 152 m to the southwest from the southern boundary of the site****. No karst features have been mapped within the site perimeter"* (Shields, 2018). This feature is known as *The Hermit's Cave.*

'The Naul, An Aill in Irish, or 'the cliff', is a village that sits in the flat lands of north county Dublin. The name has always interested me for this reason – why, considering the topography, is it called 'the cliff'? I was not familiar with the area but wanted to visit it, being as it is the place most associated with master of the Uilleann Pipes, Ireland's native bagpipe, Seamus Ennis. However, I had another reason to visit An Aill, following up on J.C. Coleman's mention of a short cave in the area.7 Naul's dilapidated 15th century 'Black Castle' sits at the end of a field near the centre of the village. To my surprise it is at a cliff's edge over a deep gorge on the river Delvin.'

'Scrambling carefully down the cliff, through some extremely thick scrub, one can find the cave located just below the castle. It is a beautiful spot, a green and wild canyon, something entirely hidden from landscape above. The cave itself, cloaked in a curtain of Ivy, is only three meters in length. Any hopes for a potential lockdown digging project quickly evaporated upon seeing it! I could not locate any information about the origin of the cave's name but would be interested in hearing from anyone with a greater familiarity with it.' (Mulraney, 2021)

Figure 2-Underground Dublin, Part I: The Caves Of Dublin. (Mulraney, 2021). Looking North East.

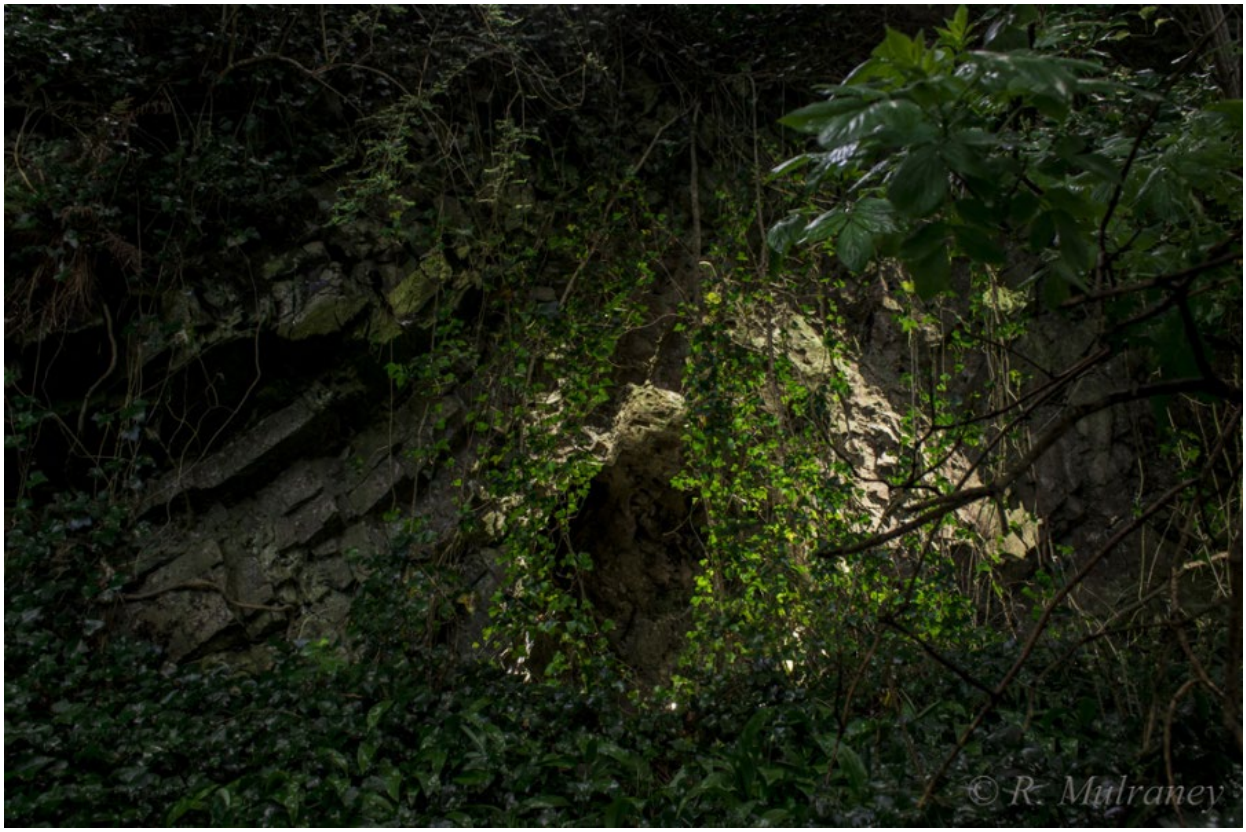


Figure 3-Underground Dublin, Part I: The Caves Of Dublin. (Mulraney, 2021). Looking South West.

PAGE THE IRISH INDEPENDENT, TUESDAY, OCTOBER 6, 1908.

An Irish Cave-Dweller. *Pictures of General Interest.*

IRISH HERMIT WHO LIVES IN A CAVE

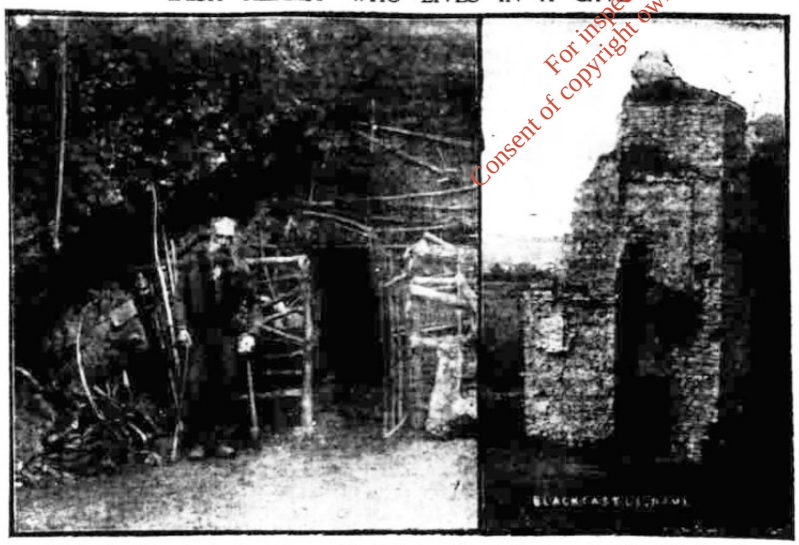


Photo of a Hermit who has taken up his abode in a Cave in the base of a hill at Blackcastle, Naul. Inset is Naul Castle

NOT IN THE CONTRACT

The Corporation Steam-roller was proceeding through Asylum, Derry, a couple of days ago, when it broke into a main drain some ten feet deep, and became fixed in the roadway, in the manner shown above

Exact same view of cave from 1908 on Left hand Side: An Irish Cave-Dweller (The Irish Independent, 1908).

"He can recall too, certain other changes in the village and the now legendary Peter the Hermit was well known to him. ***This hermit lived in the cave which is reputed to run underground from the Castle to the reservoir"****.* - Naul Nonagenarian, Cave – Reservoir link (The Irish Independent, 1962).

"A Cave-Dweller at Naul.-Peter Matthews, aged 90 years, who says he is a native of Bellewstown, County Meath, has for the past ten years been living in a ***cave*** *of the historic Castle of the Nettervilles, on the banks of the River Delvin. He has been sick only once since he took up his present abode, but on the advice of the villagers, the police are keeping a kindly eye over him."* - (Drogheda Independent , 1911).

'Naul Carnival' ***At all times of the year people come to Naul to view its beautiful scenery, historic castle and caves*** *but never before have so many people visited it as during the past fortnight when the Carnival proves to be the principal attraction.* - (The Drogheda Independent, 1950)

Prominent Feature No.2

Two Room Cave east of Naul WWTP. There are numerous karst features adjacent to and under Naul WWTP. None of these have been acknowledged to date i.e. the potential of effluent polluting groundwater recharge zones of high vulnerability.

Figure 4- Interior View, two-room cave, east of Naul WWTP

Below is a piece of historical research on this section of the valley, called the Roach, containing numerous karst cave features. Many of the quotations are from the former landowner who owned the site of Naul WWTP. Dublin County Council CPO'd the land from the former landowner despite several newspaper articles outlining the pushback from various landowners downstream of the Naul WWP site, as there was concern that pollution issues would affect their land and livestock.

Figure 5- Exterior View, two-room cave east of Naul WWTP

The Roach

The roughly 2km section of valley, winding through Naul, hemmed in by precipice cliffs and steep banks is known as 'The Roche' or 'Valley of The Roaches'.

The waterfall and glen are also known by the same name as is 'The Black Castle', also known as 'The Castle of the Roches'. The Roche / An R'oisteach derives from 'ród', a road, by means of the termination of 'seach', according to John Mc Neill who analysed the place name (Logainm).

'Through this vale which is a romantic glen, bordered in many places with rocks of various size and form, and broken into caves, flows the winding Delvin rivulet, which separates the counties of Dublin and Meath, and after forming a waterfall of the same name as the glen, falls into the Irish Sea at the village of Knocknagin' (Lewis, 1837).

Not only did the Roche attract visitors who toured the landscape, but it offered refuge in the past to thieves and robbers 'The Roche, with its numerous caves and crannies was the ideal spot for Collier to hide his loot. Here, smugglers came to hoard their ill-gotten goods. It offered to evil Shaun-Kithogue (left-handed John) and his formidable Amazonian wife perfect security from the eyes of the law' (Scully, Vol. 28, No. 3, Jun., 1975).

There are three distinct caves in the valley, one of them was known as 'The Piper's Hole' as legend has it that 'a venturesome musician piped his way through its dark recess, and the plaintive wail could be heard echoing from under the roadway on the outskirts of the village' (Scully, Vol. 28, No. 3, Jun., 1975). The piper apparently went into the cave but never came out. 'Legend has it that the piper's hole went from underneath the castle, under the village and up to Hynestown in a straight line from the Black castle. The entrance now buried. The presence of a deep cavity beneath the castle site was supposedly confirmed by a geologist who visited the site' (Nulty, 2008).

Another character from the valley was the hermit, a reclusive elderly man who lived in a cave on the Meath side of the river, known as 'The Hermits Cave'. Locals brought him food from time to time. In an interview with Christy Nulty, he recalls his uncle finding the hermit injured at the bottom of a bank, when he went to help the hermit's red cats went for his uncle and his uncle startle them with an iron bar to help the injured man. The hermit was brought soon after to the workhouse in Ballough. (Nulty, 2008).

There is a 'two room' cave near the castle which locals mistook in the past for the piper's cave. Three years after the local branch came to Naul the officers went to visit the cave as there were rumours of ammunition being stored in it. A pick was stuck into the ground and the officers scaled down the cliff face to get to the cave, when then got to the cave they burst their sides laughing as it was much smaller than it was made out to be. Unimpressed with what they found. (Nulty, 2008). Mr Nulty also recalled his father having a tea party in the cave and an evening's entertainment in it! (Lennon, 2019).

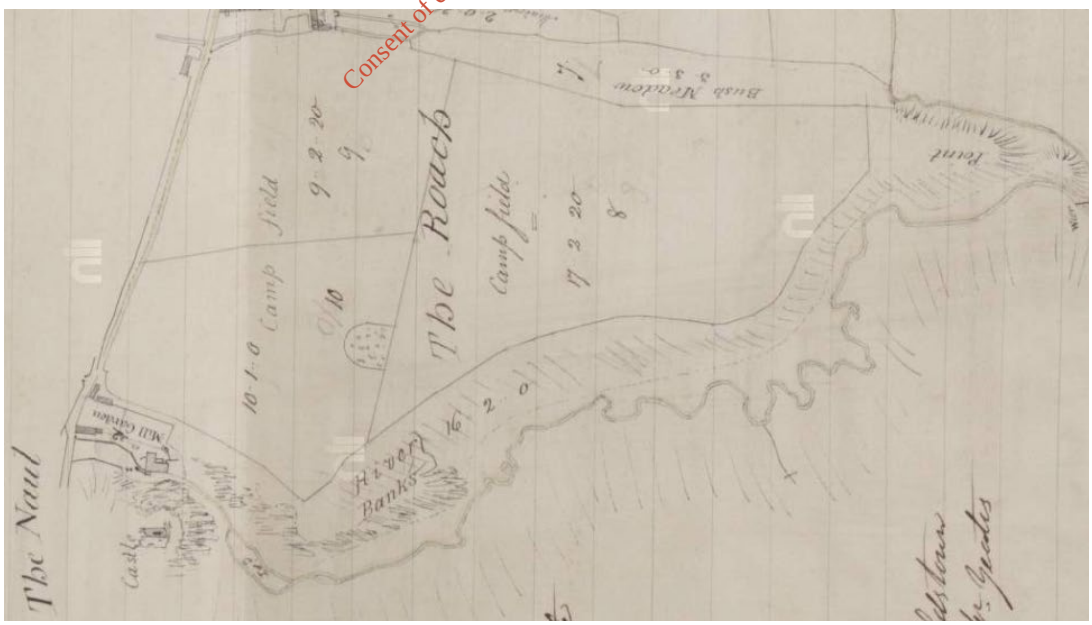


Figure 6 - Longfield Map, 1825, Nicholas Markey's Land, The Roach (Longfield, 1825)

Prominent Feature No.3

Below is the location of the third Karst Feature, this is a submerged cave entrance, located directly beneath Naul WWTP site, possibly extending below the aeration tank. If there were any cracks in the tank sewerage would seep directly into the cave system here, thus posing a hazard to groundwater in an area of groundwater vulnerability.

The primary discharge point discharges directly into this open Karst feature. There may be a risk of pollution to local wells and the aquifer below. This may impact on the public water supply at the Bog of The Ring.

The connectivity of groundwater Karst features in this area to local drinking water supplies and protected sites needs to be further established.

5. **Hydromorphology of the Delvin River has been altered**

As you can see from the attached images the artificial dam downstream alters the flow of the river, meaning for at least 11 months of the year the waterbody is a lake and not a river as stated in the current WWDL application. The same hydromorphic category (river) was used to describe the waterbody in the initial COA Application form which this plant relies upon (Fingal County Council, 2010).

Figure 7 - Here is an image of the location of the Primary discharge point (Naul WWTP red railings background) when the dam is released downstream for c.1 month of the year. As you can see there is a very short period of when the river is an actual river.

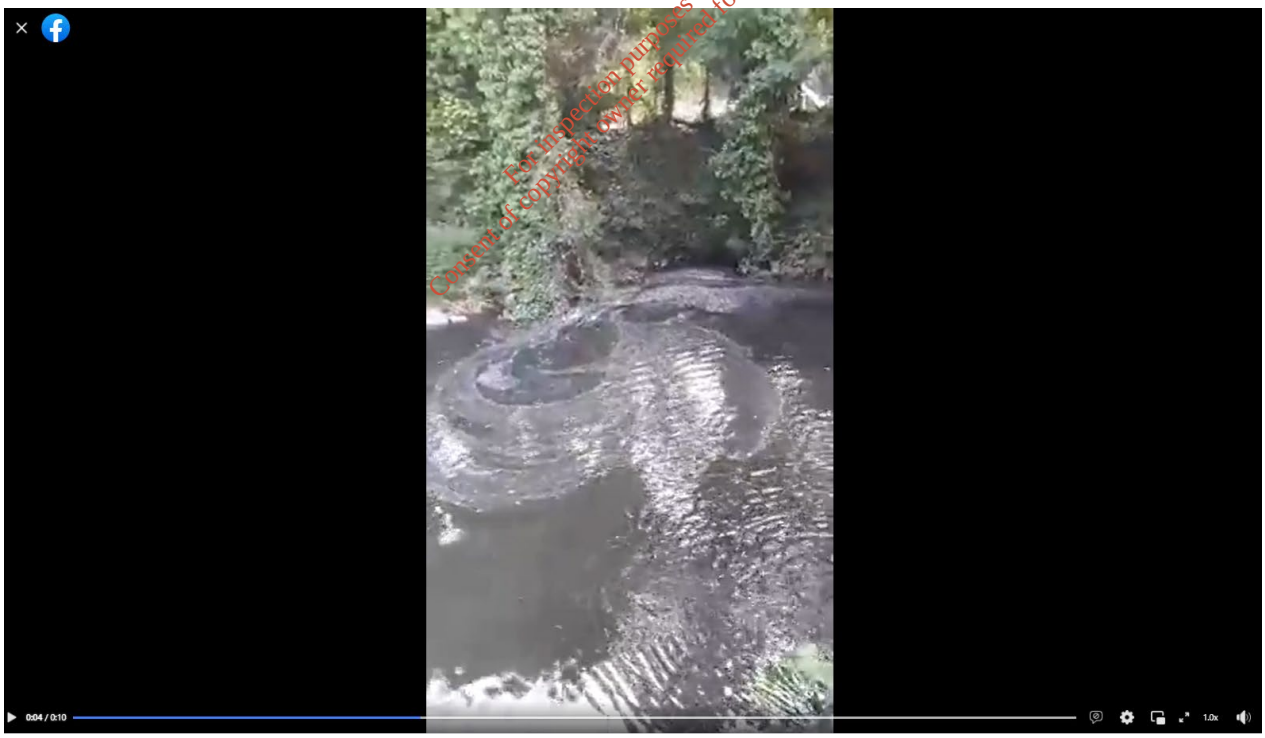


Figure 8 - Here is the typical lake morphology of the waterbody which the primary discharge point discharges into. As you can see for 11 months of the year this is a lake (note pollution foam on water).

The EPA acknowledges this in the description of the Naul Hydrometric Station: *Hydronet 08002 – Naul (Delvin)*

'The station is upstream of the Naul WWTP. There is a 5m natural waterfall 130m downstream of the station and another manmade waterfall a further 500m downstream. ***The river was artificially re-routed and impounded to form a pond between the waterfalls to provide sufficient head loss to run a turbine/small scale hydroelectric power plant.'*** (Environmental Protection Agency, 2022)***.***

The EPA acknowledges the waterbody between the two waterfalls, the natural waterfall northwest of Naul WWTP effluent (primary) discharge point – Known as 'Waterfall of the Roches' (Community Historian Brendan Matthews, 2020) and the artificial waterfall c.400m east/downstream of Naul WWTP is a 'pond' (Environmental Protection Agency, 2022). This however can be classified as a lake due to its sheer size and volume between the two waterfalls on the river. Thus, the assertion that the discharge is to a 'river' is incorrect and this needs to be changed.

As the waterbody is a lake necessary 'retention time' calculations should be included to assess the impact of the daily discharge volume which is retained in the artificial lake. Currently the volume of the lake is unknown. The artificial lake requires a hydrological survey to assess how long the current discharged effluent from Naul WWTP is retained in the lake. This lake was a former historic quarry with a considerable depth.

The EPA has undertaken research on assessing the impacts on such unmonitored lakes (Caroline Wynne, Ian Donohue, EPA Research Report 181, 2016). *"**Proxy measure for lake retention time;** larger, deeper lakes with longer retention times may have a greater potential to store nutrients"* (Free, 2002).

Images of the lake from 2018 show that pollution is most definitely being retained in the lake as the whole waterbody was a grey/green colour at the time. As this is the case, the lake may be acting as an unintended effluent holding pond where large volumes of effluent gather.

As the concentration of effluent gathers in this lake it may elevate nutrient levels in the water which passes through the hydroelectric weir east of the pond, meaning much higher than anticipated levels of pollutants are discharged to the Delvin River east of the lake. This would explain why the river is almost constantly a grey colour until it reaches the tributary of the Fourknocks River (at the extreme eastern extent of the Clashford Recovery site) and even a regular grey hue as far east as the Reynoldstown Townland. See image below for evidence of this.

Figure 9 - Artificial Lake east of Naul WWTP, looking north. The entire waterbody was a very bright grey/green in March 2018, highlighting an overconcentration of nutrients/pollutants. This appears to have been inhospitable and clearly shows the testing regime on the Delvin is flawed.

Figure 10- Grey/Green discoloured river at the north of the Naul townland east of Naul WWTP at this location: 53.594933, -6.279428.

Figure 11 - Same discolouration nearby, this segment was subject to dredging in the past: 53.594897, -6.279723.

Figure 12 - Discolouration and siltation further east: 53.595768, -6.276145.

As the river has been altered in hydromorphology to form a lake since c.2005, this demonstrates that since this time Naul WWTP has been incorrectly discharging into a waterbody which the plant was not designed or licensed to discharge into. This means that since c.2005 (the time the artificial lake was formed) Naul WWTP's design and environmental monitoring has been obsolete.

6. **Insufficient River ambient water quality monitoring in place**

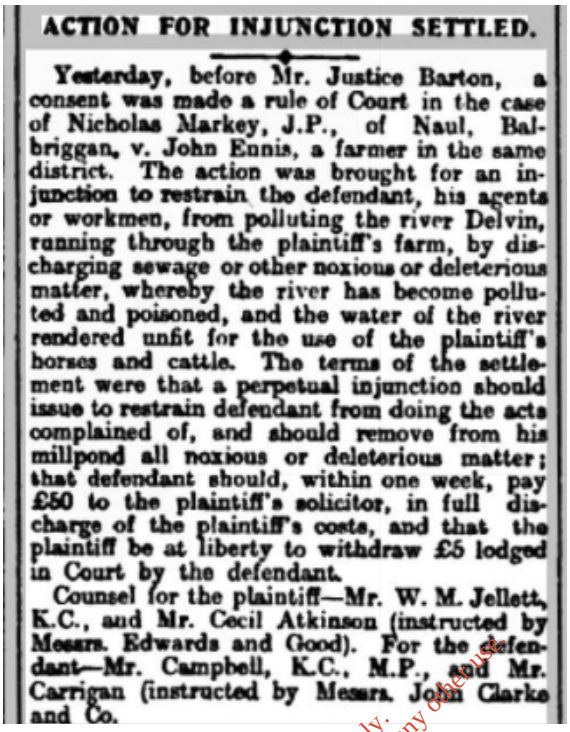
The downstream sampling station (location) 0250: Bridge NW of Forty Acres, implemented in 2006, is not fit for purpose as the hydromorphology of the river has changed due to the artificial lake. This means that when members of the local community make environmental complaints and IW/FCC check samples at this location east of Naul there is obscured data false representative water sampling data that the effluent is being assimilated into the river by the time effluent reaches this point. There is no monitoring at the lake area and no ongoing assessment of the impact of discharge gathering and assimilating in the area of the lake, so the presumption there is a continuous unobstructed flow of discharge from the primary discharge point of Naul WWTP to the downstream monitoring station and that this is being safely assimilated into the river is completely obscured. The discharge builds up in the immediate environment/vicinity of the Naul WWTP and slowly released past the weir. Thus, there may well be an overconcentration of nutrients/pollutants in the lake, which then discharges to the river morphology and is diluted by tributaries downstream. Monitoring of the Delvin _20 section has been completely obscured for some time and arguably has never been effective due to artificial barriers obscuring 'assumed' qualitative data.

As previously mentioned, the artificial lake, while altering the hydromorphology of the river, has proven to become a new habitat which has provided beneficial aspects for biodiversity on the Delvin River and there are indications this has attracted new protected species to inhabit and visit this area of the valley in recent years. I am not suggesting that this should be reversed to its natural state, as to do so would displace protected species which have come to rely on this habitat. Any attempt on behalf of the local authorities or IW to seek/investigate altering this landscape would have dire consequences for the protected species in this area which would do more harm than good and should be avoided at all costs. Such a move would affect species protected under national law and EU Directives and may have knock on effects for species which may visit this location from nearby sites in the Natura 2000 network.

The observed issues with water quality monitoring on the Delvin river, due to hydromorphological changes on the river, may in fact be obscuring the characterisation of the Delvin River in the WFD Catchment assessment. The true picture of the environmental situation on the Delvin River may be may worse than is currently being quantified due to possible inadequacies in the testing regime which may obscure sampling data downstream of Naul WWTP.

7. Pollution Historical Legal Precedent in Naul

Pollution issues have a precedent at this site. In 1908, 76 years before the Naul Sewerage Scheme was complete and the Naul WWTP opened a former landowner who previously owned the land north of the Delvin River secured an injunction against his neighbour, upstream west of Naul Bridge, from polluting the Delvin River with sewerage (The Irish Times, 1908). 112 years later, in 2020 there are pollution complaints at the exact same location.



ACTION FOR INJUNCTION SETTLED.

Yesterday, before Mr. Justice Barton, a consent was made a rule of Court in the case of Nicholas Markey, J.P., of Naul, Balbriggan, v. John Ennis, a farmer in the same district. The action was brought for an injunction to restrain the defendant, his agents or workmen, from polluting the river Delvin, running through the plaintiff's farm, by discharging sewage or other noxious or deleterious matter, whereby the river has become polluted and poisoned, and the water of the river rendered unfit for the use of the plaintiff's horses and cattle. The terms of the settlement were that a perpetual injunction should issue to restrain defendant from doing the acts complained of, and should remove from his millpond all noxious or deleterious matter; that defendant should, within one week, pay £50 to the plaintiff's solicitor, in full discharge of the plaintiff's costs, and that the plaintiff be at liberty to withdraw £5 lodged in Court by the defendant.

Counsel for the plaintiff—Mr. W. M. Jellett, K.C., and Mr. Cecil Atkinson (instructed by Messrs. Edwards and Good). For the defendant—Mr. Campbell, K.C., M.P., and Mr. Carrigan (instructed by Messrs. John Clarke and Co.

Figure 13 - Pollution of the Delvin River (The Irish Times, 1908)

There was serious resistance to the scheme in 1971 whereby a public enquiry took place as there were a considerable number of landowners in Naul who were concerned about the impact the Sewerage Scheme and a waste treatment plant would have on the Delvin River (Drogheda Independent, 1972, p. 5).

12 local people including racehorse owners, farmers and landowners downstream of Naul WWTP objected to the proposed siting of the plant in 1971 stating ***'the discharge would cause a danger of disease and a loss of amenity; livestock would be threatened; children could not swim in the river and fishing might be damaged'*** (Drogheda Independent, 1972, p. 5).

Mr Hugh Flaherty representing the objectors received expert veterinary evidence at the time demonstrating that the effluent discharged into the stream (Delvin River) would endanger livestock in the river valley. He also stated that *'The Co. Council should revise its plans and pipe the effluent to the coast. He contended that the population of Naul was bound to grow as people looked for more hosing on the perimeter of Dublin: the amount of effluent would increase'* (Drogheda Independent, 1972). Mr. O'Donnell acting City Engineer stated that the: '*present population of Naul was 95. The proposed sewage scheme had capacity for 400. There was no reason to suggest that the population would expand much in future'…'The effluent from the sewage works would be so diluted as not to cause offence'* (Drogheda Independent, 1972). Mr. Owen Cody, Chief Veterinary Officer for Dublin Co. Council stated: *'the risk of animals getting diseased from the sewage works was extremely remote and would not be likely unless there was an epidemic in the human population'* (Drogheda Independent, 1972).

50 years later the concerns of locals and their worst fears of the impact of pollution on this river have become a reality. Local residents regularly observe pollution on the Delvin River, where once the site was a public amenity and bathing location – it is now completely avoidable due to health risks. Local resident knew that the local population was bound to grow, yet the council failed to acknowledge this at the time, we are now in a situation where the plant is overloaded. As the old saying goes: *'fail to prepare, prepare to fail'*.

The chief council veterinary officer at the time noted that disease was unlikely unless there was an epidemic – during the first few months of the pandemic there has been very real concerns in the community about the public health risks pollution issues from the Naul WWTP to the Delvin River may have caused. EPA enforcement notes there was uncontrolled releases of waste water in 2020 (SV21558). At the time studies had shown Covid-19 disease was prevalent in UWWT (HSE, 2021). Previous lab studies of SW samples adjacent to Naul WWTP also showed elevated levels of coliforms at this particular location (Shields, 2018), demonstrating the very real health risk posed by insufficiently treated effluent from the Naul WWTP.

The following concerns raised 50 years ago have now materialised:

Sewage works a threat inquiry told

ONE MILLION pounds worth of cattle and racehorses were threatened by a proposed sewage works at Naul, in north Co. Dublin, a compulsory purchase order inquiry was told in Dublin today.

At the inquiry 12 local people, including farmers and a racehorse owner, objected to the confirmation by the Minister for Local Government of the C.P.O. which would allow the Co. Council to build a sewage disposal works on the banks of the River Delvin.

They say the discharge of effluent would cause a danger of disease and a loss of amenity; livestock would be threatened; children could not swim in the river and fishing might be damaged.

HOUSING SITE

The Compulsory Purchase Order relates to property owned b Mr. Christipher Nulty, of Naul. The proposed sewage works would serve a four-acre Co. Council site where 24 houses are planned.

The objectors also include Mr. Richard Ball, owner of the Racehorse Stud at Reynoldstown.

Mr. Hugh Flaherty (for the objectors) said he had expert veterinary evidence showing that the discharge of effluent into the stream would endanger livestock in the river valley.

He said the Co. Council should revise its plans and pipe the effluent to the coast. He contended that the population of Naul was bound to grow as people looked for housing sites on the perimeter of Dublin; the amount of effluent would increase.

POPULATION

Mr. Kevin O'Donnell, Acting City Engineer, said the present population of Naul was 95. The proposed sewage scheme had a capacity for 400. There was no evidence to suggest that the population would expand much in the future.

Mr. O'Donnell added that the site was chosen because of engineering considerations. The efluent from the sewage works would be so diluted as not to cause offence. The cost of the scheme would be about £25,500. The cost of piping the effluent to the sea would be £50,000 extra.

Mr. Owen Cody, Chief Veterinary Officer of Dublin Co. Council, said the risk of animals getting diseased from the sewage works was extremely remote and would not be likely unless there were an epidemic in the human population. In that case, adidtional measures could be taken to steridise the effluent from the works.

Mr. Cody said that effluent would be treated and farmers in the area need have no fear for their cattle.

Mr. Flaherty said that Mr. Cody had admitted there was a risk, however remote.

Dr. Morgan Crowe, Chief Medical Officer of the Co. Council, said the advantages of the installation of the sewage works would be colossal for people who had never had indoor sanitation.

There might be some damage

Vet warns on infection from sewage

A veterinary surgeon warned yesterday that if Dublin Co. Council went ahead with its plans to erect a sewerage disposal works on the banks of the River Delvin at Naul animals in the vicinity could be infected.

And Dr. J. D. Collins of the Veterinary Medicine, Pharmacology and Food Hygiene Dept. of U.C.D., said that the consumption of the meat from those animals could result in severe cases of food poisoning.

Dr. Collins was giving evidence in a public inquiry into the acquisition of a small plot of land on the banks of the river, by Dublin County Council, under a Compulsory Purchase Order, for the sewerage works.

Mr. Hugh O'Flaherty, B.L., representing 12 objectors to the proposed development, claimed that if the proposal went through, it could endanger livestock and racing horses to the value of £1m.

The objectors include Mr. Richard Ball, the well-known racing stud owner, and they claim that as well as affecting livestock, the development will reduce the area's amenities. The land is situated on the farm of Mr. Christopher Nulty.

Mr. Kevin O'Donnell, Acting City Engineer, said that the site for the sewerage plant was chosen on the grounds of its engineering suitability. Only a regulation amount of effluent would be discharged, and this would be so diluted by the stream that no offence would be caused.

(Irish Press, 1971)

Sewage plan 'threat to livestock'

CATTLE and racehorses worth £1 million, children's swimming places and fishing facilities were seriously threatened by a proposed £25,500 sewage works at Naul, North Co. Dublin, a Compulsory Order Inquiry was told in Dublin yesterday.

Twelve local people, including farmers and a racehorse stud owner, objected to the Minister for Local Government's confirmation of the Order. They claimed that effluent discharge into the River Delvin would mean a danger of disease and food-poisoning and a loss of amenity.

Mr. Hugh O'Flaherty, B.L., for the objectors, said he had expert veterinary evidence that effluent discharge into the river would endanger livestock in the area. He wanted the County Council to pipe the effluent to the coast and said that, as people looked for housing sites further away from Dublin city, the amount of sewage would increase.

Mr. Kevin O'Donnell, acting city engineer, said that there was no evidence to show that Naul's population would expand much in the future. The cost of piping the sewage to the sea would be prohibitive, being in the region of £50,000 extra. The effluent from the works would be diluted so as not to cause danger or offence.

Mr. J. D. Collins, of the Veterinary and Food Hygiene Department, U.C.D., for the objectors, said that any discharge into the stream could lead to food-poisoning. The Chief Veterinary Officer of Dublin Co. Council, **Mr. Owen Cody,** said that this was extremely remote and would not be likely unless there was an epidemic in the human population. In that case additional measures could be taken to sterilise the effluent from the works.

The Purchase Order is on property owned by Mr. Christopher Nulty. The proposed works would serve a four-acre Co. Council site where 24 houses are planned.

(Irish Independent, 1971)

£40,000 sewage plan 'no hazard'

A £40,000 sewage and drainage scheme for Naul, Co. Dublin, would not cause a pollution hazard to cattle and horses drinking from the river Delvin, a compulsory purchase inquiry was told today. A group of local farmers and horse breeders are objecting to Dublin County Council compulsorily acquiring a site for a sewage treatment plant just outside the village.

Mr. Kevin O'Donnell, Chief Engineer, Dublin County Council, told the hearing that checks on the river flow over the past eight years had shown it was sufficiently strong to carry the treated sewage from Naul and housing development taking place there.

(Evening Herald, 1975)

As history has shown there was very real concerns regarding the Naul WWTP project over 50 years ago. There concerns of the community were not properly addressed as the Local Authority downplayed the likely affects from effluent from the Naul WWTP. Most of the concerns at the time have now materialised and become reality for local residents, with some of the remaining original objectors being left angry as they weren't taken seriously at the time.

A further watering down of the communities concerns occurred in 2009, when the Local Authority applied for a Certificate of Authorisation for Naul WWTP, without undertaking the correct background assessment of the receiving environment. The fact the CoA was granted for Naul WWTP, regardless of observed species and hydromorphological changes on the river, concretised the stance the Local Authority took in 1971-75 of 'unlikely impacts on the environment' and appears to have legitimised the works which have never had sufficient environmental impact assessment in place.

The policy of proceeding with licenses without sufficient assessment of the receiving environment is a highly unsustainable practice. This practice seems to have been legitimised in the case of Naul WWTP. EU caselaw has demonstrated that in such instances the precautionary principle should be implemented:

'The precautionary principle is an approach to risk management, where, if it is possible that a given policy or action might cause harm to the public or the environment and if there is still no scientific agreement on the issue, the policy or action in question should not be carried out. However, the policy or action may be reviewed when more scientific information becomes available. The principle is set out in Article 191 of the Treaty on the Functioning of the European Union (TFEU)' (European Union, 2000).

The EPA has since instructed: *'Irish Water shall ensure there is sufficient capacity at the waste water works and keep the community in the Naul and the EPA up to date on key milestones of the upgrade project'* (SV21558). IW has had no engagement with the community in Naul about their intentions or goals with the 'upgrade' project to date. The same approach taken by the LA 50 years ago is being repeated again, which left the community feeling an inquiry was the only avenue which their concerns could be voiced about proposed WWT works in Naul. **Meaningful engagement is urgently needed immediately** in order to bring the local community on board with Irish Water and FCC's intentions.

8. Pollution affecting the amenity use of the Delvin River

The Naul WWTP is located to the waterfall of the Roches in Naul, which was once a popular swimming spot for the local Naul Swimming Club. This location has been used for boating as the river is dammed downstream and has until recent years been used as a swimming spot by local youth *(myself included as recently as 2014)*.

Ongoing pollution issues on this location of the Delvin River are affecting the local community's use of the river as a swimming location due to the associated pollution issues emanating from the Naul WWTP. This also affects the fishing potential and angling use of the Delvin River and restricts the community from using this stretch of the Delvin River and indeed downstream of Naul due to contamination fears from pollutants being discharged into the river body.

Below some extracts from a time when Dublin County Council and Meath County Council indicated a commitment to develop this location as a public amenity on the Delvin River (Drogheda Independent, 1951).


Drogheda Independent - Saturday 24 March 1951

Page 6 of 8

Masses on Easter Sunday are at 9 and 11 a.m.

Naul Swimming Pool

Dublin County Council, at their Estimates meeting, provided for a sum of £150 as a contribution towards the cost of a swimming pool at The Naul. The money was authorised by the Council in 1947 and it is anticipated that the local Association, which also got a grant from Meath County Council, will put the work in hands during the coming year.

Search Terms | Print | Download

(Drogheda Independent, 1951)

Pollution issues emanating from Naul WWTP are in contrary to the Naul LAP and also are in conflict with the Fingal Biodiversity Plan and objectives within the Fingal County Development Plan

Extract from Naul LAP (2011-2016 – extended to April 2021):

6. Biodiversity:

The Fingal Biodiversity Plan sets out the Council's objectives for biodiversity conservation for the next 20 years which a particular emphasis on the first five years (2010-2015). ***A major element of the Fingal Biodiversity Plan is the development of the Fingal Ecological Network. The key ecological corridors through Fingal are the rivers, their floodplains and the adjacent farmland or parkland. The River Delvin flows north of the village. This shall be protected and maintained for its biodiversity and amenity value including surface water management. In this regard, a riparian corridor of 30 metres shall be established on the southern banks****. (the northern bank is within County Meath),* ***this width is based on the habitat range of the Otter, which can be found along all the rivers in Fingal.*** *The riparian corridor will also incorporate part of the required buffer zone from the existing Waste Water Treatment Plant'* (Fingal County Council, 2011).

Objective WQ01

Strive to achieve 'good status' in all waterbodies in compliance with the *Water Framework Directive, the Eastern River Basin District Management Plan 2009-2015* and the associated Programme of Measures (first cycle) and to cooperate with the development and implementation of the second cycle national *River Basin Management Plan 2017-2021*.

Objective WQ02

Protect and develop, in a sustainable manner, the existing groundwater sources and aquifers in the County and control development in a manner consistent with the proper management of these resources in conformity with the *Eastern River Basin Management Plan 2009-2015* and the second cycle national *River Basin Management Plan 2017-2021* and any subsequent plan and the Groundwater Protection Scheme.

Objective WQ03

Implement the recommendations of the Groundwater Protection Scheme.

Objective WQ04

Protect existing riverine wetland and coastal habitats and where possible create new habitats to maintain naturally functioning ecosystems whilst ensuring they do not impact negatively on the conservation objectives of any European Sites.

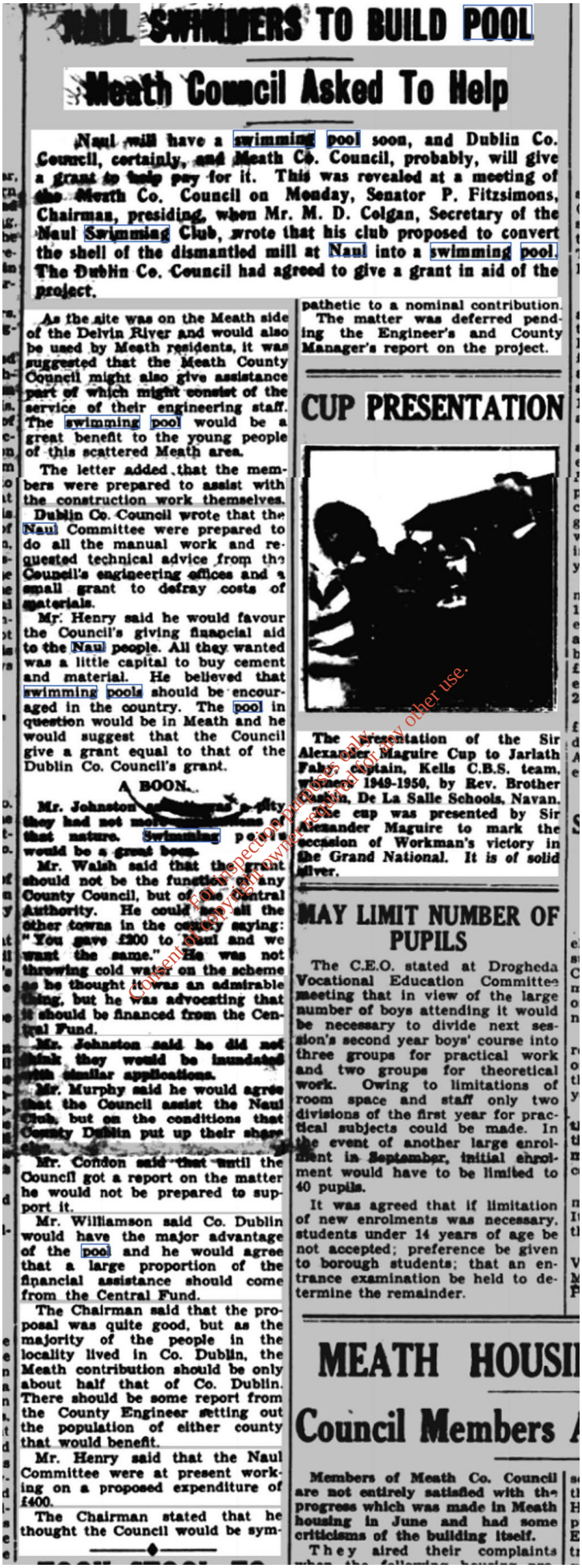
Objective WQ05

Establish riparian corridors free from new development along all significant watercourses and streams in the County. Ensure a 10 to 15 metre wide riparian buffer strip measured from the top of the bank either side of all watercourses, except in respect of the Liffey, Tolka, Pinkeen, Mayne, Sluice, Ward, Broadmeadow, Corduff, Matt and Delvin where a 30m wide riparian buffer strip from top of bank to either side of all watercourses outside urban centres is required as a minimum.

Objective WQ06

Minimise the impact on surface water of discharges from septic tanks, proprietary effluent treatment systems and percolation areas by ensuring that they are located and constructed in accordance with the recommendations and guidelines of the EPA and Fingal County Council.

(Fingal County Council, 2017)



NAUL SWIMMERS TO BUILD POOL

Meath Council Asked To Help

Naul will have a swimming pool soon, and Dublin Co. Council, certainly, and Meath Co. Council, probably, will give a grant to help pay for it. This was revealed at a meeting of the Meath Co. Council on Monday, Senator P. Fitzsimons, Chairman, presiding, when Mr. M. D. Colgan, Secretary of the Naul Swimming Club, wrote that his club proposed to convert the shell of the dismantled mill at Naul into a swimming pool. The Dublin Co. Council had agreed to give a grant in aid of the project.

As the site was on the Meath side of the Delvin River and would also be used by Meath residents, it was suggested that the Meath County Council might also give assistance part of which might consist of the service of their engineering staff. The swimming pool would be a great benefit to the young people of this scattered Meath area.

The letter added that the members were prepared to assist with the construction work themselves.

Dublin Co. Council wrote that the Naul Committee were prepared to do all the manual work and requested technical advice from the Council's engineering offices and a small grant to defray costs of materials.

Mr. Henry said he would favour the Council's giving financial aid to the Naul people. All they wanted was a little capital to buy cement and material. He believed that swimming pools should be encouraged in the country. The pool in question would be in Meath and he would suggest that the Council give a grant equal to that of the Dublin Co. Council's grant.

A BOON.

Mr. Johnston said [illegible] city they had not made [illegible] of that nature. Swimming pools would be a great boon.

Mr. Walsh said that the grant should not be the function of any County Council, but of the Central Authority. He could hear all the other towns in the county saying: "You gave £200 to Naul and we want the same." He was not throwing cold water on the scheme as he thought it was an admirable thing, but he was advocating that it should be financed from the Central Fund.

Mr. Johnston said he did not think they would be inundated with similar applications.

Mr. Murphy said he would agree that the Council assist the Naul Club, but on the conditions that County Dublin put up their share also.

Mr. Condon said that until the Council got a report on the matter he would not be prepared to support it.

Mr. Williamson said Co. Dublin would have the major advantage of the pool and he would agree that a large proportion of the financial assistance should come from the Central Fund.

The Chairman said that the proposal was quite good, but as the majority of the people in the locality lived in Co. Dublin, the Meath contribution should be only about half that of Co. Dublin. There should be some report from the County Engineer setting out the population of either county that would benefit.

Mr. Henry said that the Naul Committee were at present working on a proposed expenditure of £400.

The Chairman stated that he thought the Council would be sympathetic to a nominal contribution.

The matter was deferred pending the Engineer's and County Manager's report on the project.

CUP PRESENTATION

The presentation of the Sir Alexander Maguire Cup to Jarlath Fahy, captain, Kells C.B.S. team, winners 1949-1950, by Rev. Brother Austin, De La Salle Schools, Navan. The cup was presented by Sir Alexander Maguire to mark the occasion of Workman's victory in the Grand National. It is of solid silver.

MAY LIMIT NUMBER OF PUPILS

The C.E.O. stated at Drogheda Vocational Education Committee meeting that in view of the large number of boys attending it would be necessary to divide next session's second year boys' course into three groups for practical work and two groups for theoretical work. Owing to limitations of room space and staff only two divisions of the first year for practical subjects could be made. In the event of another large enrolment in September, initial enrolment would have to be limited to 40 pupils.

It was agreed that if limitation of new enrolments was necessary, students under 14 years of age be not accepted; preference be given to borough students; that an entrance examination be held to determine the remainder.

MEATH HOUSI

Council Members A

Members of Meath Co. Council are not entirely satisfied with the progress which was made in Meath housing in June and had some criticisms of the building itself.

They aired their complaints

Figure 14- Naul Swimming Pool previously proposed across from Naul WWTP site (Drogheda Argus and Leinster Journal, 1949)

Historical references to Angling on the Delvin River downstream of Naul WWTP:

GORMANSTON AND DISTRICT ANGLERS CELEBRATE GOLDEN JUBILEE

THE Gormanston and District Anglers Club celebrated its golden jubilee this year without any noticeable celebration.

Nevertheless, the anniversary means a great deal to the many members who dedicated themselves to the organisation and administration of the club down the years since June 1938. Many of the young, and not so young, male and female members will recall many happy, peaceful days spent fishing along the River Delvin from Naul, through the tranquil beauty of the Roche Valley and past the old mill, the bridge of the Doolagh, alongside the woods of Stadalt, through Stamullen and the grounds of Gormanston College. There were many long summer nights (and mornings) spent spinning fishy tales at the pool at the main road bridge.

The last remaining founder member of the club, John Baxter, died this year and the club owes a great debt of gratitude to him. John was followed by the late Pat Dillon, a previous chairman of the club, who won the Leinster individual fly fishing championship in 1971.

Then it was the turn of the late Brendan Marry to bring honours to the club when he qualified for the Leinster fly fishing team and later qualified for the Irish international team. Unfortunately, Brendan did not see the registered letter informing him of the great honour of representing his country as he died suddenly on the very day the letter arrived.

Then in 1975, four members of the club, although fishing for a neighbouring club, won the Leinster inter-club fly fishing championship on Lough Owel—the team members being C. (Kit) Byrne, captain, P. Monaghan, M. Kelly, E. Maguire. Michael Kelly has since gone on to represent the club on both the Leinster and national teams on a number of occasions.

One of our prominent members, Jim Cannon, who is disabled, represented Ireland in the paraplegic international fly fishing match.

The club is fortunate to have had the services of a bunch of dedicated members and officials and supporters, including landowners and business people, down through the years and great thanks and honour is due to them.

The club and its members have been and still are highly regarded throughout the country among sporting colleagues in England, Scotland and Wales. The Gormanston and District Anglers Club is affiliated to the Trout Anglers Federation of Ireland and the Irish Trout Fly Fishing Association and was attached to the former Joint Council of Boyne Anglers.

Good fishing to the present committee and membership of the club—and good fishing and tight lines for the next 50 years!

(The Independent, 1988)

(a) 8 v. 4, 1 v. 2; (d), 5 a v. b, and round games on Sunday.

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Gormanston drive for more anglers

A drive to recruit more members in all age groups and sexes has been launched by the Gormanston and District Anglers Association.

Concerned at a recent reduction in the number of members, the officers of the club have distributed leaflets in Gormanston and Balbriggan inviting applications for membership.

Mr John O'Connor said this week that the club were involved in restocking the Delvin River and new members could depend on good fishing for many years.

New members should contact him at his Balbriggan office, secretary, John Collier, Station House, Gormanston; Dominick Clarke, Station Road; or John Macken, Stamullen. Subscription is £2 for adults, 50p for juveniles.

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Reference to amenity use of the Delvin River (note this was widely used for swimming until the 1980's and further locations downstream are still use by youth today) :

Steach Maoilín added a new photo to the album: **Community Historian, Brendan Matthews.**

October 30, 2020 ·

Community Historian, Brendan Matthews. The Wonder of our Natural Heritage. Photo depicts the beautiful Roche-of-the-Naul. The waterfall is hemmed in here and overlooked by a 20 metre-high cliff face , on the Fingal-side of the river, that contains natural limestone caves high up in the cliff and of which, there are many local-lore tales. The medieval `Black Castle` of the Naul was constructed on the summit of the cliff, with the natural limestone caves running beneath. As the Naul village was situated along the old Coach-Route from Church St. in Dublin to Drogheda via St. Margarets, Ballyboughal and Naul, many passing travel-writers of the 18th and 19th century referred to the beauty & wonder of the `Roche-of-the-Naul`. The deep pool of the Delvin River beneath the cascading flow of water was widely used and respected by bathers during the Victorian Period. The following is an extract from the writings of one such Travel-Writer & Antiquarian, John D`Alton, during the summer of 1836, when he first paid a visit to the Mill at Tullog before he proceeded to the Roche-of-the-Naul. `The hedges along the road were breathing the perfume of wild roses and woodbine, while the shady ditches behind them, the sheep lay listlessly panting in the heated atmosphere. In such an hour it was cooling, as by sympathy, to see the bathers plunging and to look upon that stream itself, gliding in graceful meanders, while the silence of the valley was broken only by its babbling current, or the strokes of the Mill-Wheel that laboured to impede it. Hence the lovely glen of the Naul, with Westown House peering at its head and we reach a portion of the valley called the Roches, closely hemmed in by precipitate cliffs, rich with vegetable drapery at their base and in their tall summits caverened to a considerable depth. The gap of this fine glen is sentinelled at the Meath side by Snowtown Castle and on the Dublin side by the Dark Castle. The aforementioned `Snowtown Castle`, was the residence of the Caddell family prior to them moving to Herbertstown House. Researched, written & compiled by Community Historian, Brendan Matthews.

(Community Historian Brendan Matthews, 2020)

9. Effect of Pollution on cultural heritage and landscape of the Delvin River and Roach Valley

There is frequent pollution of the water around the cliff – *Naul comes from the Irish An Aill – What a way to value our most distinctive feature and cultural heritage by surrounding it with sewerage!*

It is quite clear that the natural heritage, landscape and cultural heritage of this section of the valley immediately adjacent to Naul WWTP and downstream of the discharge point is of immense value and meaning to the local community and its identity.

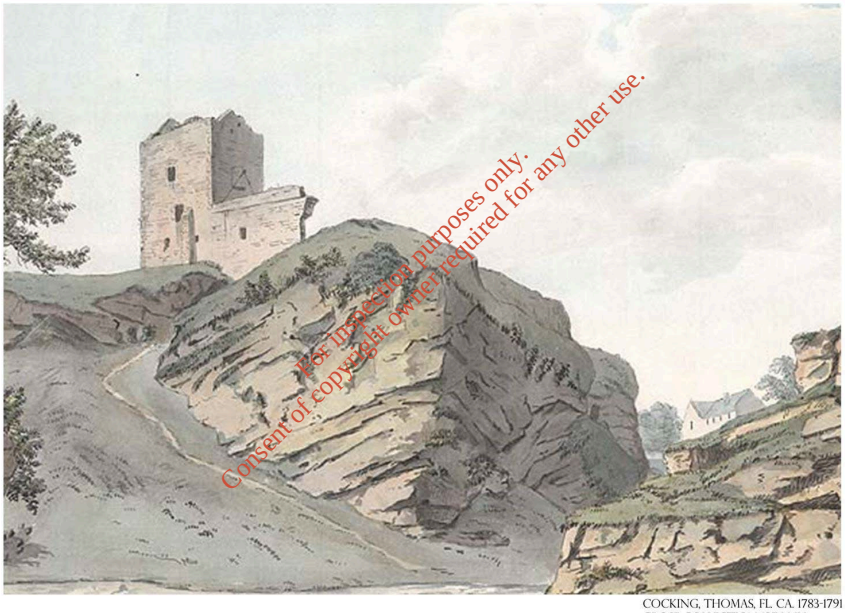
Ongoing pollution issues in this historic valley are posing an identity issue for the historic landscape in Naul. Much of this pollution has gone unmitigated for years and is impact cannot be quantified regarding the ecological and habitat decline such activity has had on the area.

These pollution and environmental issues also pose a barrier to the enjoyment of the village's amenity and heritage assets and thus affect the tourism potential and development of Naul village as a heritage village. This is in contrast to the Naul LAP and Fingal CDP 2023-2029.

Where once this river supported the earlies inhabitants in the area, poor planning and a lack of investment in infrastructure has meant that the most important asset, the Delvin River, which fed early inhabitants and powered several mills which contributed to the growth of Naul Village, has been neglected.

Poor policy and practice have led the village to turn its back, drop it's trousers and empty its bowels into the waters of the Delvin River. A long term solution beyond the current WWTP is needed. You don't sh*t on your own doorstep.

THE BLACK CASTLE



COCKING, THOMAS, FL. CA. 1783-1791
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Cosily nestled amid woods of verdant green, at the junction of the counties Meath and Dublin, and, overlooking the beautiful valley of the Roach, is the picturesque village of Naul—a village which boasts of immortal, historical fame, in being the scene of innumerable battles, and the birthplace of many illustrious men. But, to-day it slumbers in an atmosphere of oblivious, contented prosperity, and, though it was a cockpit in the past, it it now one of the most inconspicuous of historical landmarks.

Naul (the Irish form of which is In-aill) means cliff, and the valley underlying it is the most beautiful in Dublin or Meath. The Delvin river flows through it by a very winding course, and, serves the double purpose of beautifying the valley and separating the aforementioned counties. In summer the scenery is in its prime, and, the masses of flowers of various hues which dot grass of luxurious green form a picture of Nature that once seen can never be forgotten.

The village itself comprises some 100 homes and the inhabitants either directly or indirectly derive their living from agriculture;

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View from base of castle looking south – note the dammed river was recently released and is filling back up

10. Delvin River Fishery

The Delvin River is an important fishery which has been stocked by the local angling club, Gormanston and District Angling Club since June 1938 (the past 84 years). Historical references find that there have been health stocks of wild trout on this river for many centuries. The importance of this fishery was previously outlined by An Taisce in 2008:

River Delvin, protection of fishing stocks, risk of flooding

The River Delvin falls within Water Policy Regulations (S.I. No. 722 of 2003) and the EU Water Framework Directive (2000/60/EC), which requires the protection and enhancement of the status of all waters. The Delvin River is one of the last rivers in Dublin/Meath that has sea trout run on it annually.

This is a very important spawning river for this fish and any increase in debris/silt will affect the water quality. This will also cause irrevocable damage to other species in the river, namely the brown trout, given that stock has been supplemented for the last 10 years. Concerns have been expressed by An Bord Pleanla, the Eastern Regional Fisheries Board and Meath County Council on the impact to the river and risk of flooding to adjacent land and properties, as lands to the west constitute flood plains.

Please acknowledge our submission and advise us on any decision made.

Yours sincerely,

Phoebe Duvall
Planning and Environmental Policy Officer
An Taisce – The National Trust for Ireland

(An Taisce, 2008).

Inland Fisheries Ireland note the importance of this fishery within their submission on the *Strategic Issues Paper* consultation in 2021 for he Fingal County Development Plan 2023-2029:

'Currently the EPA has classified the Delvin system as poor status (3) and is unsatisfactory throughout. Please note the following issues within this catchment.

• *Excessive siltation is noted by IFI throughout the system.*

• *Extensive quarrying and infilling is being carried out within this catchment.*

• *There are also some notable artificial barriers/obstructions on the river that would need to be recorded and dealt with as part of the 3rd Cycle of the WFD.*

Please note that the Delvin River is an important salmonid fishery with valuable stocks of Sea Trout, Brown Trout, Eels, Lamprey and Crayfish' (Noel McGloin, Senior Fisheries Environmental Officer, Inaland Fisheries Ireland, 2021).

Inland Fisheries Ireland also go on to state the unsustainable practice of development where sufficient infrastructure does not exist *'The policy of granting planning permissions for developments with associated increased loading on inadequate or already overloaded municipal sewage treatment plants is clearly not a sustainable practice'… 'IFI is also extremely concerned about the ongoing issues at Stamullen Wastewater Treatment Plant'* (Noel McGloin, Senior Fisheries Environmental Officer, Inaland Fisheries Ireland, 2021).

It should also be noted that there is a flood plain upstream and downstream of Naul WWTP and that washout is an issue at the plant during heavy rain '*Fingal CC have identified that there are potential risks to effluent quality. Plant washout was identified as an issue*' (RPS, 2018).

Any risk this may pose to human health or agriculture should be investigated.

* ***Note***: Land Registry Folios for properties adjoining the Delvin River note many properties are: '*Subject To The Fishing Rights And Fisheries (If Any) Reserved By Section 45 Of The Land Act, 1923, As Amended By Section 3 Of The Land Act, 1929'.* Pollution issues at present seem likely to affect the fishery on this river and the individual fishing rights of landowners downstream of Naul WWTP. Pollution issues may be affecting landowners' rights of the enjoyment of their properties.

11. Underestimation of existing loading on Naul WWTP

The existing calculation figure for the Naul WWTP live organic loading of 647 P.E. seems to be a drastic underestimation of the actual loading this plant receives.

For example, there are cultural activities, shops, services and a pub in the village which increase the organic loading. means that the WWTP could accept a daily load of 1147P.E during summer months.

It should be noted that the WWTP is only designed for 400 P.E. and may be overloaded by 8x capacity at weekends in summer months and 2.8 x over its design capacity on a weekend day during summer months. The proposed upgrade would not even cater for the current peak loading of the plant which can be in excess of 1,147P.E. per day.

Irish Water of course would not understand where these loading figures come from as there has been absolutely no engagement with the local community. Persisting to avoid a meaningful dialogue with the local community is leading to more pollution, more environment and habitat damage, more waste of public funding on 'red herrings', delays to the development of the village, a further progression of the housing crisis, deprivation, public health hazards from the river and sustainable development. As an outside body there is a lack of understanding of the intimate situation in Naul.

Maps secured under FOI request in 2020 (FCC FOI/2020/094) also suggest that the LA and IW are not aware of the full extent of properties served by the WWTP/connected properties in the agglomeration. This would explain why there appears to be an underestimation in loading calculation figures. This if of concern as the real average loading is believed to be in the region of c.705 P.E.

It should also be noted that the river flow during summer droughts can dry up drastically, meaning that there may be occasions when the discharge would insufficiently dilute in the Delvin River. During drought conditions in 1989, 1990, 1991 and 1995 the river flow was reduced to 0.03m3/s (30 litres a second)

TABLE A2-1

LOW FLOW RECORDED AT SELECTED GAUGING STATIONS FOR THE YEARS INDICATED

Stat. No.	LOCATION	RIVER	BDS	AREA km²	1975 Flow m³/s (date)	1976 Flow m³/s (date)	1989 Flow m³/s (date)	1990 Flow m³/s (date)	1991 Flow m³/s (date)	1995 Flow m³/s (date)
01043	BALLYBOFEY	FINN	OPW	319	0.33* 03/07/75	0.46* 30/08/76	0.39* 21/07/89	1.8* 19/07/90	0.83* 04/09/91	0.37* 22/08/95
03051	FAULKLAND	BLACKWATER	MON	126	0.05* 29/08/75	0.03* 06/09/76	0.06* 25/07/89	0.2 17/09/90	0.05 11/09/91	0.04 28/08/95
06013	CHARLEVILLE	DEE	OPW	307	N.A.	0.19 09/09/76	0.34 16/09/89	0.25 08/08/90	0.2 15/09/91	0.14* 24/08/95
06014	TALLANSTOWN	GLYDE	OPW	270	N.A.	0.2 08/09/76	0.23 22/07/89	0.25 08/08/90	0.28 11/09/91	0.2* 24/08/95
07005	TRIM	BOYNE	OPW	1282	2.01* 15/08/75	1.83 07/09/76	3.02 28/07/89	3.56 01/10/90	2.94 15/09/91	1.5* 01/09/95
07009	NAVAN WEIR	BOYNE	OPW	1610	N.A.	1.94* 08/09/76	2.38 27/07/89	2.82 10/08/90	2.45* 04/09/91	1.7 31/08/95
07012	SLANE CASTLE	BOYNE	OPW	2408	2.28* 03/09/75	1.9* 25/08/76	2.72 12/09/89	3.61* 14/08/90	2.52 11/09/91	2.26* 31/08/95
08002	NAUL	DELVIN	DUN	37	N.A.	0.026* 25/08/76	0.03 27/07/89	0.03 18/08/90	0.03 18/08/91	0.03 01/09/95
10002	RATHDRUM	AVONMORE	WIC	233	0.4 06/09/75	0.50* 23/08/76	N.A	0.79 18/09/90	0.73 13/09/91	0.38 03/09/95
10003	LARAGH	AVONMORE	WIC	107.2	0.22 09/09/75	0.17 08/09/76	N.A.	0.4* 03/08/90	N.A.	0.19* 22/08/95

* indicates flow measurement, N.A. = not available

39

(Micheál Mac Cárthaigh, 1996)

The NCAP Report of 2018 noted: '*Table 4.2 – Operational Risk Review Category Comments, Plant Capacity: The plant is not believed to be capable of treating the current agglomeration loading. The plant is believed to be overloaded. Fingal CC indicated that additional houses and a nursing home are due to be connected to the plant which will add additional pressure on the plant capacity*' (RPS, 2018).

Despite the Naul WWTP already being overloaded additional developments at Castle Manor Naul *(See files for F20A/0168 & F17A/0762)* were granted permission adding c.240P.E. onto the overloaded Naul WWTP. 12 of which units are complete and occupied. How the additional 200P.E. which will be generated from the remaining development will be accommodated is unknown. I cannot see how Naul WWTP (current loading c.705P.E.) could accommodate a total projected average load of c.900P.E. within the next few years (never mind a projected peak load of 1400P.E.).

12. ‘Future Upgrades’

History has shown that there were multiple occasions when Naul WWTP was due to be upgraded in the past, none of which have materialised.

Following numerous representations from a local representative from 2000 it is evident that a long term solution to the sewage issue (UWWT) was needed for the rural villages in Fingal.

In 2003 there was a developer proposal in Naul to upgrade the Naul Treatment works following a report by Fay Environmental*: ’..Please find enclosed a proposal from Treasury Holdings to provide a new treatment works at the Naul’* (Senior Engineer, Fingal County Council, 2003). As the development never proceeded neither did the upgrades of the Naul WWTP.

The sewage constraints were a constant constrain for the development of the village during the boom:

‘Hayes Higgis Partnership are representing a client who has land holdings in the Naul area. Our client wishes to construct up to 130 houses on these lands in the future. From my conversation with your colleagues I understand that the existing treatment plant is been upgraded and is presently at the design stage. Could you please confirm if the upgraded treatment plant will be of sufficient capacity to cater for proposed development (PE) and also if the treatment plant is a modular system and if balancing tanks are provided’ (Hayes Higgins Partnership, Fingal County Council, 2006).

At this time there were a series of proposed temporary upgrades of wastewater treatment plants across the county, Naul appears to have again been considered for an upgrade at this time:

‘Water Services are progressing the temporary upgrade of the rural Wastewater Treatment Plants throughout the county. At the Council Meeting of 8th of May, Part 8 approval was given for the Temporary Upgrade of Garristown and Ballyboughil Plants. We now wish to preogress the upgrades at The Naul and Oldtown. I should be grateful if you could issue me with the population guideline within the LAP lands of both villages, similar to the letter given for the previous villages (copy attached), indicating the Short term and long term estimated populations.

Water Services have received approval from DoEHLG to engage consultants to look at the long term Permanent proposal for each of the rural villages. This consultant will be engaged in the near future’ (FOI, Fingal County Council, 2006)

Acknowledging the sewage constraints, there appeared to be reservations within the planning department about the projected growth of Naul Village and the capacity for Naul WWTP to facilitate this growth:

‘Regarding Naul Village, the LAP proposed the doubling of house nos from approx. 80 no. to 160 no. This would require drainage treatment capacity of approx. 480 p.e. This is a tight figure that would not take into account any commercial activity eg pub or the cultural centre and would not take into account the potential drainage requirements of other ‘long term’ development land within the RV1 boundary. Having regard to this and the rational applied in relation to Ballyboghil and Garristown, it is appropriate to allow a drainage capacity of 1000 p.e. for the village to cover the long term requirement within the designated boundary as defined in the LAP’ (FOI, Fingal County Council, 2006).

In the 2006 granting of permission for the Delvin Banks housing estate (planning ref: F05A/0837), condition 20 on the application stated: *‘FOUL SEWER:* ***There is currently insufficient capacity in the Naul Wastewater Treatment Plant to cater for this development. The permanent upgrade works for the aforementioned treatment plant is expected to take five years to complete.*** *The Council are undertaking to carry out interim upgrade works to facilitate the lands within the current local area plan. the direct costs of the interim works which have not been finalised to date must be borne by the developers. Notwithstanding the above, if the applicant wishes to carry out works prior to the permanent solution being commissioned the following conditions will apply:*

1. No work to commence on-site pending the permanent upgrade unless the applicant enters into agreement with the Water Services Department re interim works to accommodate development. Any such agreement will require direct costs being met by the developers. These costs have not yet been finalised.

2. To ensure the protection of the infrastructure, all manholes must have sufficient cover in accordance with 'recommendations for Site Development Works for Housing Areas' and the building Regulations for Drainage and Wastewater Disposal ‘.

It is local knowledge that a sum in excess of c.1m was given for the upgrade of the Naul WWTP for the above development. The plant however was not upgrade to cater for the development.

Potential Wastewater treatment issues were highlighted in the Naul LAP NIS Report:

'*2.6.4 Elements of the Plan Where the Impacts are Likely to be Significant. The development of these lands could potentially yield additional residential units within The Naul which may cause additional load on waste water treatment systems, however, future development will not be permitted without adequate waste water treatment systems being put in place. Therefore, it is envisaged that no elements of the LAP are likely to cause significant impacts on Natura 2000 sites* (RPS, 2011, p. 14)

The Naul LAP Natura Impact Report Screening also stated:

'The Council aims to protect the environment including local water bodies by ensuring adequate collection, treatment and discharge of domestic, industrial and other wastewater in The Naul, in accordance with the Urban Waste Water Directive. In addition, it aims to anticipate and provide for future demands in the area whilst continuing to protect the environment. Currently there is insufficient capacity in The Naul Wastewater Treatment Plant to cater for the proposed level of development. The Council are undertaking to carry out interim upgrade works to facilitate development of lands within the boundaries of the local area plan. In addition to the insufficient treatment capacity of the WWTP, surface water infiltrates into the WWTP, at times of heavy rainfall. It is proposed that a study will be undertaken by FCC to further investigate the extent of surface water infiltration into the foul network. No development shall be permitted to proceed in the village, pending the interim upgrade of the WWTP to cater for 1,000p.e. and the completion of a study to investigate the extent of surface water infiltration into the WWTP. Such a study shall provide recommendations of appropriate improvement measures. New development will only be permitted to connect to the foul drainage network following on from the implementation of the interim upgrade works and appropriate improvement measures to the WWTP. The key consideration for the Planning Authority will be the need to ensure that there is no adverse impact on receiving water quality' (RPS, 2011)

In 2011 the Naul LAP stated the following in relation to the Naul WWTP, following on from previous capacity concerns in 2006:

'No development shall be permitted to proceed in the village , pending the interim upgrade of the WWTP to cater for 1,000p.e. and the completion of such a study to investigate the extent of surface water infiltration into the WWTP. Such a study shall provide recommendations of appropriate improvement measures. New development will only be permitted to connect to the foul drainage network following on from the implementation of the interim upgrade works and appropriate improvement measures to the WWTP. The key consideration for the Planning Authority will be the need to ensure that there is no adverse impact on receiving water quality' (Fingal County Council, 2011).

In 2009 a CoA was acquired for Naul WWTP, however it is believed that there were a number of flaws in the assessment and calculations used to inform the current CoA. Capacity constraints had been known for some years, however were not reflected in the CoA application form.

In 2018 construction began on a local development. Around this time there was an observable increase in pollution incidents at Naul on the Delvin River.

IW have previously stated that capacity was increased in 2018 to allow the plant to cater for 650P.E, however numerous FOI requests have failed to furnish how exactly the capacity was increased to 650P.E. The local community have seen no evidence to back up this claim and are of the belief the capacity is, as designed – 400P.E.

ELV Breech in 2019 would support local belief that the plant may have not been upgraded in 2018 and the capacity is still 400 P.E.

A published post from the communication department of FCC in 2021 stated:

'Irish Water is working in partnership with Fingal County Council to support growth and development throughout the county, while protecting the environment and safeguarding water supplies.

The Naul Wastewater Treatment Plant has now been selected for upgrade as part of the Small Towns and Villages Growth Programme.

This investment in the local wastewater infrastructure will provide additional capacity for the development of new homes, while ensuring that wastewater continues to be treated to an appropriate standard.

Details of other towns and villages to be included in the programme will be announced in the coming months.

Elaine Heneghan, Irish Water's Regional Forward Planning Specialist, said: "We are pleased to confirm that this important project to improve wastewater treatment capacity in the Naul has been given the green light. This will bring big benefits to the area by ensuring the infrastructure is in place to meet the needs of the village as it continues to grow.

"The purpose of the Small Towns and Villages Growth Programme is to support growth in smaller towns and villages. The Naul was selected following detailed consultation with the Local Authority to identify and prioritise areas for investment."

The project will now continue through the next stages including design, detailed planning, procurement and approvals. Further updates on the budget and timelines for delivery will be provided in due course' (Link: https://www.fingal.ie/news/green-light-naul-wastewater-treatment-plan-upgrade).

In the post it was stated that the *'investment in the local wastewater infrastructure will provide additional capacity for the development of new homes, while ensuring that wastewater continues to be treated to an appropriate standard' and* efforts were aimed to protect the environment.

This post however caused a degree of offence to local residents as in 2019 the plant was known to have breeched ELV's and in 2018-2020 there were a number of uncontrolled releases of sewage into the environment (Delvin River). This could only have been interpreted as greenwashing at its finest for any resident of Naul familiar with the issues.

As mentioned in this submission, local residents sought a long term solution from the outset in 1971, where they requested a sewer network be constructed to sea. The benefits of this were downplayed at the time, we now find ourselves in a situation where such an intervention is now needed. This should have happened 50 years ago.

The current proposal for a WWDL, with spurious mention of further non-defined upgrades, is the latest in a series of 'red herrings' in relation to Naul WWTP. You cannot keep putting bandages on the problem, a long term solution is needed with urgency.

The proposal to upgrade the plant, in its current location, due to environmental and public health hazards is next to impossible. Such a proposal will be a further repeal of past mistakes, which will need to be readdressed in the short to medium term.

The original wishes of the community should have been listened to when the plant was first proposed. In the intervening years there has been serious environmental and public health issues on the Delvin River which could have been avoided. A series of reports and studies on possible upgrades for Naul WWTP has cost local residents, developers and the taxpayer a considerable amount of money which has 'gone down the drain'.

It is time for IW and the LA to get real and put serious consideration into a proper sustainable solution to UWWT in Naul. This proposal is not it.

Work on a long-term solution is needed now, soon local residents may find themselves unable to build in the rural countryside or within the village boundary due to sewage constraints and changing policy, effectively being locked out of their local area and the housing market. The social and economic development of Naul Village may not reach its full potential as a result.

Stakeholder engagement on a suitable alternative solution is needed as a matter of urgency.

13. Pollution / Groundwater Impact

There is evidence of a high level of Faecal Coliforms in the Delvin River /Surface water at Naul east of Naul WWTP. This was identified following surface water sample lab analysis as part of the license for the Clashford Recovery Facility in 2014 & 2018 (Shields, 2018).

There is a dam 300m east of the Naul WWTP which forms an artificial lake. As shown in images this lake can be subject to severe sewage pollution discolouration (grey/green colour in 2018 image/cover image).

There have been a number of pollution issues on the Delvin River, with a noticeable increase in pollution incidences from the primary discharge point of the Naul WWTP since late 2017. This particularly intensified in 2018 where there was a large uncontrolled release of sewage cake to the Delvin River, which resulted in a large amount of tomato plant growth some weeks later all along the banks of the Delvin River – Biological evidence of the previous pollution incidences. There appears to be no record of this severe uncontrolled release, however the EPA have been made aware of this *(Re: Community Complaints to Inspector Jonathan Hughes).*

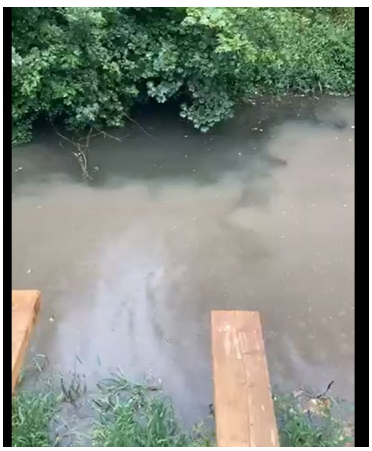
The concern is that there are frequent pollution incidents at Naul WWTP, some of which may not be reported to the EPA or IW, however are recorded by local residents. There appears to be response time issues when pollution issues occur to when the site is actually inspected and sampled, which poses a dilemma.

As mentioned previously, the artificial dam appears to cause effluent to gather and be retained in the lake, research has shown that lakes such as this (former quarry – deep lake) have the capacity to hold an elevated/excessive level of nutrients for a period of time. There may be an issue here as the artificial lake may be acting as an unintended sewage holding tank (plant licensed to discharge to a River, not a lake).

In fact the lake, which has been here since at least c.2005, was in fact a lake when the Certificate of Authorisation Application was lodged in 2009. The waterbody which was specified in the CoA was a 'River' when it actually was a 'Lake', this further evidences that there were a number of flaws and incorrect details provided in the CoA Application which the Naul WWTP currently operates under. There was also **insufficient environmental assessment** in respect of the CoA for Naul WWTP, **the Flow Chart as per the DoEHLG circular** for Naul and indeed Garristown WWTP **was incorrectly prepared**, there appears to be **flawed loading calculations**, the **Shellfish Waters** (designated 2 months previously) was not included in the application and the receiving environment was listed as a **'River' not a 'Lake'** as it should have been listed.

Due to the surface water samples observed as part of an adjacent EPA license showing high levels of faecal coliforms at this particular location, the fact the discharge is retained in the lake for extended periods of time in potentially high nutrient concentrations, there has been reoccurring pollution observed by local residents, reported uncontrolled sewage releases and at least one recorded breech in ELV's for suspended solids (ss, although it is believed this regularly happens, no annual reports on monitoring in place/publicly available) it is highly likely that Naul WWTP may be contributing to groundwater pollution in the vicinity of the WWTP/Lake. The likelihood of this is high, given the GSI Groundwater Vulnerability maps show the exposed limestone rock in this section of the valley, beneath Naul WWTP and downstream (flooded by lake/water level higher than would naturally be) is 'extremely vulnerable'.

Groundwater recharge may be impacted by pollution which may pose a risk to the public water supply aquifer between Naul and the Bog of the Ring. The impact the current Naul WWTP may be having on groundwater needs to be further examined. As the plant was designed to discharge to a river its current operation/functioning may be disproportionately be affecting the receiving environment.



Faecal coliforms at the SW sampling across from Naul WWWTP at a surface water monitoring point 'SW-2':

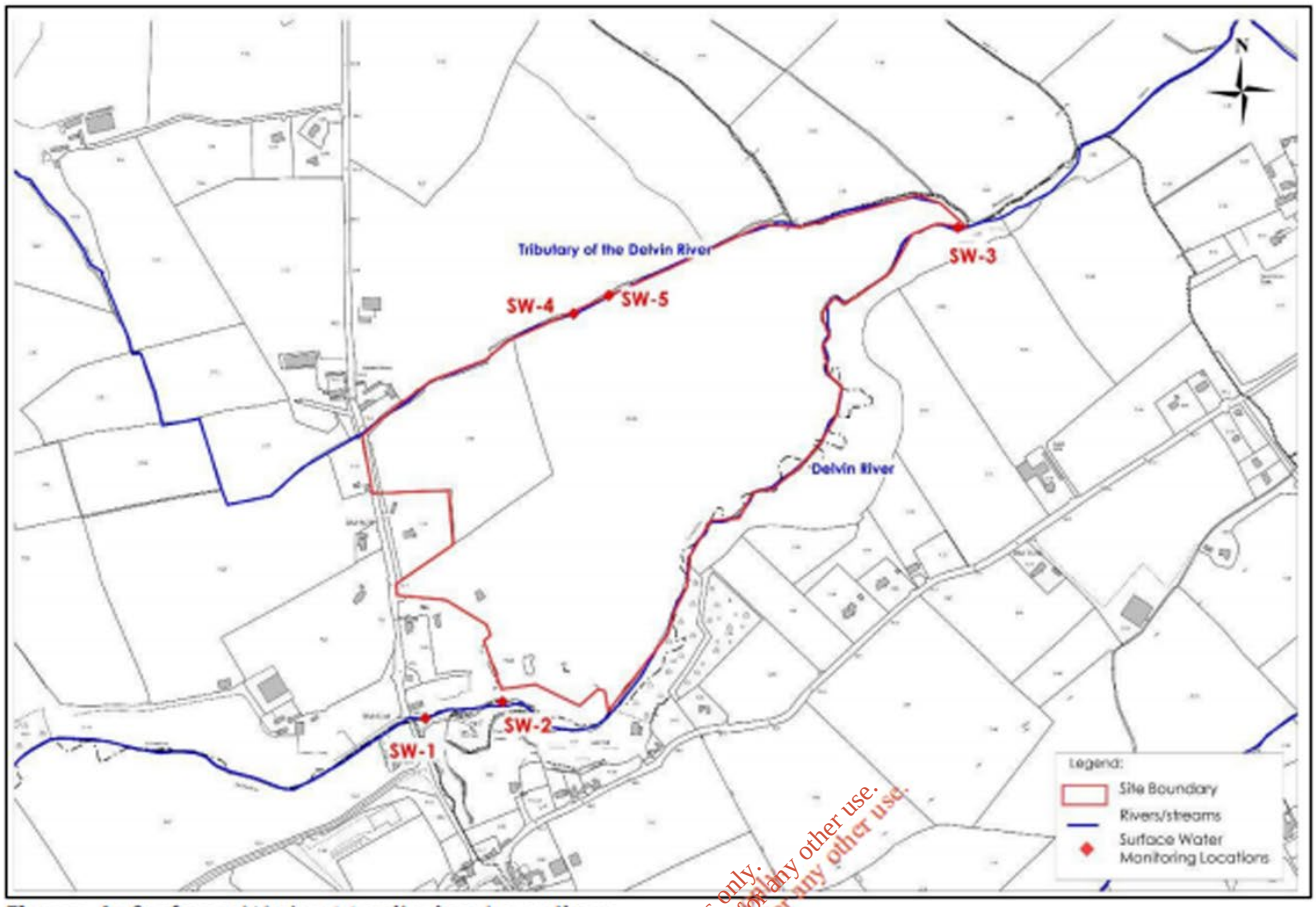


Figure A: Surface Water Monitoring Locations

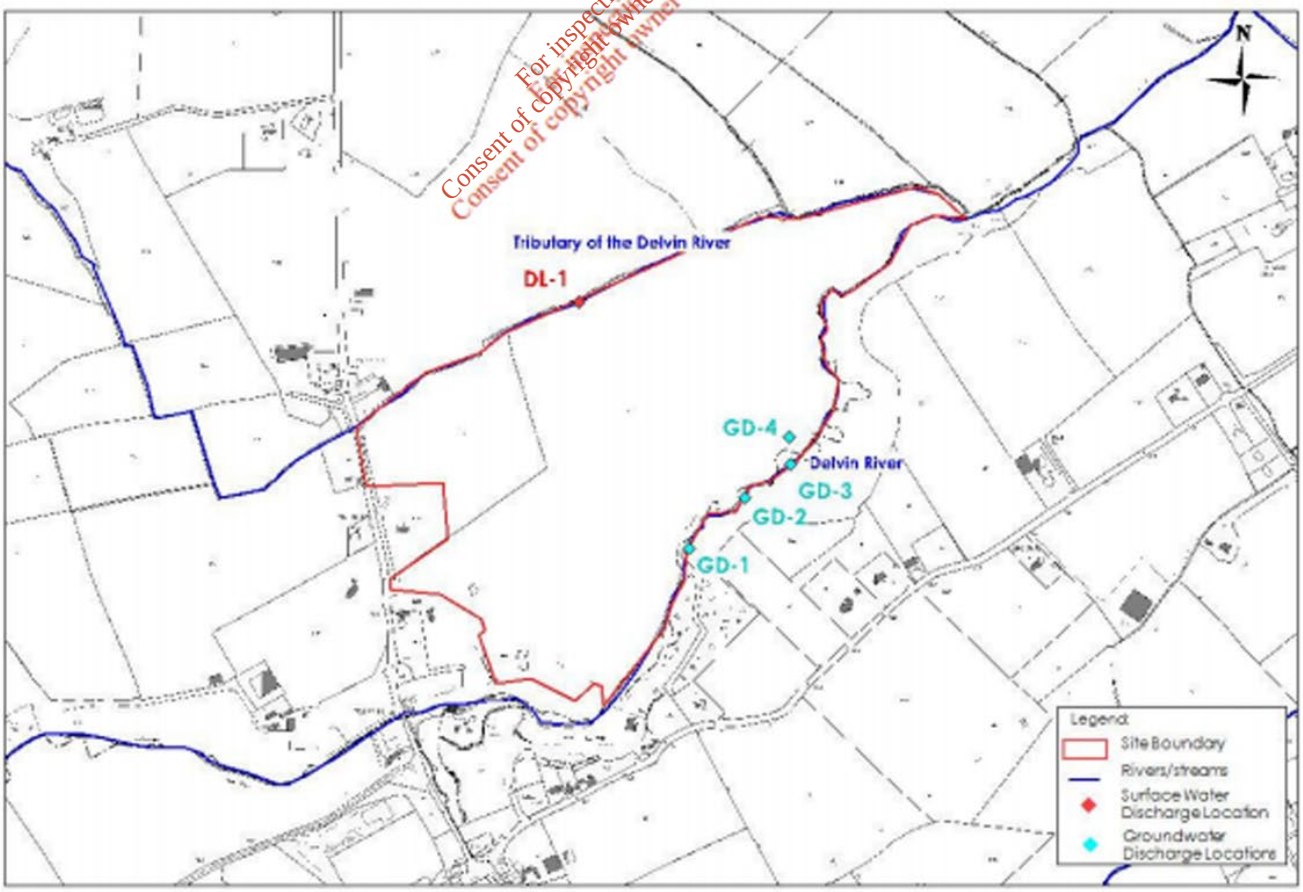


Figure B: Surface water and groundwater discharge locations

Table 2
Clashford Waste Recovery Facility, The Naul, Co. Meath
Summary of 2009, 2017 and 2018 Surface Water Quality Data

Sample Date	Upstream	Discharge	Downstream	SW1	SW2	SW3	SW4	SW5	SW1	SW2	SW3	SW4	SW5	EQS - Surface Water mg/l	Water Guidelines		
															2009 SW Regs AA (mg/l)	2009 SW Regs MAC (mg/l)	Salmonid water regulations SI 293/1988
	13/01/2009	13/01/2009	13/01/2009	12/09/2017	12/09/2017	12/09/2017	12/09/2017	12/09/2017	13/03/2018	13/03/2018	13/03/2018	13/03/2018	13/03/2018				
Parameters																	
Alkalinity (mg/l)	220	165	220	332	324	330	256	268	290	298	292	184	162	-	-	-	-
Ammoniacal Nitrogen as N (mg/l)	<0.08	**0.31**	<0.08	**0.04**	**0.16**	**0.05**	**0.05**	**0.05**	0.07	0.08	0.08	0.09	0.09	0.04	0.04	0.09	1
Arsenic (mg/l)	0.001	0.0051	0.0015	<0.0025	<0.0025	<0.0025	<0.0025	0.0026	3.4	4.1	5.3	2.9	4	0.025	0.025	-	-
Barium (mg/l)	0.034	0.037	0.034	0.031	0.031	0.019	0.028	0.029	40	37	37	29	30	-	-	-	-
Boron (mg/l)	0.05	0.06	0.05	0.046	0.039	0.039	0.021	0.024	0.023	0.017	<0.012	<0.012	<0.012	-	-	-	-
Cadmium(mg/l)	0.00027	0.00028	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	0.00008	0.00008	0.0002	-
Calcium (mg/l)	94	109	96	118.2	116.5	118.1	86.5	87.6	111.1	111.9	110.8	78.5	88.8	-	-	-	-
Chloride (mg/l)	31	64	34	27.1	27.9	27.8	28.5	28.4	29.3	30.4	29.7	32.6	34.1	-	-	-	0.005
Chromium (mg/l)	<0.001	0.019	<0.001	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<1.5	<1.5	<1.5	<1.5	<1.5	0.034	0.034	-	-
Conductivity (µS/cm @ 20C)	506	692	529	638	610	627	491	505	661	674	658	515	541	-	-	-	-
Copper (mg/l)	<0.05	<0.05	<0.05	<0.007	<0.007	<0.007	<0.007	<0.007	<7	<7	<7	<7	<7	0.03	0.03	-	-
Cyanide (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	-	-
Dissolved Oxygen	11.5	11.3	11.7	9	10	10	10	10	11	11	11	11	11	-	-	-	50% or ≥9(mg/L)
Fluoride	<0.1	0.25	<0.1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.5	0.5	-	-
Iron#	0.18	0.37	0.23	0.052	0.027	0.027	0.039	0.04	<20	<20	<20	24	<20	-	-	-	-
Lead(mg/l)	<0.002	0.004	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<5	<5	<5	<5	0.0072	0.0072	-	-
Magnesium (mg/l)	8	10	8	9.6	9.9	10.2	8.9	8.9	7.9	8	7.8	7.3	8.2	-	-	-	-
Manganese#	0.06	0.08	0.06	0.049	0.039	0.024	0.053	0.054	35	38	44	64	55	-	-	-	-
Mercury (mg/l)	<0.00005	<0.00005	<0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<1	<1	<1	<1	<1	0.00005	0.00005	0.00007	-
Nickel#	<0.10	<0.10	<0.10	<0.002	<0.002	<0.002	<0.002	<0.002	<2	<2	<2	<2	<2	0.02	0.02	-	-
Nitrate as NO3 (mg/l)	25	2	23	5.4	4.8	4.7	14.5	14.4	14.2	14	13.5	21.7	21.3	-	-	-	-
Nitrite as NO2 (mg/l)	<0.2	<0.2	<0.2	<0.02	**0.06**	**0.06**	<0.02	<0.02	0.11	0.12	0.14	0.1	0.1	0.05	-	-	0.05
pH	7.9	7.8	7.9	7.96	8	7.94	8.03	8	7.73	7.9	7.84	7.51	7.44	6-9	-	-	6-9
Phosphate (low Level), ortho	**0.08**	**0.11**	**0.1**	**0.21**	**0.33**	**0.32**	**0.13**	**0.13**	**0.1**	**0.13**	**0.13**	**0.08**	**0.09**	-	Good status ≤0.035 (mean) or ≤0.075 (95%ile)	-	-
Phosphorus (mg/l)	0.09	0.27	0.07	**0.091**	**0.131**	**0.126**	**0.063**	**0.057**	-	-	-	-	-	0.025	0.045	0.025	-
Potassium (mg/l)	2	7	3	4	4.5	4.4	3.2	3.2	2.2	2.2	2.4	2.6	3.5	-	-	-	-
Residue on Evaporation @ 180'C	340	508	318	406	405	412	326	317	-	-	-	-	-	-	-	-	-
Selenium(mg/l)	0.0015	0.002	0.0016	<0.003	<0.003	<0.003	<0.003	<0.003	<3	<3	<3	<3	<3	-	-	-	-
Silver	<0.01	0.02	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<5	<5	<5	<5	-	-	-	-
Sodium	14	44	17	12.2	13.8	14	14.7	14.9	12.4	12.4	12.4	12.6	14.6	-	-	-	-
Sulphate	27	151	41	36	37.6	35.1	26.4	27.5	34.9	34.3	33.4	24.4	32.5	-	-	-	-
Temperature	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOC	3.6	6.6	4	3	4	4	4	4	5	4	4	3	4	-	-	-	-
TON	5.8	0.51	5.2	1.2	1.1	1.1	3.3	3.3	3.2	3.2	3.1	4.9	4.8	-	-	-	-
Total Phenols by colourimetry	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.008	0.008	0.046	-
Zinc#	0.18	0.03	0.01	<0.003	<0.003	<0.003	<0.003	<0.003	<3	<3	<3	<3	<3	0.1	0.1	-	-
Faecal Coliforms (cfu/100ml)	>100	18	>100	-	-	-	-	-	**326**	**816**	**980**	**147**	**68**	-	-	-	-
Total Coliforms (cfu/100ml)	>100	>100	>100	-	-	-	-	-	**687**	**1986**	**1413**	**1300**	**687**	-	-	-	-

'-' means no data available
bold - above EQS or water quality guidelines

Table 2
Clashford Waste Recovery Facility, The Naul, Co. Meath
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	13/01/2009	13/01/2009	13/01/2009	12/09/2017	12/09/2017	12/09/2017	12/09/2017	12/09/2017	13/03/2018	13/03/2018	13/03/2018	13/03/2018	13/03/2018				
Parameters																	
Alkalinity (mg/l)	220	165	220	332	324	330	256	268	290	298	292	184	162	-	-	-	-
Ammoniacal Nitrogen as N (mg/l)	<0.08	**0.31**	<0.08	**0.04**	**0.16**	**0.05**	**0.05**	**0.05**	0.07	0.08	0.08	0.09	0.09	0.04	0.04	0.09	1
Arsenic (mg/l)	0.001	0.0051	0.0015	<0.0025	<0.0025	<0.0025	<0.0025	0.0026	3.4	4.1	5.3	2.9	4	0.025	0.025	-	-
Barium (mg/l)	0.034	0.037	0.034	0.031	0.031	0.019	0.028	0.029	40	37	37	29	30	-	-	-	-
Boron (mg/l)	0.05	0.06	0.05	0.046	0.039	0.039	0.021	0.024	0.023	0.017	<0.012	<0.012	<0.012	-	-	-	-
Cadmium(mg/l)	0.00027	0.00028	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.5	<0.5	<0.5	<0.5	<0.5	0.00008	0.00008	0.0002	-
Calcium (mg/l)	94	109	96	118.2	116.5	118.1	86.5	87.6	111.1	111.9	110.8	78.5	88.8	-	-	-	-
Chloride (mg/l)	31	64	34	27.1	27.9	27.8	28.5	28.4	29.3	30.4	29.7	32.6	34.1	-	-	-	0.005
Chromium (mg/l)	<0.001	0.019	<0.001	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<1.5	<1.5	<1.5	<1.5	<1.5	0.034	0.034	-	-
Conductivity (µS/cm @ 20'C)	506	692	529	638	610	627	491	505	661	674	658	515	541	-	-	-	-
Copper (mg/l)	<0.05	<0.05	<0.05	<0.007	<0.007	<0.007	<0.007	<0.007	<7	<7	<7	<7	<7	0.03	0.03	-	-
Cyanide (mg/l)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	-	-
Dissolved Oxygen	11.5	11.3	11.7	9	10	10	10	10	11	11	11	11	11	-	-	-	50% or ≥9(mg/L)
Fluoride	<0.1	0.25	<0.1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.5	0.5	-	-
Iron#	0.18	0.37	0.23	0.052	0.027	0.027	0.039	0.04	<20	<20	<20	24	<20	-	-	-	-
Lead(mg/l)	<0.002	0.004	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<5	<5	<5	<5	0.0072	0.0072	-	-
Magnesium (mg/l)	8	10	8	9.6	9.9	10.2	8.9	8.9	7.9	8	7.8	7.3	8.2	-	-	-	-
Manganese#	0.06	0.08	0.06	0.049	0.039	0.024	0.053	0.054	35	38	44	64	55	-	-	-	-
Mercury (mg/l)	<0.00005	<0.00005	<0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<1	<1	<1	<1	<1	0.00005	0.00005	0.00007	-
Nickel#	<0.10	<0.10	<0.10	<0.002	<0.002	<0.002	<0.002	<0.002	<2	<2	<2	<2	<2	0.02	0.02	-	-
Nitrate as NO3 (mg/l)	25	2	23	5.4	4.8	4.7	14.5	14.4	14.2	14	13.5	21.7	21.3	-	-	-	-
Nitrite as NO2 (mg/l)	<0.2	<0.2	<0.2	<0.02	**0.06**	**0.06**	<0.02	<0.02	0.11	0.12	0.14	0.1	0.1	0.05	-	-	0.05
pH	7.9	7.8	7.9	7.96	8	7.94	8.03	8	7.73	7.9	7.84	7.51	7.44	6-9	-	-	6-9
Phosphate (low Level), ortho	**0.08**	**0.11**	**0.1**	**0.21**	**0.33**	**0.32**	**0.13**	**0.13**	**0.1**	**0.13**	**0.13**	**0.08**	**0.09**	-	Good status ≤0.035 (mean) or ≤0.075 (95%ile)	-	-
Phosphorus (mg/l)	0.09	0.27	0.07	**0.091**	**0.131**	**0.126**	**0.063**	**0.057**	-	-	-	-	-	0.025	0.045	0.025	-
Potassium (mg/l)	2	7	3	4	4.5	4.4	3.2	3.2	2.2	2.2	2.4	2.6	3.5	-	-	-	-
Residue on Evaporation @ 180'C	340	508	318	406	405	412	326	317	-	-	-	-	-	-	-	-	-
Selenium(mg/l)	0.0015	0.002	0.0016	<0.003	<0.003	<0.003	<0.003	<0.003	<3	<3	<3	<3	<3	-	-	-	-
Silver	<0.01	0.02	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<5	<5	<5	<5	<5	-	-	-	-
Sodium	14	44	17	12.2	13.8	14	14.7	14.9	12.4	12.4	12.4	12.6	14.6	-	-	-	-
Sulphate	27	151	41	36	37.6	35.1	26.4	27.5	34.9	34.3	33.4	24.4	32.5	-	-	-	-
Temperature	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOC	3.6	6.6	4	3	4	4	4	4	5	4	4	3	4	-	-	-	-
TON	5.8	0.51	5.2	1.2	1.1	1.1	3.3	3.3	3.2	3.2	3.1	4.9	4.8	-	-	-	-
Total Phenols by colourimetry	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.008	0.008	0.046	-
Zinc#	0.18	0.03	0.01	<0.003	<0.003	<0.003	<0.003	<0.003	<3	<3	<3	<3	<3	0.1	0.1	-	-
Faecal Coliforms (cfu/100ml)	>100	18	>100	-	-	-	-	-	**326**	**816**	**980**	**147**	**68**	-	-	-	-
Total Coliforms (cfu/100ml)	>100	>100	>100	-	-	-	-	-	**687**	**1986**	**1413**	**1300**	**687**	-	-	-	-

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www.alsglobal.ie

Report No: HYDR-507140318
Document No: EF0011

SUPPLEMENTARY CERTIFICATE OF ANALYSIS

Date Received 14/03/2018
Date Reported 16/03/2018
Order Number N/A

Sample taken upstream of Naul WWTP

Sample Type Water
Client ID Clashford SW1
Date Tested 14/03/2018
ALS ID 3017199

Test	Result	Unit	Method
Coliforms	687	MPN/100ml	SP 196 Based on ISO 9308-2 (2012)
Faecal coliforms	326	MPN/100ml	SP 200 based on the IDEXX Colilert 18 test kit.

Sample taken adjacent to Naul WWTP Discharge point in Delvin River

Sample Type Water
Client ID Clashford SW2
Date Tested 14/03/2018
ALS ID 3017200

Test	Result	Unit	Method
Coliforms	1986	MPN/100ml	SP 196 Based on ISO 9308-2 (2012)
Faecal coliforms	816	MPN/100ml	SP 200 based on the IDEXX Colilert 18 test kit.

Downstream of Naul WWTP

Sample Type Water
Client ID Clashford SW3
Date Tested 14/03/2018
ALS ID 3017201

Test	Result	Unit	Method
Coliforms	1413	MPN/100ml	SP 196 Based on ISO 9308-2 (2012)
Faecal coliforms	980	MPN/100ml	SP 200 based on the IDEXX Colilert 18 test kit.

Downsream of Delvin River (Side tributary)

Sample Type Water
Client ID Clashford SW4
Date Tested 14/03/2018
ALS ID 3017202

Test	Result	Unit	Method
Coliforms	1300	MPN/100ml	SP 196 Based on ISO 9308-2 (2012)
Faecal coliforms	147	MPN/100ml	SP 200 based on the IDEXX Colilert 18 test kit.

Report Authorised by:

Mairead Gilmore
Deputy Microbiology Manager

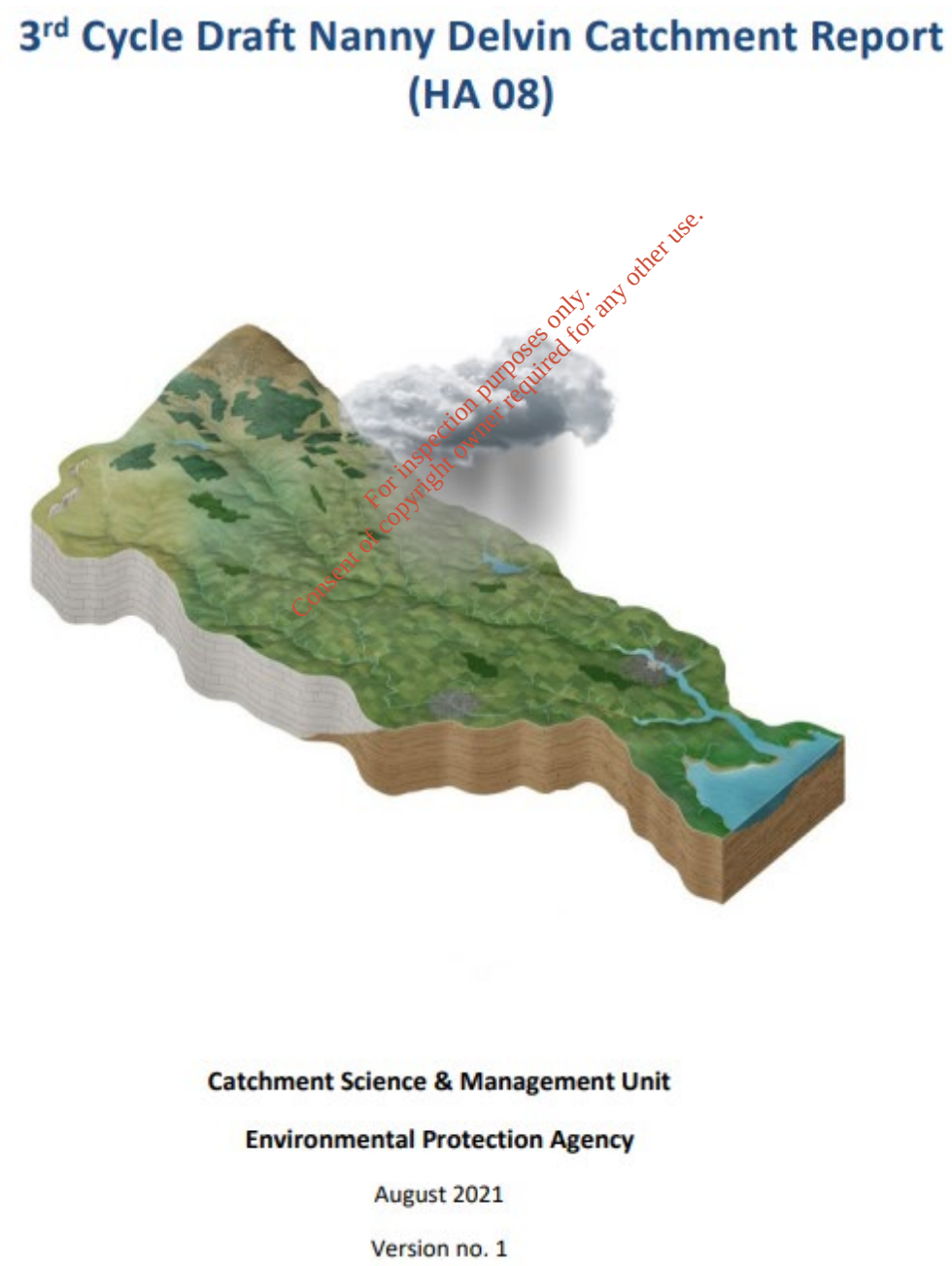
Plant operator appears to be diluting sewage with a hose in a video on the 5/08/2021

14. Observations on the 3rd Cycle Draft Nanny Delvin Catchment Report (HA 08)

The following observations in relation to the 3rd Cycle Draft Nanny Delvin Catchment Report (HA 08) (Environmental Protection Agency, 2021) should be given priority when assessing impacts which are already present on the Delvin River. This proposal, along with environmental observations within this submission, which have been overlooked in the in the 3rd Cycle Draft Nanny Delvin Catchment Report, should be viewed in their totality before the EPA further considers the proposed application.

Much of these concerns have been raised with Fingal County Council, Meath County Council, the EPA and Irish Water to date by a number of members of the local community. There has been very poor acknowledgement of these issues, with few acknowledgement letters from Fingal County Council when environmental complaints are made, little to no response from Meath County Council in relation to environmental complaints who appears to want to have no responsibility for the Delvin River and assume Fingal County Council are responsible for the river (ridiculous!).

On some occasions Fingal County Council (Planning Department) have stated (in writing) that it is the OPW who are responsible for the Delvin River. There was a Drainage District (Garristown Drainage District) which later came under the duty of the OPW, which was further upstream from Naul. Historical documents show that the LA's of MCC & DCC (FCC) have had responsibility for the Delvin River since the Garristown Drainage Board ran into difficulties due financial issues in 1929. There appears to confusion within the LA's as to who is responsible for overseeing this river.



Extracts from the Draft report:

3 Waterbody Risk

3.1 Overview of Risk

♦ A waterbody that is At Risk means that either the waterbody is currently not achieving its Water Framework Directive (WFD) environmental objective of Good or High Ecological Status or that there is an upward trend in nutrients or ammonia and if this trend continues the waterbody Status will decline by the end of Cycle 3 and ***will fail to meet its environmental objective.***

♦ A waterbody can be considered as Review for the following three reasons:

o The waterbody does not have status assigned to it yet, it is referred to as an unassigned waterbody, and therefore there is not enough evidence to determine if it is At Risk or Not At Risk.

o The waterbody has shown some slight evidence or improvement, but more evidence is needed before it can be considered as Not At Risk.

o Measures are planned or have already been implemented for the waterbody and no further measures should be applied until there is enough time to assess if these measures are working.

♦ A waterbody is Not At Risk when it is achieving its environmental objective of either High or Good Status and that there is no evidence indicating that there is a trend towards status decline.

♦ In total there are 56 waterbodies in the Nanny Delvin Catchment and 34 (61%) of these are currently At Risk, 9 (16%) in Review and 13 (23%) are Not At Risk.

5.1.1.2 Hydromorphology

♦ Hydromorphology is a significant pressure in 19 river waterbodies. *Channelisation is the dominant hydromorphology subcategory in the catchment with 18 river waterbodies within the catchment subject to extensive modification mainly due to drainage schemes. In addition to channelization, land drainage was identified as an impact on Ward_020 river waterbody.* ***Dams, barriers, lock and weirs were identified as the pressure subcategory in Delvin_020 river waterbodies due to a significant artificial barrier in the river downstream of the Naul urban area.***

As you can see the EPA have identified the artificial dam in the draft report. The above comment notes hydromorphology as a major pressure on the Delvin River i.e. the artificial dam east of Naul WWTP *'Dams, barriers, lock and weirs were identified as the pressure subcategory in Delvin_020 river waterbodies due to a significant artificial barrier in the river downstream of the Naul urban area.'* There has been absolutely no reference to this in the WWDL license made by Irish Water, who according to their WWDL, made reference the 3rd Cycle Draft Nanny Delvin Catchment Report. Why has certain pieces of information been cherrypicked from the draft report and other significant issues totally overlooked in the WWDL which has been made?

5.1.1.8 Mines & Quarries

♦ A quarry (Clashford Recovery) was identified as a potentially significant pressure in Delvin_020 waterbody in Cycle 2. The significant impacts are unknown and require further investigation. A stock pile of clay beside waterbody was noted during the Cycle 2 characterisation and is likely a source of sediment issues. *Abstraction for an unnamed quarry was identified as a significant pressure in Bettystown groundwater body with abstraction exceeding available groundwater resource (lowering the water table) as the issue.*

The 3rd Cycle plan notes a quarry (Clashford Recovery) was identified as a potentially significant pressure in the Delvin_020 waterbody in Cycle 2. Abstraction by a quarry was identified as a significant pressure for the Bettystown groundwater body.

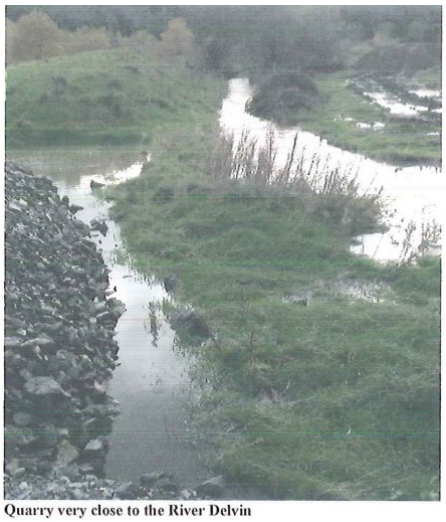
What has not been noted is the commercial abstraction for concrete production of water from the Delvin River in conjunction with abstraction from groundwater. The impact of this in the Delvin catchment has not been properly assessed (the commercial concrete abstraction is registered). There may have been instances where the Naul WWTP

had failed/polluted the Delvin River while abstraction was ongoing 23m east of the Naul WWTP in the lake – This poses a massive health and safety risk for anyone at the facility or persons dealing with the materials produced here.

How can the Naul WWTP/Batching plant continue to operate in conjunction/concurrently while there is pollution of the river/supply source? Both of these activities are not sustainable. What is the impact on groundwater from commercial abstraction?

In November 2017 ecologists visited the Roach Valley in Naul (Keeley & Malgorzata, 2017). During their visit they also noted quarrying activity downriver which has not been noted in the 3rd Cycle Draft plan. The 2nd Cycle plan noted a quarry (Clashford Recovery) was identified as a potentially significant pressure in the Delvin_020 waterbody previously.

Google Earth image layers (historical slider tool) shows what appears to be a massive southern expansion of a quarry from the Clashford site between 2014 – 2021. There are no details available on this (see earth imagery below). This has not been included in the 3rd Cycle Draft Plan, nor has the combined impact been considered in the WWDL application.



Quarry very close to the River Delvin

High flow rate and quarry downriver of the pond

(Keeley & Malgorzata, 2017)

Page 30:

There are 10 Recommended Areas for Action, *comprising of 35 waterbodies, selected for further characterisation and action in the catchment for the 3rd Cycle River Basin Management Plan. 30 of the 35 waterbodies in the 3rd Cycle Recommended Areas for Action are At Risk, 4 are in Review and 1 is Not At Risk.*

The 10 Recommended Areas for Action consist of ***9 Areas for Restoration*** *and 1 Area for Catchment Projects. LAWPRO are the proposed lead organisation in 5 Recommended Areas for Action, Meath County Council are the proposed lead in 3 Recommended Areas for Action.* ***Fingal County and Meath County Council are the proposed joints leads on the Delvin Recommended Area for Action****. GSI, EPA and Irish Water are the proposed joint lead in Bettystown Recommended Area for Action.*

The Recommended Areas for Action in the catchment are listed in Table 7 and shown in Figure 26. The reason for selecting each waterbody in a Recommended Areas for Action is provided in Appendix 3.

Table 7: 3rd Cycle Recommended Areas for Action Breakdown

3rd Cycle Recommended Areas for Action	Number of Waterbodies	Recommended Areas for Action Category	Recommended Areas for Action Sub-category	Lead Organisation
Rogerstown Estuary	5	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Broadmeadow	7	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Bracken	4	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Delvin	4	Restoration	LA Areas for Restoration Local Authorities	Fingal County Council and Meath County Council
Nanny	4	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Hurley	3	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Mosney	1	Restoration	LA Areas for Restoration Local Authorities	Meath County Council
Lower Nanny	2	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Ward	4	Restoration	Prioritised Areas for Action LAWPRO	LAWPRO
Bettystown GW	1	Catchment Projects	Public Body Research	GSI and EPA and IW

Appendix 3
Summary information on all waterbodies in the Nanny Delvin Catchment

Subcatchment Code	Waterbody Code	Waterbody Name	Waterbody Type	Risk 10-15	Risk 13-18	Status 10-15	Status 13-18	High Ecological Status Objective Waterbody	Significant Pressures	Recommended Areas for Action Name	Recommended Areas for Action (reasons for selection)
08_6	IE_EA_08B031500	BALLOUGH STREAM_010	River	At risk	At risk	Unassigned	Unassigned	No	Ag	Rogerstown Estuary	2027 EO Existing PAA - unassigned to undertake further characterisation in 3rd cycle
08_6	IE_EA_08B031600	BALLOUGH STREAM_020	River	At risk	At risk	Poor	Moderate	No	Ag, UWW	Rogerstown Estuary	existing PAA 2027 EO Ag, UWW significant pressures 2027 EO NPWS IE0000208 - Rogerstown Estuary SAC Estuaries
08_2	IE_EA_08B310940	BALCUNNIN_010	River	Review	Review	Unassigned	Unassigned	No		Bracken	Expand to complete Sub catchment. Unassigned WB.
08_5	IE_EA_08B330980	BETAGHSTOWN_010	River	Review	Review	Unassigned	Unassigned	No			
08_1	IE_EA_08D010080	DELVIN_010	River	At risk	At risk	Poor	Poor	No	Ag, DWW, Hymo	Delvin	Proposed by MH Border catchment with Fingal, increasing MRP in recent years, high MRP in upper catchment, agri + MWWTPs suspected significant pressures. There are pressures in the lower catchment such as Stamullen WWTP and Section 4 discharges, however MRP is above EQS before Stamullen. Catchment investigations in 1st cycle by MMU. Catchment has probably received less attention from Meath CC as it's a border catchment so LAWPRO approach could be of benefit. If proposed area for action was to be reduced then focus on 2 uppermost waterbodies 010 and 020.
08_1	IE_EA_08D010250	DELVIN_020	River	At risk	At risk	Moderate	Moderate	No	Ag, Hymo, M+Q	Delvin	Proposed by MH Border catchment with Fingal, increasing MRP in recent years, high MRP in upper catchment, agri + MWWTPs suspected significant pressures. There are pressures in the lower catchment such as Stamullen WWTP and Section 4 discharges, however MRP is above EQS before Stamullen. Catchment investigations in 1st cycle by MMU. Catchment has probably received less attention from Meath CC as it's a border catchment so LAWPRO approach could be of benefit. If proposed area for action was to be reduced then focus on 2 uppermost waterbodies 010 and 020.
08_1	IE_EA_08D010300	DELVIN_030	River	Review	At risk	Unassigned	Unassigned	No	Ag, DWW, Ind	Delvin	Proposed by MH Border catchment with Fingal, increasing MRP in recent years, high MRP in upper catchment, agri + MWWTPs suspected significant pressures.

https://www.catchments.ie/wp-content/files/catchmentassessments/08%20Nanny-Delvin%20Catchment%20Summary%20WFD%20Cycle%202.pdf

15. Surface Water Overflow of Naul WWTP is noncompliant with DoEHLG criteria

As the applicant outlines that the storm water overflow will not meet the correct criteria (Department of Environment, 1995), which currently contributes to washout at the plant during heavy periods of rainfall, the application should be refused as it suggests that only part of the upgrade works under the submitted WWDL will sufficiently meet environmental standards.

This is outlined in the Waste Water Discharge Licence (WWDL) Application form*: 'B.2.2 Waste water works and associated Waste Water Treatment Plant(s): Table 7 – Waste Water Works: Description of the existing waste water works: There is one Storm Water Overflow (SW002) located at the head of the plant. This overflow is activated during major rainfall events, when diluted influent overtops the weir and discharges to the Delvin River via the primary discharge outfall pipe'* (Irish Water, 2021, p. 7).

*'**SW002 at the upgraded WwTP will not meet the criteria as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995.** However, Irish Water are proposing a further upgrade to the works to increase capacity of the plant to 900 p.e. under the Small Towns & Villages Growth Programme (STVP) and the provision of a storm tank is likely to be progressed under the IWSS or the STVP programme subject to statutory and budgetary approvals'* (Irish Water, 2021, pp. 8-9). There some mention that this upgrade work will take place later subject to statutory and budgetary approvals.

As the applicant outlines that the storm water overflow will not meet the correct criteria, which currently contributes to washout at the plant during heavy periods of rainfall, the application should be refused as it suggests that only part of the upgrade works under the submitted WWDL will sufficiently meet environmental standards. This would amount to a piecemeal project which has no absolute guarantee of completion and thus sufficient environmental protection provided by the proposed upgrade works. There have been false promises in the past of 'future' upgrade works at Naul WWTP, which never materialised.

16. Hazardous Site Access

The proposed increase in capacity of the Naul WWTP will inevitably lead to an intensification of use of the site entrance which is inappropriately located in the centre of Naul Bridge since 1984. This, in conjunction with large plant and agricultural machinery and the HGV traffic generated by the adjacent concrete batching plant will pose a traffic hazard on Naul bridge for both motorists and pedestrians who use the bridge. The bridge also currently floods even in a short period of rainfall and has no adequate pedestrian footpaths.

This increase in use of the site poses a risk to residents in the local area and operators of the site and an alternative entrance for the site should be sought. Ideally the existing site entrance where the historic bridge wall was removed, should be relocated and the historic bridge parapet reinstated at this location.

There are insufficient sightlines at the site entrance and the existing entrance poses a severe risk to built heritage in the vicinity of The Old Mill and Naul Bridge, which is located within Naul ACA. An architectural practice comisioned by Fingal County Council in 2010 noted that there is an issue with HGV raffic in this location which may cause vibration which could weaken the structure of Naul Bridge (iCON Architecture and Cummins + Voortman, 2010).

Figure 15 - Google Street View of WWTP entrance onto Naul Bridge

The Naul Village Development Framework Plan of 2011 (Naul VDFP) is an advisory plan offering support to the Naul Local Area Plan (LAP) within the structure of the Fingal Development plan 2017-2023. This document is very much a living document, IW and the EPA would have to consult with Fingal County Council on the parameters set out in this local plan regarding recommendations and issues identified in the plan. The policy context of the Naul VDFP:

'Fingal County Council seek to maintain and strengthen the physical character of Naul; to guide careful urban improvement and to plan for appropriate future growth. In setting out these guidelines, The following issues are dealt with; • Distinctive character of the village,• Current issues, particularly concerning incomplete housing schemes.

• The need for conservation, sustainable growth, consolidation, and the protection of the quality, character and distinctiveness of important assets. Creating a strategy for sustainable development ***should deliver not only solid economic and environmental benefits*** *but also should provide an urban design framework, to guide the development of The Naul into the future.*

Policy Context: The challenge of a successful urban design framework, through the identification of local distinctiveness, is to unlock opportunities and deliver a high quality village experience, thereby creating a better living environment, a more sustainable economic future and further tourism potential.

The Village Design Framework Plan is an advisory plan with a long term vision for the future. It offers support to the Local Area Plan, within the structure of the Fingal County Development Plan' (iCON Architecture and Cummins + Voortman, 2010).

Within this plan there are specific observations made in relation to Naul Bridge, the location where the entrance of the Naul WWTP is located. This has been identified as an area of traffic hazard in the VDFP: *'The approach is attractive, with heritage buildings and structures, However,* ***the topography tempts quarry truck drivers to speed down the hill towards the bridge*** *and onwards into the square. From The Naul, the* ***trucks are revving up before the bridge to gain acceleration up the hill to the quarry. It happens in the other direction, too. Hence, heavy vehicles at excessive speed create hazard'*** (iCON Architecture and Cummins + Voortman, 2010).

Guidelines for North entry
- Reintroduce tree growth on the approach road southwards, left hand side.
- Protect the stone walls and trees on the approach road, right hand side.
- Assess the structural capacity of the bridge.
- Introduce traffic calming measures.
- Improve visibility at the junction with the GAA.
- Ensure that pedestrian safety is achieved.

North Entry
Above: There are serious traffic issues before, and after the bridge. The speed of traffic needs to be reduced and a continuous footpath provided.

South Entry
Picture 1: Long view form the School, shows the straight road descending into the village.

Picture 2: Approach to the village is characterised by sporadic housing, softened by planting at roadside.

Picture 3: Looking back up the hill towards the school, the straight road encourages excessive speed.

Picture 4, below: The garage, right, signals the beginning of the active village core as it descends gently towards The Square.

South Entry from Ballyboughal: The road follows the undulating landscape so that The Naul is seen contained within the wonderful backdrop of the Naul Hills. This entry is more open, with sporadic housing and views to the fields beyond.

Guidelines for South entry
- Retain hedgerows and trees, and soften the boundaries of houses with greenery, and village quality street lighting, to replace the telegraph poles sharing with electirical / telephonre supply

South Entry
Above, Picture 5: This is the generous view which unfolds as the road becomes a village street. The landscape makes the horizon. The approach sequence is shown on the **right** of the page.

Naul Bridge c.1930 showing location where parapet was removed for access to the treatment plant site.

The team's assessment of conditions continues:

'The cement trucks continue to trundle unconstrained beside a listed cottage and through a square of extraordinary character, onwards across a historic bridge to collect their load. A resident informed the team that it used to be 'much worse'. The continued success of the business in today's economic climate is testimony to its quality of product and delivery. ***The cost to the town's fabric and environment however, is unacceptably heavy and needs to be mitigated'*** (iCON Architecture and Cummins + Voortman, 2010)***.***

Figure 16 - Example of Traffic Hazard at Naul WWTP Site entrance. A truck collided with the bridge parapet wall on 29/01/2020. This is the parapet on the opposing side of the bridge from the WWTP site entrance.

Figure 17 - Google street View showing inappropriate access onto Naul Bridge, a protected structure and monument

From the above and below images you can see that there have been a series of incidents at Naul Bridge involving traffic accidents at the entrance of Naul WWTP and directly adjacent to the site entrance. This further solidifies the observations raised by the team and their recommendations in the Naul WDFP.

To permit a WWDL for Naul WWTP, which would increase the loading of the plant, thus increasing the need for increased operational monitoring and access to and from the site, would pose a traffic hazard in a currently hazardous location. This would pose a risk to operatives working at the Naul WWTP and local residents in the vicinity. There is need for proper assessment and a traffic study to support this application.

Below: Accidents at Naul Bridge. This necessitated several deputations between Naul Community Council and Fingal County Council. Traffic and road safety issues are of particular concern in Naul as unmonitored hazards have caused injury to local residents. There was a tragic traffic accident at this location some years ago. The hazard at this location should not be overlooked.

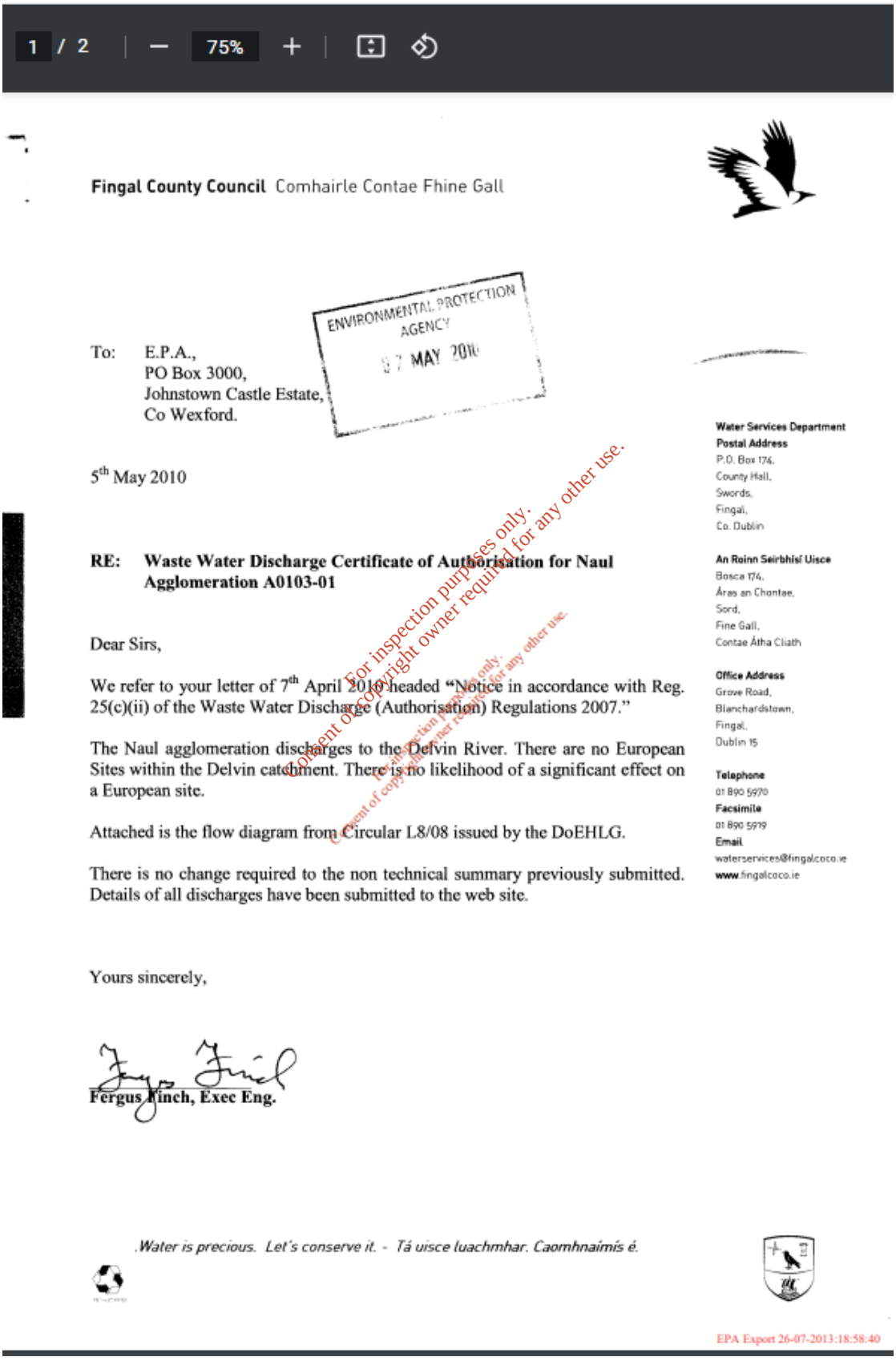
'Through traffic presents the biggest threat to the built heritage: A rigorous monitoring of truck speed on the roads is urgently required. A structural assessment of the bridge and buildings abutting the road is required as the continuous effect of heavy traffic may be damaging the structure. The introduction, should it not yet exist, of collaborative scheme between the quarry owners and villagers to adopt a ***'polluter pays' policy*** *and to offset the cost of environmental improvements would help to distribute costs'* (iCON Architecture and Cummins + Voortman, 2010).

The recommendations of the planning team which were commissioned by Fingal County Council have yet to be implemented. There is yet to be a rigorous monitoring of truck speed in Naul Village, particularly at the location of the site entrance. To increase activity in this location without proper traffic assessment would endanger life.

Figure 18 - On 17/03/2015 two trucks enroute to a facility north of Naul Bridge collided with a portion of the bridge parapet wall. Regardless of countless requests to the county council it took three years for this to be repaired.

17. The Flow Chart for the current Certificate of Authorisation is erroneous

The Flow chart which was prepared for the current Naul and Garristown WWTP's appears to feature discrepancies as the flowchart overlooked the habitats and species of conservation value and does not acknowledge a connection to the Nanny Shore SPA via surface water. Annex II species were noted in environmental assessments of the Delvin River which were commissioned by Fingal County Council prior to the Naul CoA Application: *(https://epawebapp.epa.ie/terminalfour/wwda/wwda-view-filter.jsp?regno=A0103-01&filter=b&docfilter=go).*



1 / 2 — 75%

Fingal County Council Comhairle Contae Fhine Gall

ENVIRONMENTAL PROTECTION AGENCY
27 MAY 2010

To: E.P.A.,
PO Box 3000,
Johnstown Castle Estate,
Co Wexford.

5th May 2010

RE: Waste Water Discharge Certificate of Authorisation for Naul Agglomeration A0103-01

Dear Sirs,

We refer to your letter of 7th April 2010 headed "Notice in accordance with Reg. 25(c)(ii) of the Waste Water Discharge (Authorisation) Regulations 2007."

The Naul agglomeration discharges to the Delvin River. There are no European Sites within the Delvin catchment. There is no likelihood of a significant effect on a European site.

Attached is the flow diagram from Circular L8/08 issued by the DoEHLG.

There is no change required to the non technical summary previously submitted. Details of all discharges have been submitted to the web site.

Yours sincerely,

Fergus Finch, Exec Eng.

Water Services Department
Postal Address
P.O. Box 174,
County Hall,
Swords,
Fingal,
Co. Dublin

An Roinn Seirbhísí Uisce
Bosca 174,
Áras an Chontae,
Sord,
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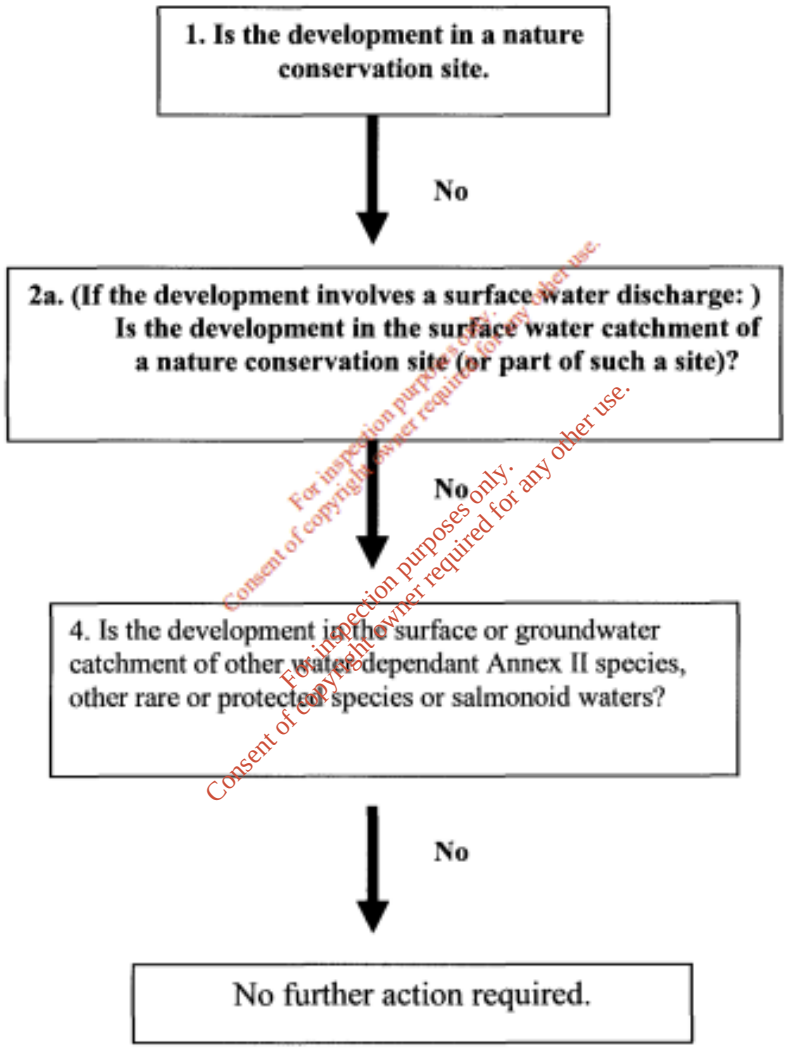
Facsimile
01 890 5919
Email
waterservices@fingalcoco.ie
www.fingalcoco.ie

Water is precious. Let's conserve it. - Tá uisce luachmhar. Caomhnaímis é.

(Fergus Finch, Executive Engineer, Fingal County Council, 2010)

Waste Water Discharge Certificate of Authorisation for Naul Agglomeration A0103-01

Flow chart from appendix 1 of Circular L8/08 from DoEHLG.



(Fergus Finch, Executive Engineer, Fingal County Council, 2010).

Referring to the L8108 Circular, the following queries are raised and answered:

1. ***Is the development in or on the boundary of an SAC/NHA etc:*** **No**

2. ***Will nationally protected species be directly impacted?:*** **No**

3. ***Is the development a surface water discharge or downstream of a conservation site with water dependent qualifying habitats/species?:*** **Yes**

4. ***Is the development a surface water discharge or downstream of a conservation site with water dependent qualifying habitats/species?:*** **Yes**

5. ***Is the development a groundwater discharge/abstraction?*: No**

6. ***Is the development in the surface water or groundwater catchment of salmonid waters?:*** **No**

7. ***Is the treatment plant in an active/former floodplain?***: **Yes**

8. ***Is the development a surface water discharge to/from marine waters and within 3km of a marine conservations site?:*** **No**

9. ***Will the project in combination with other projects (existing and proposed) or changes to such projects affect the hydrology or water levels of sites of conservation interest or habitats of protected species?:*** **Yes**

LW08 states that if the conclusion of the screening process above is to "Assess Impacts" then the project must be referred to the DEHLG Developments Application Unit. As the conclusion of the screening process incorrectly concluded that there was no discernible impact on the environment, no Impact Assessment was undertaken in respect of the COA for Naul WWTP - *'No Further Action'* (Fergus Finch, Executive Engineer, Fingal County Council, 2010).

Appendix 1 of Circular L8/08 notes the importance of adequate screening at an early stage:

'This screening methodology is designed to assist those planning and designing water services solutions when determining whether AA for Natura 2000/European sites or habitats & species listed in the annexes of the EU Birds and Habitats Directives is necessary or not. It should also be applied to NHAs'.

'Water Services infrastructure projects relate to the provision, operation and management of drinking water and wastewater services. ***These projects hold a high health and safety value for the public as well as being of benefit for biodiversity - it is therefore essential that such projects are screened at the earliest stage to avoid situations where nature conservation and human health and safety are pitched as competing interests'*** (DoEHLG, 2008).

As inadequate screening was undertaken when the application for the *Certificate of Authorisation* (Fingal County Council, 2010) was made for Naul WWTP in 2010, at the earliest stage, there is now a situation where nature conservation and human health and safety are pitched as competing interests. This is in direct contrast to the Department's best practice advice in the L8/08 Circular.

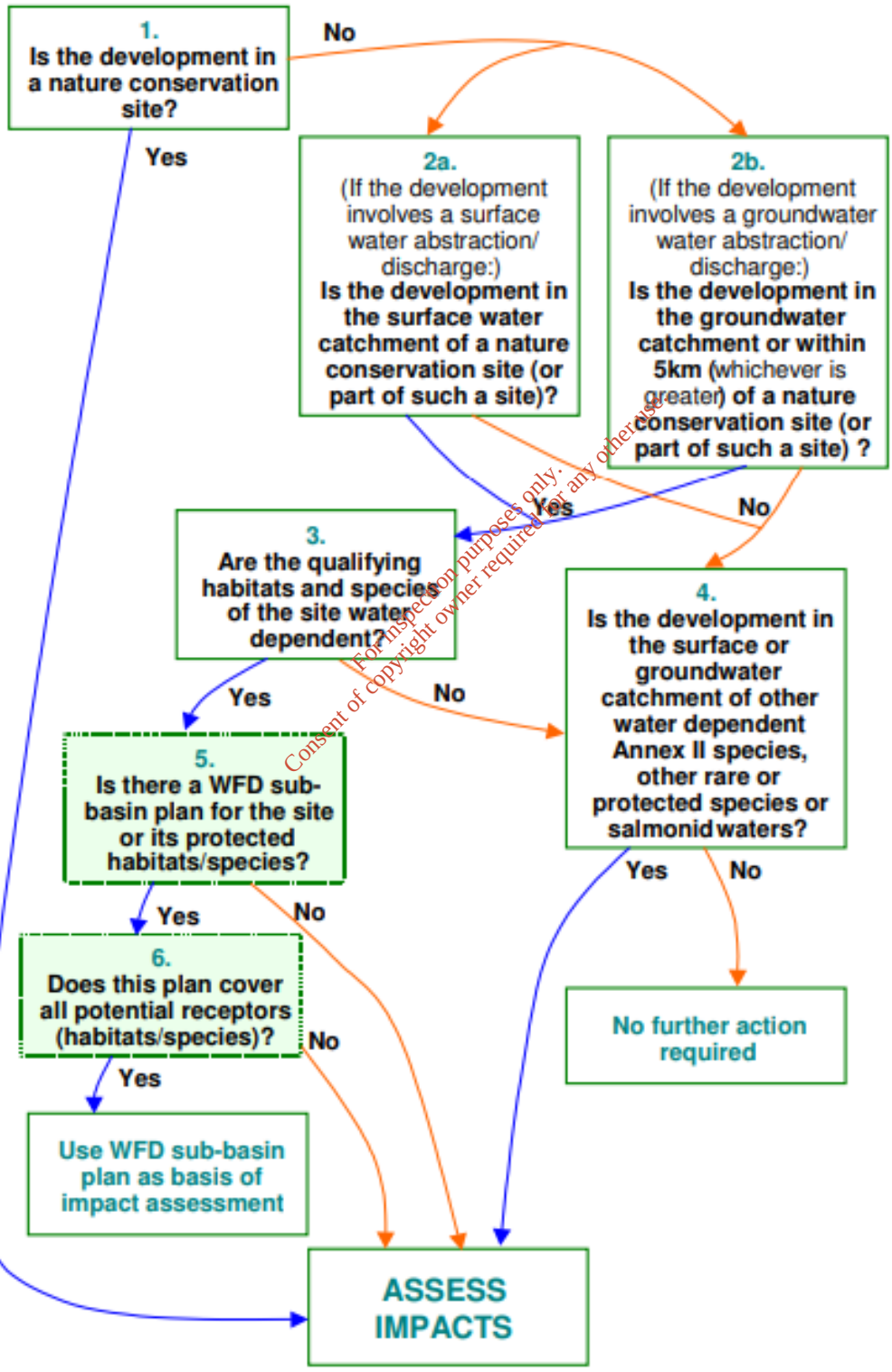
If correct assessment was undertaken as per the circular, the current situation where there is continued pollution, environmental damage and a number of cases of local residents becoming sick after coming into contact with water in the Delvin River downstream of Naul WWTP, could have been avoided.

In short, the basic assessment should have been undertaken. Whether the background assessment in preparing the flowchart overlooked the habitats and species of conservation value by accident, through a rushed application, a lack of research or assessment or otherwise is unknown. Now is the time to rectify the initial shortcomings and carry out the correct environmental/ecological/habitats assessments which have been lacking in respect of this facility.

Extract from ***L8108 Circular:***

Below is a flow diagram for screening water services infrastructure projects, followed by explanatory notes on the diagram and other points of information. If the conclusion of the screening outlined in this **Natura 2000 Screening Protocol** is to **"ASSESS IMPACTS"**, then the plan or project must be referred to the Department of the Environment, Heritage and Local Government's Development Applications Unit.

NB **Catchments of habitats and species of conservation value are addressed here as it is only through examining catchment-wide pressures that hydrological, water pollution and cumulative impacts can be properly assessed.**



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(DoEHLG, 2008)

Extract from ***L8108 Circular:***

Notes on flow diagram (Numbers correspond to question numbers in the Figure 1):

1. This question relates to direct impacts only and, therefore, all habitats and species of nature conservation value must be considered. If the development is within a Natura 2000 site, there is potential for direct loss of habitats and/or species of conservation value within the footprint of the development. The footprint includes all temporary and permanent access roads, trenching etc. The standard guidelines for the referral of all development applications that are adjacent to SACs to NPWS (i.e. within 500m), should also be followed here.

2. This and subsequent questions relate to indirect impacts, which are transmitted through water and, therefore, only have the potential to impact upon water dependent species. All projects in the catchments of conservation sites (i.e. both within and upstream of the site) have the potential to impact on the site and to contribute to the cumulative impacts on the site. The 5km stipulation is placed in Question 2b as it was used in the groundwater risk assessments for groundwater dependent conservation sites. Groundwater catchments are the zones of a groundwater body that contribute water to a receptor such as a conservation site. These catchments can be altered, however, through very large abstractions in certain aquifer types. Because these groundwater divides can change, the extra protection of 5km was included.

3. Habitats Directive Annex I habitats and Annex II species have been divided into water dependent (see tables 1 and 2 below) and non-water dependent for the purposes of the WFD. The list of water dependent birds will be finalised shortly. Within most conservation sites, particularly the large SAC-complexes, some areas will contain water dependent habitats/species and others will not. This means that the SAC boundary cannot be taken as indicative of the location of the relevant habitat or species. As a result, the local authority will require the specific locations of the habitats and species in order to screen these projects. These data will need to be collected through surveys where the information is not available from NPWS or other sources. NPWS do not generally have the locations of habitats and species on a single GIS, or other readily available formats. Useful information will be available through NPWS monitoring programmes and databases, such as the rare flora database, as well as through NPWS management plans. NPWS has a public mapviewer tool in place at *http://www.npws.ie/en/MapsData* and is planning the development of a GIS that will be accessible to local authorities.

4. The data for Annex II species in the wider countryside and other protected/rare species (outside designated sites) is less complete and requires further field surveys and data collection. Furthermore, as these species could extend even further downstream than the nature conservation sites, the downstream area that would need to be assessed for potential impacts could be significantly extended by this question.

5. No WFD sub-basin plans have yet been developed. However, 27 *Margaritifera* sub-basin plans wil be drafted before the end of 2008. Further such catchment plans will be developed for other species and habitats in SACs. These will set specific nature conservation and water quality/quantity targets for the sites and will prescribe the management measures than need to be undertaken within their catchments.

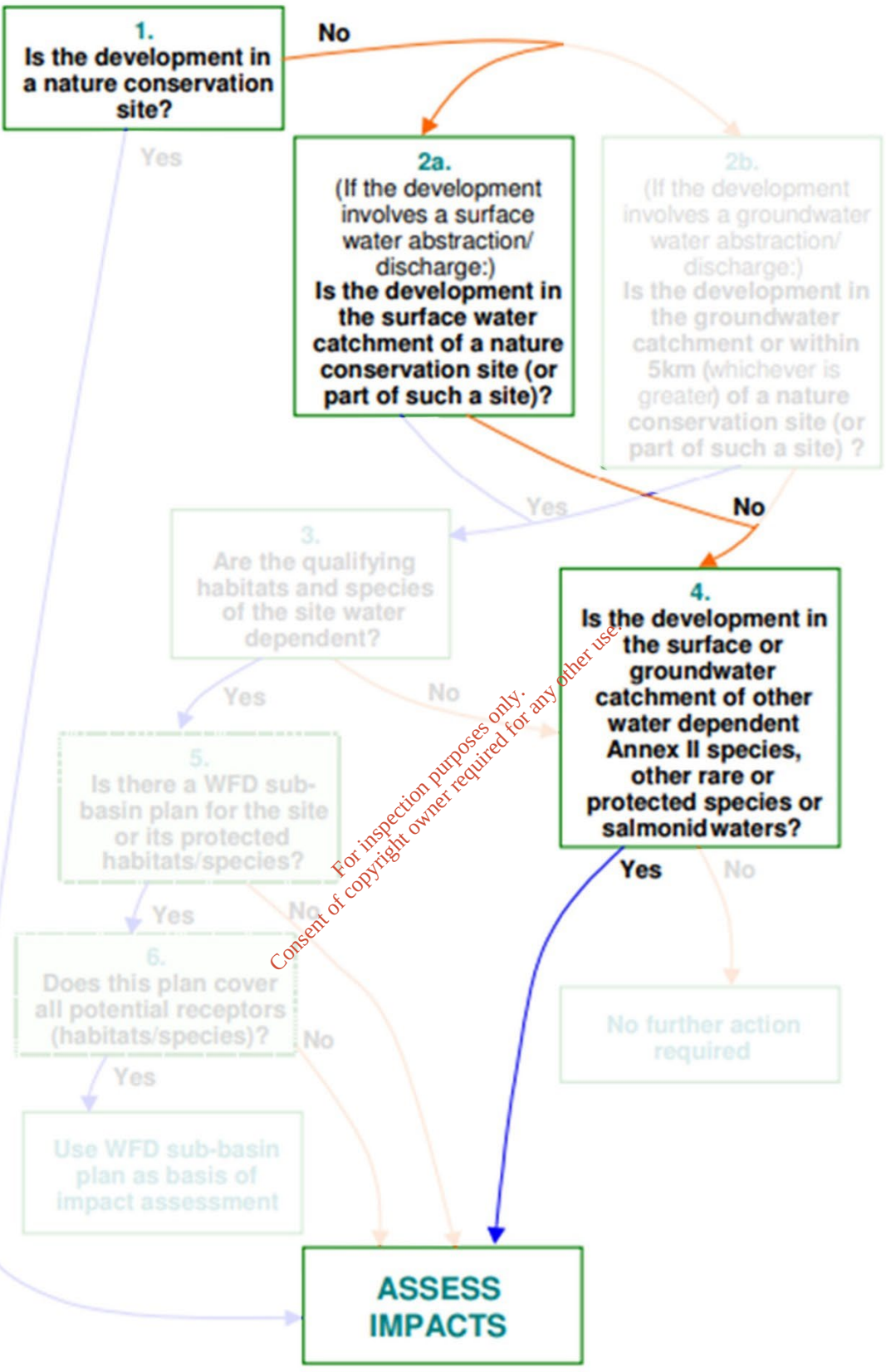
6. These sub-basin plans are likely to be species/habitat specific so that, even when such plans exist, all potential receptors may not be assessed and further assessments may be required for water services projects. Where sub-basin plans exist, it is likely that these can be used in combination with further impact assessments.

Many water services projects are likely to require assessment. This is particularly the case because of the occurrence of Annex II species (EU Habitats Directive 1992) in the wider countryside, other rare/protected species (Wildlife Acts) and salmonid waters.

8

(DoEHLG, 2008)

How the flowchart in respect of Naul WWTP CoA should have been prepared as per the ***L8108 Circular*** :



See explanation as to why the above flow chart, which sets out the environmental baseline for the existing license, is flawed – thus there was insufficient environmental baseline data carried out on the original COA licenses which this WWDL license seeks to rely on:

Waste water Discharge Certificate of Authorisation for Naul Agglomeration A0103-01

Flow chart for appendix 1 of Circular L8108 from DoEHLG

2a. (If the Development involves a surface water discharge:)

Is the development in the surface water catchment of a nature conservation site (or part of such site)?

Answer: No, Yes

The initial flow chart prepared by Fingal County Council states the Naul WWTP is not in the surface water catchment of a nature conservation site (or part of such site). However, the WWDL application prepared by Irish Water notes that there is a 'Tenuous connectivity to the Nanny Shore SPA' – why was this connectivity to a European site overlooked by Fingal County Council in the preparation of the Certificate of Authorisation Application which Naul WWTP currently operates under?

The Nanny Shore SPA i-Webs count area includes the Delvin River Estuary and mouth of the Delvin River – The SPA count area actually extends from the Delvin to the Nanny – arguably the Delvin River Estuary forms part of the Nanny Shore SPA due to the fact the species count zone incorporated the Delvin River Estuary. Naul WWTP thus has a direct connectivity to a European site and Appropriate Assessment is required for this Application, as it should have been for the existing Certificate of Authorisation (CoA).

4. Is the Development in the surface or groundwater catchment of other water dependant Annex II species, other rare or protected species or salmonid waters?

Answer: No, Yes

The development is in fact in the surface and ground water catchment of Annex II species, protected species, rare flora and salmonids (although not a listed salmonid waters). The Annex II species include:

European Eel, Otter, White Clawed Crayfish, Lamprey, Brent Geese, Cormorants, Golden Plover, Rare Ferns east of Naul WWTP (all outlined later).

This demonstrates that there were issues in the preparation of the Flow Charts for the existing Certificate of Authorisations for the Naul and Garristown WWTP's when the existing licenses were prepared by Fingal County Council. There was in fact a noted connectivity to a European Site and the development(s) was in the surface water catchment of water dependant Annex II species, rare flora and salmonids as outlined above and further on in more Detail,

As there was an incorrect environmental baseline established in the preparation of the existing CoA licenses for Naul (and Garristown) in 2009/2010 there is a fundamental lack of baseline assessment of the environmental quality, dependant species, habitats and ecology of the receiving environment – the Delvin River.

This flaw demonstrates that Appropriate Assessment and an Environmental Impact Assessment were required for the existing operations and most certainly will be required in respect of the preparation of a Waste Water Discharge License (WWDL). To allow an intensification of use of the Naul WWTP without the correct environmental assessment would risk further threat of deterioration of a European Site and water dependant species Annex II species, protected species and rare flora.

The WWDL application also notes a 'Class A Shellfish Waters' in the bay at Gormanston downstream of Naul WWTP. Due to the fact there are 6 WWTP's discharging into the Delvin River there are culminative effects.

An elaboration and evidence of where the errors were made in preparing the flow chart in relation to the Naul (and Garristown) WWTP's is illustrated on the following pages. This demonstrates insufficient Environmental Impact Assessment has informed the licenses which these plants currently rely on and demonstrates the fundamental flaws:

18. Identified Habitats of Conservation Value on the Delvin River

There is a number of Annex I habitats on the Delvin River, with a particular diversity of habitats downstream of Naul WWTP. The presence of these Annex I habitats were not acknowledged when the flow chart for the Certificate of Authorisation license Application which the Naul WWTP currently operates under. These habitats were mapped on GIS Mapping software which Final County Council uses to inform their spatial planning. The 'Fossit' habitats were collated in 2000, specifically categorising and describing Annex I habitats which are protected under the European Habitats Directive (Julie A. Fossitt, The Heritage Council, 2000).

Of the Annex I habitats noted in the vicinity of Naul WWTP and indeed downstream of the plant are:

FL8 - *Other artificial lakes and ponds 107*

FW2 - *Depositing/lowland rivers Rivers with muddy banks*

FW4 - *Drainage ditches*

GS1 - *Dry calcareous and neutral grassland*

GS4 - *Wet grassland*

WN5 - *Riparian woodland*

WD1 - *(Mixed) broadleaved woodland*

WD4 - *Conifer plantation*

WS1 - *Scrub*

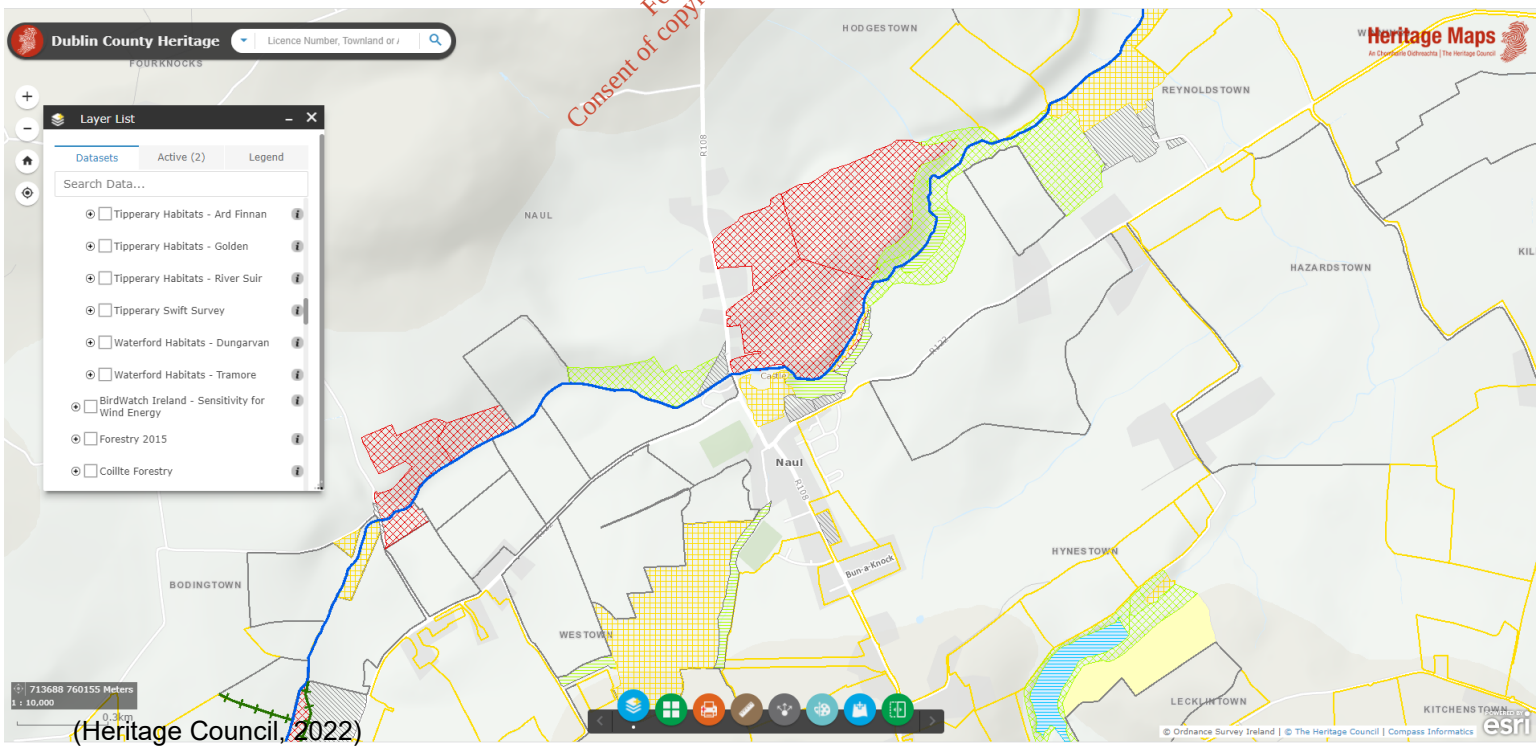
WL1 - *Hedgerows*

WL2 - *Treelines*

ER2 - *Exposed calcareous rock*

EU1 - *Non-marine caves Caves not open to the public (8310)*

Below is a screengrab of the locations of some of these habitats in the area. These Annex I habitats have not been given proper consideration in respect of urban wastewater treatment infrastructure in Naul



(Heritage Council, 2022)

19. Identified Species of Conservation Value on the Delvin River

In the European Union, biodiversity is enshrined within a single directive *(European Communities (Birds and Natural Habitats) Regulations 2011).*

The flow chart prepared I respect of the CoA for Naul WWTP also failed to acknowledge a number of Annex I Habitats and Annex I species protected under the Habitats Directive which were present in the Delvin River, despite being previously identified through surveys including some of which were commissioned by Fingal County Council.

According to the Fingal Development plan the subject site is designated as a Highly Sensitive Landscape. Adjacent to the site are important ecological designations associated with the Delvin River and an adjacent lake/pond, respectively. *'For the Delvin River, are Annex I Habitats: Level 1 (freshwater), Level 2 (watercourse) and Level 3 (depositing/lowland rivers): while for the lake/pond are Annex 1 Habitats: Level 1 (grassland and marsh), Level (semi-natural grassland) and level 3 (dry calcareous and neutral grassland)'* (Keeley & Malgorzata, 2017).

The appropriateness of the development/license is wholly dependent on ensuring that no adverse impacts arise. Further information is required to be provided by the applicant in respect of an archaeological impact assessment and an ecological impact assessment.

In an ecological assessment undertaken as part of a residential development in 2017 on a site adjacent to the Naul WWTP a number of important species were noted:

'Heron, Moorhen, jackdaw, rook, hooded crow, magpie, goldfinch, greenfinch, chaffinch, bullfinch, great tit, coal tit, blue tit, long-tailed tit, robin, wren, blackbird and pied wagtail.

Other species noted in the vicinity include buzzard and mute swan (rare visitor to the pond). It is certain that given the presence of bird feeders that species such as sparrowhawk are also regular. Other thrush species are very probable such as song thrush.

Of the nine species of bat in Ireland, the most widespread species are present within a 5km radius based on the surveyor's records: common pipistrelle, soprano pipistrelle, Leisler's bat, brown long-eared bat, Daubenton's bat and Natter's bat' (Keeley & Malgorzata, 2017).

Given the proximity of the development to a number of noted caves and the fact Naul WWTP is located in a former quarry with overgrown areas and exposed rock there is a high likelihood that there may be bats present on site, warranting a bat survey of the site.

In a survey by *Inland Fisheries Ireland* during 2017, European EEL, River Lamprey, Trout, Minnow, flounder and Stone loach were observed just east of Naul (Matson, R., Delanty, K., Gordon, P., O'Briain, R., Garland, D., Cierpal, D., Connor, L., Corcoran, W., Coyne, J., McLoone, P., Morrisey McCaffrey, E., Brett, T., Ní Dhonnabhain, L. and Kelly, F.L., 2018).

Other significantly protected Annex II species of note at this location and found along he length of the Delvin River is the Otter. The *Ecological Study Of The Delvin River*, Commissioned by the Fingal County Council Biodiversity Officer Hans Visser and undertaken by *Flynn, Furney Environmental Consultants* and *Alan Sullivan* (Flynn, Furney Environmental Consultants, 2008) Notes that Otter/riparian mammals were unlikely to be above Naul due to barriers on the river.

However, the historic bridges project (John Cronin Associates, Atkins, Fingal County Council, 2009) the following year noted the presence of *Annex II* species: otter and crayfish at Cockles bridge, northeast of the discharge point of Garristown WWTP on the Delvin River (upstream of Naul WWTP). Otter have also been observed at the artificial lake east of Naul WWTP and further downstream. A countywide otter survey commissioned by Fingal County Council in 2004 found that the otter was thriving in the area (Ahlstrom, 2005).

White Clawed Crayfish which were found to be present on the Delvin River are a globally threatened species which Ireland has a duty of care to ensure the survival of this species. This species were observed in the Fingal Historic Bridges Project (John Cronin Associates, Atkins, Fingal County Council, 2009) which was commissioned by Fingal County Council, yet the Water Services department of the council neglected to include or give consideration to the presence of this threatened species which is globally threatened when preparing the flow charts (Fergus Finch, Executive Engineer, Fingal County Council, 2010) for the Naul and Garristown WWTP(s) Certificate of Authorisation Application(s) in 2010 (Fingal County Council, 2010).

Otter highlighted on the Delvin River in 2004 (Ahlstrom, 2005) and 2008 (John Cronin Associates, Atkins, Fingal County Council, 2009) in surveys commissioned by the council were also not given consideration when the CoA Application Flow Charts (Fingal County Council, 2010) were prepared. Thus both the Garristown and Naul WWTP's licencing applications were both not properly assessed in advance of them being granted CoA licenses.

This is in direct contrast to a number of statutory instruments and laws such as the Irish Wildlife Laws and our obligations under European Directives. How these facilities have and continue to operate without sufficient environmental assessment is of grave concern.

It is clear that there are a number of Annex I Habitats and Annex II water dependent species on the Delvin River which have been overlooked in the past, which may have caused a detrimental affect on these species and habitats in the period since the CoA's were granted.

In 2019 Ireland was the first country in the world to declare a climate and biodiversity emergency. In 2020 this emergency became very real for the people of Naul, as pollution of the Delvin River was shared on social media on a daily basis, with thousands of views and reactions to what was happening in the Delvin River. As the river is located in a hidden valley, the general consensus in relation to pollution of the river, appears to have been *'Out Of Sight, Out Of Mind'* for many years, however that is no longer the case and the pollution issues in Naul have been brought to the forefront.

Full ecological and environmental assessment of the current operations of the Naul and Garristown WWTP's may be needed in advance of progressing this application for a WWDL in Naul as there is a fundamental lack of environmental and ecological baseline data currently established at present. Appropriate Assessment may be needed for any further wastewater infrastructure upgrades in Naul.

Figure 19 - Otter Spraint on the Delvin River near Naul (John Cronin Associates, Atkins, Fingal County Council, 2009).

The following is an outline of some of the species of conservation value, protected under the Habitats Directive, which were observed on the Delvin River adjacent to Naul WWTP and downstream:

Protection status:

Otter *(lutra lutra)*

Otters are known to inhabit multiple locations the whole length of the Delvin River, including Naul Bridge where there have been observations by local residents, the 'Waterfall of the Roches' adjacent to the primary discharge point and the artificial lake east of Naul WWTP, where there have been several recorded sightings of Otter in close proximity to Naul WWTP.

During the summer of 2004 Fingal County Council commissioned postgraduate researcher Eoin Collins who was undertaking a Master's degree in environmental resource management at University College Dublin to undertake a survey of the otter, Lutra lutra and its distribution across Fingal.

Collins reported he: *"found surprising evidence of its distribution in the area". The object, he says, was to provide the council with information on the animal and its environs for inclusion in its development plans. "The council is anxious to do its best to protect the otter from any negative impacts associated with development in the area."*

"My survey covered the Ballyboghil, Bracken, Broadmeadow, Corduff, Delvin, Mayne and Ward rivers which flow through a range of habitat types," says Collins.

The otter typically makes its home in holes along the banks of streams or in thick vegetation, he says. Unlike the fox it is extremely secretive, so its presence in an area can easily go unnoticed. It is also nocturnal, spending the day resting and then emerging only at night.

The survey took place from June to August at a time when water levels were at their lowest. This was an important consideration given the primary method used to track down Lutra lutra, not direct observation but by searching for the droppings or "spraints" it leaves behind, says Collins.

"Otters are so difficult to see that spraints are the only main way of identifying their presence in an area."

Spraints are a means of communication between otters so they are left in prominent places - for those with eyes to spot them. Collins found his otters were leaving spraints on large boulders, tree stumps or ledges under bridges, not just along their river bank habitat as is typical of otters outside the city.

"The indications from the survey of the otters' distribution in Fingal are firstly that it seems to be doing quite well in this area and secondly that it frequents the urban as well as the rural areas of Fingal," Collins indicates.

He looked at a number of factors affecting otter distribution in Fingal including food supply, water quality, human disturbance and vegetation cover. "The overall conclusion reached by the study was that the otter seems to be doing reasonably well in Fingal and as yet has not been adversely affected by the rapid development of this county area," Collins suggests. The animals seemed capable of surviving in "less than pristine" waters and have tolerated areas of high human activity and development (Ahlstrom, 2005).

'Otters are semi-aquatic carnivores that are widespread throughout all Irish freshwater and coastal habitats (NPWS, 2008a). Otters are strictly protected under Annexes II and IV of the EU Habitats Directive. They are also listed on the Irish Red Data book as a Vulnerable species (Whilde, 1993), and they are protected under the Wildlife Acts of 1976 and 2000. Otters typically have resting places within their territories called couches when situated above ground or holts when located underground. Holts are most commonly found among trees roots, although bramble scrub is also used (NPWS, 2008). Each adult otter has its own home range, which it marks with its faeces (spraints) at prominent locations such as instream rocks often situated nearby bridges…. Otter activity was confirmed in the field at only one of the bridge sites. This occurred at FHBS-4 (Cockles Bridge) where an otter spraint was identified on an instream rock immediately upstream of the bridge structure. The spraint also contained crayfish remains, a species of conservation concern listed on Annex II of the EU Habitats Directive' (John Cronin Associates, Atkins, Fingal County Council, 2009).

Annex II species are defined as "Animal and Plant Species of Community Interest Whose Conservation Requires the Designation of Special Areas of Conservation". This means that human activities must not prove detrimental to the animal.

The National Parks and Wildlife Service (NPWS) note of the four significant threats to this heavily protected species that water pollution has the potential to directly and indirectly affect this species: *'Threat 2 Water pollution - A number of Irish surveys have linked poor water quality to sites that proved negative for otter signs (Lunnon & Reynolds, 1991; Hamilton & Rochford, 2000).'…'Serious pollution in Ireland, however, is most frequently caused by sewage discharges (Stapleton et al., 2000). Pollution may influence otters either indirectly or directly. Indirect effects include damage to food supply or habitat thus lowering the carrying capacity of an affected area. Direct effects impact of the animal itself, resulting in either rapid death (acute toxicity) or in lowered fitness (sub-lethal toxicity), reducing the animal's ability to reproduce successfully or to survive in inclement conditions'* (NPWS, 2009).

Three Spined Stickleback *(Gasterosteus aculeatus Linnaeus)*

Three Spined Stickleback observed downstream of Naul WWTP. *'Water pollution with associated fish kill is a constant possibility in the aquatic environment although this is a relatively pollution tolerant species. Daoud et al. (1985b) found that spawning took place in littoral vegetation in the reservoir they examined. Fluctuations in water level would severely impact on spawning success in such habitats'* (King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan,P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D., 2011). Red listed species.

European EEL *(Anguilla anguilla)*

European Eel are a critically endangered species under the IUCN Red List (Pike, C., Crook, V. & Gollock, M. , 2022), with a fascinating lifecycle beginning at the Caribbean. Inland Fisheries Ireland notes a number of pressures this species faces including 'mortality at barriers to migration, overfishing, habitat loss, parasites and pollution that affects fertility' (Inland Fisheries Ireland, 2022). European eels are listed on Annex II of the European Union (EU) Habitats Directive (92/43/EEC) (The Council of The European Communities, 1992).

River Lamprey *(Lampetra fluviatilis)*

River Lamprey remain relatively close to the coast for about 18 months before migrating back up into the river to spawn. *'Although they are not considered to be at risk in this country, impacts including pollution, instream works in river channels and barriers to migration remain potential threats to river lamprey'* (Inland Fisheries Ireland, 2022).

Lamprey are listed on Annex II of the European Union (EU) Habitats Directive (92/43/EEC) (The Council of The European Communities, 1992). *'This Directive obliges all member states to designate Special Areas of Conservation (SACs) for the protection of Annex II species. Member states must then ensure that favourable conservation status is maintained for the target species. The National Parks and Wildlife Service (NPWS) of the Department of Environment, Heritage and Local Government has responsibility under the Habitats Directive for the selection and conservation of SACs for lamprey in Ireland'* (James J. King, 2006).

Brown Trout *(Salmo trutta)*

Brown Trout have been observed on the Delvin River, there have been stocks supplemented on the Delvin River since at least 1950 by the local *Gormanston and District Anglers Club* who have fishing rights on the Delvin River to Naul. In 1982 there was pollution of the Delvin River between Naul and Garristown which wiped the entire stock of Trout in the river along with eels and other fish in the river. Silage effluent seeped from a farmyard west of Naul, which caused eutrophication of the river, severe pollution and deoxygenation of the Delvin, massive fish kill and thousands of pounds worth of damage (Moore R. , 1982). *'Brown trout usually spawn between October and December in well-oxygenated gravel beds of rivers. They thrive in lakes and rivers with cool temperatures and high oxygen levels, and they can cope with moderate levels of pollution'* (Inland Fisheries Ireland, 2022). Sea Trout are also present in the Delvin River and are protected under the Fisheries Acts 1959 to 2006; Fisheries Act (Northern Ireland) 1966; Foyle Fisheries Act (NI) 1952; Foyle and Carlingford Fisheries Act 2007. Trout are a red listed species.

Another Pollution Disaster Strikes

BY RICHARD MOORE

A major fish kill on the Delvin River in east Meath could have been prevented last week had there not been a breakdown in communications between Meath Co. Council, local representatives and the public.

Angry residents in Stamullen and Gormanston claimed at a public meeting in the village on Tuesday night that Meath Co. Council knew that the Delvin River was polluted on 19th May, but did little to inform local people so that further outbreaks could have been prevented.

On Thursday of last week thousands of fish on an eight-mile stretch of river were killed when silage effluent seeped into the river at a point between Naul and Garristown. Virtually all fish life, including eels, was devastated in the pollution, with local fishermen estimating that it will be 1984 before anyone casts a line into that stretch of water again.

NOT AWARE

Much of the blame for the major pollution has been pointed at Meath Co. Council. Residents claim that on 19th May the council cut off the area's water supply from the Gormanston reservoir (which is serviced by the Delvin River) because of traces of pollutants.

Yet local anglers were not aware of any problems with the water until the major spillage last Thursday. Had they known, they maintain, patrols could have been mounted in a bid to prevent further outbreaks.

"We are more annoyed that Meath Co. Council did not give some warning that the water was polluted on 19th May," stated Mr. John Collier, a member of the Gormanston and District Anglers' Association.

Fianna Fail T.D. Mr. Jim Fitzsimons, who attended the meeting in Stamullen, claimed: "The major point from the people's point of view was the lack of communication. The people were kept in the dark. The people would not have minded so much had they been told there was trouble with their water."

So angry are local people over the spillage and the problems which have bedevilled the east Meath water scheme that they have called for a public inquiry.

According to Mr. Dick McDonnell, a fisheries inspector with the Eastern Regional Fisheries Board in Drogheda, the fish kill will cost in the region of £5,000 to £7,000. "It was fairly bad but I think we know who did it. It came from sillage and we expect legal action," he stated.

Officials from the Fisheries Board believe that a burst wall of a silage pit was responsible for most of the damage.

Meanwhile, the local anglers' club have estimated that it will take a considerable time to get the river back to its original state, although fisheries officials already claim there has been an improvement. Recently, Gormanston anglers stocked the river with 1,000 brown trout at a cost of £500. These trout have all been wiped out.

The polluted section of the river stretches from Garristown to Gormanston. At the time of going to press we were unable to get a comment from Meath Co. Council.

Figure 20 - Major Fish Kill on the Delvin (Moore R. , 1982).

Minnow *(Phoxinus phoxinus)*

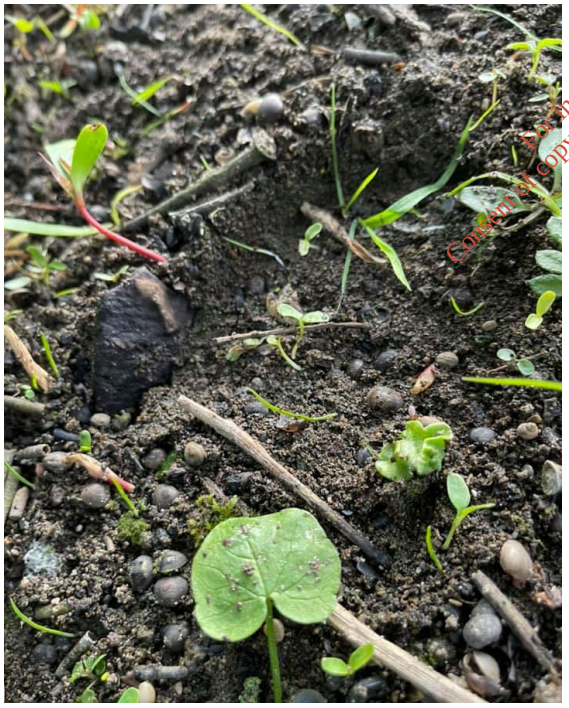
Minnow were observed on the Delvin River *'Although they prefer to inhabit clean waters and to spawn in well-oxygenated shallows with a gravelly substrate, minnow appear to be quite tolerant to water pollution and may be found in large numbers in stretches of river where other species are absent. It is thought that if oxygen levels in the waters of poor quality remain high, they may benefit from the abundance of small food items that occurs in nutrient enriched, eutrophic conditions'* (Inland Fisheries Ireland, 2022).

Flounder *(Platichthys flesus)*

Flounder were also observed *'Unlike other flatfish, young flounder frequently move upstream beyond the tidal limit to spend a substantial part of their lives in freshwater in the lower reaches of rivers, sometimes even inhabiting lakes in some parts of its range. When mature, flounder migrate into the deeper coastal waters to spawn in winter'* (Inland Fisheries Ireland, 2022). Flounder are a red listed species.

Stone Loach *(Barbatula barbatula)*

Stone Loach was also observed downstream. *'Although they prefer clean water, stone loach are hardy fish and can tolerate moderate levels of pollution and nutrient enrichment in rivers. Uniquely amongst Irish fish, they are able to gulp air and absorb oxygen in their hindgut, which helps them to survive droughts and low oxygen conditions in shallow waters that other fish species could not survive'* (Inland Fisheries Ireland, 2022). Stone Loach are a red listed species *'As with other fish species, the stoneloach is susceptible to water pollution but appears to tolerate moderate organic pollution. Also, very sensitive to pollution by heavy metals'* (King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan,P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D., 2011)



Above: Sphaerium nucleus (Studer) – Orb Mussels noted in May 2021, 1km downstream of Naul WWTP.

Below: extract from Inland Fisheries Ireland Fish Survey (Matson, R., Delanty, K., Gordon, P., O'Briain, R., Garland, D., Cierpal, D., Connor, L., Corcoran, W., Coyne, J., McLoone, P., Morrisey McCaffrey, E., Brett, T., Ní Dhonnabhain, L. and Kelly, F.L., 2018):

Fig. 1 Map of Delvin Catchment survey sites, 2017

Site survey details, Delvin Catchment, 2017

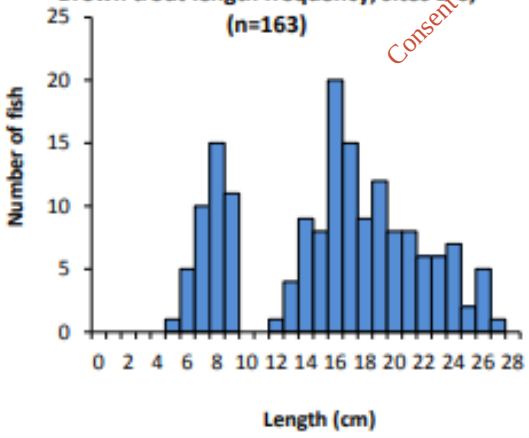
No.	River name	Site	Method	Date
1	Delvin	Old Mill Br.	TEF (Handset)	18/08/2017
2	Delvin	Tobertaskin	TEF (Handset)	18/08/2017
3	Delvin	Stamullin	TEF (Handset)	17/08/2017
4	Delvin	d/s M1 Br.	TEF (Handset)	17/08/2017
5	Delvin	Gormanstown Demesne	TEF (Handset)	17/08/2017
6	Delvin	Knocknagin	TEF (Handset)	17/08/2017

Method: TEF (Ten-minute electrofishing)

Minimum density estimates (no. fish/m^2)

Site no.	1	2	3	4	5	6
Species	2017	2017	2017	2017	2017	2017
Brown trout	0.282	0.442	0.292	0.284	0.356	0.329
0+ brown trout	0.122	0.103	0.072	0.060	0.086	0.080
1+ & older brown trout	0.160	0.338	0.220	0.225	0.270	0.249
European eel	-	0.028	0.034	0.014	-	0.014
Flounder	-	-	-	-	-	0.042
Minnow	-	0.056	-	-	-	-
Sea trout	-	-	-	0.014	-	0.014
Stone loach	0.038	-	-	-	-	-
All Fish	**0.320**	**0.526**	**0.326**	**0.312**	**0.356**	**0.399**

Brown trout length frequency, sites 1-6, (n=163)



Salmonid age class structure, Delvin Catchment, 2017

Species	Site No.	% of catch 0+	1+	2+	3+
Brown trout	1	43	57	-	-
	2	23	55	23	-
	3	24	28	38	10
	4	23	47	30	-
	5	25	32	43	-
	6	24	45	27	3

20. Protected Bird Species

A desktop study of the Biodiversity and Species Maps on the *National Biodiversity Database,* which allows for geospatial grid data exportation, shows a number of protected bird species observed at the artificial lake immediately adjacent to the Naul WWTP. The primary discharge point of the Naul WWTP discharges directly into this artificial lake, which is incorrectly described as a 'river' in the current CoA license for the Naul WWTP and also mischaracterised in the current WWDL application as a 'river' when maps clearly show it is a lake located between the waterfall west of Naul WWTP and dam east of lake. Later images will show the pollution impact Naul WWTP is currently having on this waterbody.

A number of protected species are shown to use this lake (National Biodiversity Data Centre, 2022), many of which are protected under Wildlife Acts, The EU Birds Directive Annexes I, II & III and are listed as Birds of Conservation Concern, Amber and Red lists. Significant bird species observed are:

- **Common Kingfisher** *(Alcedo atthis)*
  Protected Species: Wildlife Acts, Protected Species: EU Birds Directive >Annex I Bird Species, Threatened Species: Birds of Conservation Concern > Birds of Conservation Concern - Amber List

- **Common Linnet** *(Carduelis cannabina)*
  Protected Species: Wildlife Acts, Threatened Species: Birds of Conservation Concern > Birds of Conservation Concern Amber List

- **Eurasian Teal** *(Anas crecca)*
  Protected Species: Wildlife Acts, Protected Species: EU Birds Directive > Annex II, Section I Bird Species, Protected Species: EU Birds Directive >Annex III, Section II Bird Species, Threatened Species: Birds of Conservation Concern - Amber List

- **Great Cormorant** *(Phalacrocorax carbo)*
  Protected Species: Wildlife Acts, Threatened Species: Birds of Conservation Concern > Amber List

- **Little Grebe** *(Tachybaptus ruficollis)*
  Protected Species: Wildlife Acts, Threatened Species: Birds of Conservation Concern > Amber List

- **Mallard** *(Anas platyrhynchos)*
  Protected Species: Wildlife Acts, Protected Species: EU Birds Directive > Annex II, Section I Bird Species, Protected Species: EU Birds Directive > Annex III, Section I Bird Species

- **Tufted Duck** *(Aythya fuligula)*
  Protected Species: Wildlife Acts, Protected Species: EU Birds Directive > Annex II, Section I Bird Species, Protected Species: EU Birds Directive > Annex III, Section II Bird Species, Threatened Species: Birds of Conservation Concern > Amber List

- **Common Coot** *(Fulica atra)*
  Protected Species: Wildlife Acts, Protected Species: EU Birds > Annex II, Section I Bird Species, Protected Species: EU Birds Directive > Annex III, Section II Bird Species, Threatened Species: Birds of Conservation Concern > Amber List

- **Little Egret** *(Egretta garzetta)*
  Protected Species: Wildlife Acts, Protected Species: EU Birds Directive > Annex I Bird Species

- **Merlin** *(Falco columbarius)*
  Protected Species: Wildlife Acts, Protected Species: EU Birds Directive > Annex I Bird Species, Threatened Species: Birds of Conservation Concern >Amber List

Species list for O133611

Quality of information

The National Biodiversity Data Centre makes every effort to ensure the quality of the information available on this website and updates the information regularly. Before relying on the information on this site, however, users should carefully evaluate its accuracy, currency, completeness and relevance for their purposes. The National Biodiversity Data Centre cannot guarantee and assumes no legal liability or responsibility for the accuracy, currency or completeness of the information.

To assist the Centre in the provision of high quality information, should you identify an error in any of the information provided, please notify the Centre and every effort will be made to rectify the error.

Grid square	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	bird	Common Kingfisher (Alcedo atthis)	3	30/09/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Common Linnet (Carduelis cannabina)	1	16/07/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation
Custom	bird	Common Raven (Corvus corax)	1	23/03/2020	Birds of Ireland	
Custom	bird	Eurasian Teal (Anas crecca)	3	30/09/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Great Cormorant (Phalacrocorax carbo)	1	08/05/2020	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation

Custom	bird	Little Grebe (Tachybaptus ruficollis)	2	08/05/2020	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation
Custom	bird	Long-eared Owl (Asio otus)	2	08/05/2020	Birds of Ireland	
Custom	bird	Mallard (Anas platyrhynchos)	1	16/07/2019	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Stonechat (Saxicola torquata)	1	30/09/2020	Birds of Ireland	
Custom	bird	Tufted Duck (Aythya fuligula)	1	23/03/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	White-throated Dipper (Cinclus cinclus)	2	08/05/2020	Birds of Ireland	

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Species list for O134611

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Grid square	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	bird	Common Bullfinch (Pyrrhula pyrrhula)	1	28/02/2020	Birds of Ireland	
Custom	bird	Common Coot (Fulica atra)	1	21/10/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Eurasian Siskin (Carduelis spinus)	1	28/02/2020	Birds of Ireland	
Custom	bird	Eurasian Teal (Anas crecca)	2	28/02/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Great Cormorant (Phalacrocorax carbo)	1	07/03/2019	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Little Egret (Egretta garzetta)	1	28/02/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species

Custom	bird	Little Grebe (Tachybaptus ruficollis)	1	21/10/2020	Birds of Ireland	Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	Mallard (Anas platyrhynchos)	2	28/02/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species
Custom	bird	Merlin (Falco columbarius)	1	19/11/2020	Birds of Ireland	Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List
Custom	bird	White-throated Dipper (Cinclus cinclus)	1	07/03/2019	Birds of Ireland	
Custom	bird	Winter Wren (Troglodytes troglodytes)	1	28/02/2020	Birds of Ireland	

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21. Rare Flora in Vicinity of Naul WWTP

In the section of Valley, just north of the village (below the castle at lake) there was a very rare sub species of fern (Polypody, Polypodium vulgare ssp serrulatum) noted in 1972 (R. Young, An Foras Forbartha, 1972, pp. PDF 83-84). Recommendation was for development plans affecting this area to take into account its scientific interest:

Name of Area	RIVER VALLEY AT NAUL
Acreage	c. 5 acres
Grid Reference	O. 135, 613
Scientific Interest	Geological, botanical
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 25. The river here has cut down through the carboniferous limestone to form a steep-sided, rocky valley. The valley is densely wooded and there is an old disused quarry at the eastern end on the south side of the river (in Co. Dublin).

The geology of the area is referred to in:
Smyth, L. B. The Carboniferous System in North County Dublin.
Journal of the Geological Society of London, Vol. 105, p. 295-326.

Botanically, the area is of interest because of the occurrence of the rare subspecies of the Polypody, Polypodium vulgare ssp serrulatum (see Fig. 17).

Evaluation

The types of rock exposed here result in the area being of local geological interest.

Threats to the Area

None known.

Recommendation

Development plans affecting this area should take into account its scientific interest.

Given the existing very serious environmental issues on the Delvin River as the result of 2x overloaded UWWTP's at Naul and Stamullen (According to the respective NCAP Reports on both plants by RPS), compounded by a series of abstraction points, including a large abstraction point used for supplying water to a concrete batching plant in Naul, along with legacy quarry infill pollutions along the Delvin River, it would be unwise to place further pressures/anthropogenic pressures on the river, such as disturbances to Habitats, wintering birds, bats at Delvin Bridge, Otters, Brown and Sea Trout and Annex I and II species which use the Delvin Estuary and Delvin River.

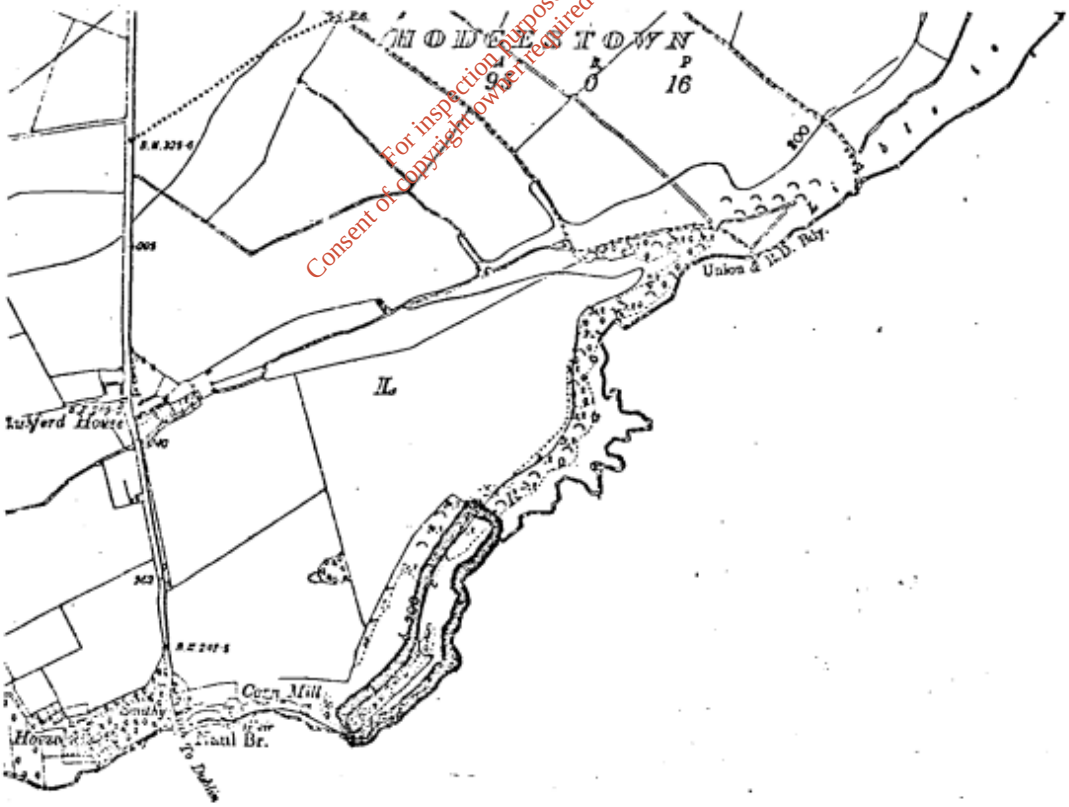
Any further disturbances, where they do not already exist on the Delvin River may impact migration of species up the river and interrupt the Delvin River Ecological network, which will have a knock-on affect for riparian and rural ecosystems along the river as far as Garristown. The full impacts of in combination projects and plans in the catchment have to be considered in their totality. All of which ultimately will impact upon the Delvin River.

Outlined in a dark black (faded) outline is the area of the valley on the Meath side of the Delvin River. This is directly downstream of Naul WWTP. The artificial lake and higher water level may mean this species is vulnerable to the effects of pollution and wastewater discharge.

The presence of this rare flora or protected species were not acknowledged when the flow chart was prepared for Naul WWTP (Fergus Finch, Executive Engineer, Fingal County Council, 2010). Priority should be given to assessing this rare flora and noted area of Scientific Interest prior to any increase in capacity at Naul WWTP.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 25

Scale: 6 Inches to 1 Mile



22. Delvin River falls within SPA Zone of Nanny Shore SPA Species Counts

According to the National Parks and Wildlife Service Nanny Shore iWeBS Survey (NPWS, 2012) the Delvin River and Estuary forms part of the species count area of the River Nanny Estuary & Shore Special Protection Area (Site Code 4158).

(https://www.npws.ie/sites/default/files/publications/pdf/004158_River%20Nanny%20Estuary%20and%20Shore%20SPA_Supporting%20Doc_V1.pdf).

'***Part Four – Review Of The Conservation Condition Of Waterbird Special Conservation Interests***

4.1 Population data for waterbird SCI species of River Nanny Estuary and Shore SPA

Wintering waterbirds have been counted regularly at River Nanny Estuary as part of the Irish Wetland Bird Survey (I-WeBS) since the survey commenced in 1994 (Crowe, 2005). With the exception of two seasons, the site has been counted across a seven month period in each season, covering the months September to March inclusive. This is known as the core count period of I-WeBS and this timeframe not only covers the main winter period when many species occur in their largest concentrations, but also the autumn and spring passage periods when total waterbird numbers may be enhanced by staging/stopover birds.

In most seasons the site has been counted as a single count area (Laytown – Delvin River, or Laytown - Ben Head) covering approximately 370 ha (Crowe, 2005). Note that the SPA area and the I-WeBS count area are not coincident. The SPA extends further up the River Nanny estuary and extends slightly further north of Laytown than the I-WeBS count area, and while the SPA boundary ends just south of Ben Head, the I-WeBS count area extends south as far as the Delvin River' (NPWS, 2012).

In this regard the estuary of the Delvin River arguably forms part of the Nanny Shore SPA given that the species counts for the SPA incorporates the Delvin River Estuary at Gormanston. As highlighted above there are a number of Annex I Habitats and Annex II Species, including birds which were observed adjacent to Naul WWTP at the artificial lake and downstream of Naul WWTP. Given that some of the bird species observed are also those listed as species of conservation value in the Nanny Estuary and Shore SPA it appears that there is a definitive link between the river valley in Naul and sites in the Natura 200 network. **Thus the Delvin River and proposed development has a demonstrated important relationship with the Natura 2000 network and requires a Natura Impact Assessment.**

In the 2004 Delvin Estuary Birds Survey it was noted ***'The estuary offers an important high tide roosting area for Brent Geese and Cormorants during the winter (Crowe and Boland 2004). It also holds nationally important numbers of golden plover'*** (Hans Visser, Fingal County Council, John Coveney, Coveney Wildlife Consulting Ltd., David Kelly, Zoology Dept., Trinity College Dublin, Frank Mc Manus, Sean Pierce & David Dillon, BirdWatch Ireland, Fingal Branch, 2004, pp. 10-17).(*http://www.fingalbiodiversity.ie/resources/fingal_coast/2004%20Bird%20Habitats.pdf)*

According to a Birds survey (Area A) at mouth of Delvin River in November 2020 Brent Geese are noted to use Delvin Estuary:
(*https://consult.fingal.ie/en/system/files/materials/17142/BalbrigganBirdSurvey_BWI_Final_Addendum_Final.pdf).*

The importance of the river valley, its connectivity to the Natura 2000 network via a series of linked Annex I Habitats and visiting species (which form the basis of the Nanny Estuary/Shore SPA) cannot be underestimated.

In 2016 Roger Goodwillie, Consulting Ecologist visited the valley east of Naul WWTP to undertake assessment for the adjacent Clashford Recovery Facility. During this visit there were noted visiting species which were the basis of the conservation objectives of the Nanny Estuary/Shore SPA (Shields, 2018, p. 8).

The applicant notes a *'tenuous connectivity'* (Irish Water, 2021) to the Nanny Estuary and Shore SPA and the Natura 2000 network, however research has demonstrated that this connectivity is much less tenuous than previously assumed, rather there is evidence of a direct connectivity through species and habitats to the Natura 2000 Network which warrants further assessment and determination of consequential impacts the development may have on European Sites and Species of conservation Value. Further ecological assessment is needed to determine the exact relationship of habitats and species of conservation on the Delvin River and the Nanny Estuary/ Shore SPA.

Given the proximity of the proposal to the Bog of the Ring pNHA and the protected species observed at that site which were also found on the Delvin River east of Naul WWTP there may be a relationship between the artificial lake at Naul and the Bog of the Ring pNHA and other sites which are part of the Natura 200 network. This relationship needs to be further assessed to ensure the project does not affect other sites of nature conservation concern (http://fingalbiodiversity.ie/resources/fingal_countryside/2009%20Birds%20Bog%20of%20the%20Ring.pdf).

23. Appropriate Assessment and Natura Impact Statement needed

The development is in fact in the surface and ground water catchment of Annex I & II species, protected species, rare flora and salmonids these include: European Eel, Otter, White Clawed Crayfish, Lamprey, Brent Geese, Cormorants, Golden Plover and Rare Ferns east of Naul WWTP. This demonstrates that there were issues in the preparation of the Flow Charts for the existing Certificate of Authorisations for the Naul and Garristown WWTP's when the existing licenses were prepared by Fingal County Council. There was in fact a noted connectivity to a European Site and the development(s) was in the surface water catchment of water dependant Annex II species, rare flora and salmonids as outlined above. A Natura Impact Statement (NIS) is required to support this application informed by updated ecological assessments.

As there was an incorrect environmental baseline established in the preparation of the existing CoA licenses for Naul (and Garristown) in 2009/2010 there is a fundamental lack of knowledge of the environmental quality, dependant species, habitats and ecology of the receiving environment – the Delvin River.

This flaw demonstrates that Appropriate Assessment and an Environmental Impact Assessment were required for the existing operations and most certainly will be required in respect of the preparation of a Waste Water Discharge License (WWDL). To allow an intensification of use of the Naul WWTP without the correct environmental assessment would risk further threat of deterioration to a European Site and water dependant species Annex I & II species, protected species and rare flora.

As the flow diagram which the current COA relies upon was incorrectly prepared this demonstrates that in order to avoid any impact on European sites in the Natura 2000 network, Annex I Habitats and Annex I & II species Appropriate Assessment and an EIS is required to determine the impact of this development of protected sites and species of European interest.

There are obligations on Ireland to designate Special Areas of Conservation for the above Annex I & II Species, with particular priority given to the otter. As such the Delvin River appears to have a number of qualifying interests to be selected as an cSAC (Ducas, DoHLG, 2004). Such a site on an important ecological network requires the correct up to date environmental and ecological assessments to better understand the receiving environment and potential impacts on the Natura 2000 network.

Article 6(3) and 6(4) of the Habitats Directive 6(3) States: '***Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public'*** (DoEHLG, 2009)***.***

As evidenced earlier this facility/project has attracted considerable public interest over the past 50 years, there was no proper engagement with the community 50 years ago which resulted in a public enquiry. The inquiry found there was likely to be no significant impacts from the plant, yet 30 years later there was evidence of pollution issues from the plant. Over the past few years the local community have been caused considerable distress due to pollution issues on the river. There has been a total lack of meaningful response and engagement from Irish Water and FCC on the public health risk and environmental hazard the Naul WWTP now poses.

The relevant authorities (IW&FCC) need to meet with local stakeholders and community groups to discuss a way forward for sewage treatment in Naul Village. This has been totally lacking to date despite direction from EPA staff for IW to engage with the local community *(see Naul WWTP CoA enforcement 2021)*. This proposal may warrant a revisiting of the previous public enquiry or a tribunal to resolve Naul UWWT/environmental issues on the Delvin River.

Case law of the ECJ has established that AA must be based on best scientific knowledge in the field. Accordingly, ***'the NIS must be prepared by a person or persons with the requisite ecological expertise and experience, supplemented as necessary by additional expertise and experience (e.g. geology, hydrology, civil engineering or planning), and produced in a scientifically complete, professional and objective manner. While the NIS will generally be submitted by those seeking approval for a plan or project, competent authorities should satisfy themselves that it demonstrates sufficient expertise, scope and focus in relation to the ecological or other issues (e.g. hydrological) concerned, and competence and standards in scientific methodology and impact assessment'*** (DoEHLG, 2009).

As outlined previously in this document there are major issues in relation to the geology of the site where Naul WWTP is located, there are likely issues with groundwater pollution due to assimilation of effluent in the artificial lake and retention of effluent/periodic pollution in the waterbody which may filter into the limestone bedrock as this area is a vulnerable groundwater recharge zone. This may also pose a risk to the public water supply nearby. There are hydrological issues yet to be understood fully. There are also Annex I habitats, Annex I & II species which have not yet been property assessed.

24. Cumulative and in Combination Impacts

The proposed increase in capacity via a WWDL and proposed future upgrades have not considered possible significant in-combination or cumulative effects/impacts of the proposal with other such plans and projects on Natura 2000 sites in the vicinity, in particular the *Nanny Estuary / Shore SPA*. NIS Screening is needed.

Other plans and projects specific to the relevant Natura 2000 site are the following:

- **The Naul LAP**
- **Garristown Village LAP**
- **WFD report for sub catchment**
- **Fingal County Development Plan 2017-2023**
- **Fingal Coastal Way** *(Crossing the Delvin Bridge/River at Gormanston)*
- **Proposed Bremore Deepwater Port** *(Delvin culverted for 2km to sea)*
- **Stamullen Wastewater Network Improvement Project** (IW)
- **Stamullen Wastewater Upgrade Scheme** (IW)
- **Irish Water Growth and Development Programme** (Stamullen)
- **Eastern RBD Management Plan**
- **Water Services Investment Programme**
- **IPPC Programme**
- **Local Authority Discharge**
- **Groundwater Pollution Reduction Programmes**
- **Surface Water Pollution Reduction Programmes**
- **Shellfish Waters Pollution Reduction Plan**
- **The Eastern Regional Fisheries Board- Strategic Plan**
- **Flood Risk Management Plans**
- **Commercial Abstraction from Delvin River** *(Concrete Production, Naul)*
- **Quarrying Activity on the Delvin**
- **Waste Recovery adjacent**

The potential impacts of the above plans in combination needs to be adequately considered and assessed for likely impacts.

25. Insufficient Buffer Zone Between Residential Units

Since the Naul WWTP was completed in 1984 a number of derelict buildings in the vicinity of the Naul WWTP were brought into use. This includes two historic cottages and a former mill complex which was renovated around 2000 and contains several apartment units and five semi-detached houses.

The EPA Wastewater Treatment Manuals: Treatment Systems for Small Communities, Business, Leisure Centres and Hotels was published in 1999. Although this document is directed towards the siting of small waste water treatment systems, it provides guidance in relation to the separation distance to be maintained between the location of a small WWTP and residential developments. A **50 m** buffer zone is recommended in this document (Environmental Protection Agency, 1999).

There is an issue at Naul WWTP however, as there is an inadequate buffer zone from the plant and existing residential dwellings in the vicinity of the plant. To upgrade the plant in its present location would be in contrast to guidance in the EPA Wastewater Treatment Manual. Furthermore, planning policy in the Fingal Development plan states: *'Objective WT11: Establish a buffer zone around all wastewater treatment plants suitable to the size and operation of each plant. The buffer zone* ***should not be less than 100m*** *from the odour producing units'* (Fingal County Council, 2017). It is clear from EPA guidance and local planning policy that the current siting of the Naul WWTP is problematic, particularly concerning the impact it has, such as generating noise and odour nuisance for local residences.

26. Potential Pathways to other sites

Historical accounts reference a hydrological connection between the karst limestone cliff feature adjacent to Naul WWTP (where the placename derives from) and Hynestown Reservoir (The Irish Independent, 1962). Geological maps available on the Geological Survey of Ireland also appear to evidence the bedrock typology extending to Hynestown reservoir which would support and correspond with observed karst features in the area.

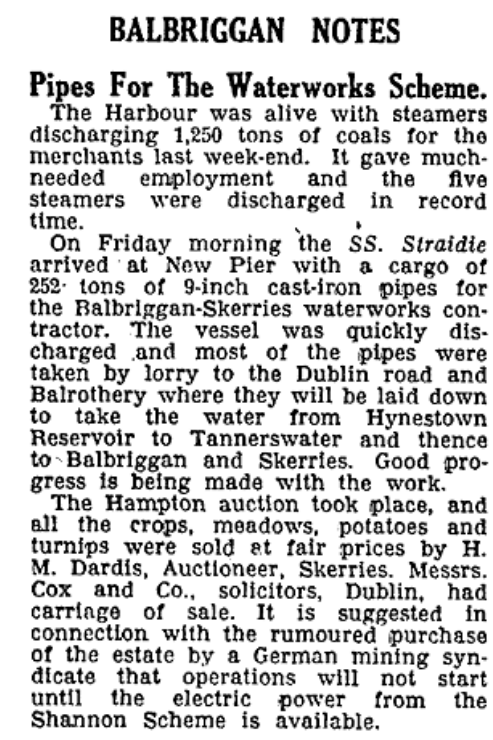
The Hynestown Reservoir was completed in 1929, strategically located and engineered to serve the towns of Balbriggan and Skerries with a cast-iron pipeline running from Hynestown to the Bog of the ring (following the road) to knock lake and then on to Kilsough South (Balbriggan) where there a filtration bed was located. The pipeline then split, with one main feeding into Balbriggan and the other to Skerries via Tanners Lane an on to Barnageera.

The reservoir was decommissioned in the 1970's, however the valve tower and pipeline was not removed and is in a state of decay. Given that the cast iron infrastructure has been in place almost 100 years and likely never maintained post 1929 there is a high possibility that the cast iron water pipeline may be leaking and has fractured. There is a real probability of this as the pipeline passes through the Bog of the Ring (adjacent to the road – southern side) on bog land which would make the antiquated water infrastructure susceptible to settlement and subsidence. If you walk along the bog road you will see possible localised pools of rust/iron oxidation which may be evidence of the rusted liner/interior of the disused water network leaking into the adjacent bog (Bog of the Ring) which is a pNHA.

There is little information available on the hydrological connection and cave network between the Delvin River and Hynestown Reservoir. The entrance of which cave in now believed to be flooded at the artificial lake. There are however historical records of accounts of this large cavern and local residents who know of its presence from local memory (The Irish Independent, 1962). Several local residents also recall a Geology professor from UCD who visited Naul around 2005. On the geologists visit to the site of the castle testing was undertaken which confirmed the presence of a large cavern beneath the site, which would support local recollections of a cavern from Naul to Hynestown *'in a straight line from the castle to the reservoir'* (Christy Nulty, Christy Nulty, Age 83, Naul (Part 2), 2008).

As there is a possible hydrological connection to the Bog of the Ring pNHA which is a wildlife site of national importance, being the only wetland in Fingal, further assessment is needed to determine if there are any potential pathways from Naul WWTP which may be overlooked. The Natura Impact Screening Report for the Naul LAP failed to identify this possible pathway, due to information on this pathway being buried in historical documents and local memory. Proper consideration should be given to assess the likely impacts which may result from connection between these sites.

Given the potential pathway to the Bog of the Ring pNHA is via a disused historic water network, which had an outfall at Skerries, further investigation is needed to determine if there is an active pathway from Naul WWTP to other Natura sites within a 15km radius. Although tenuous, it cannot be ruled out that there may be a potential surface water connection to Skerries Islands SPA (Site Code: 004122). *Articles outlining the route of the reservoir to skerries:*



BALBRIGGAN NOTES

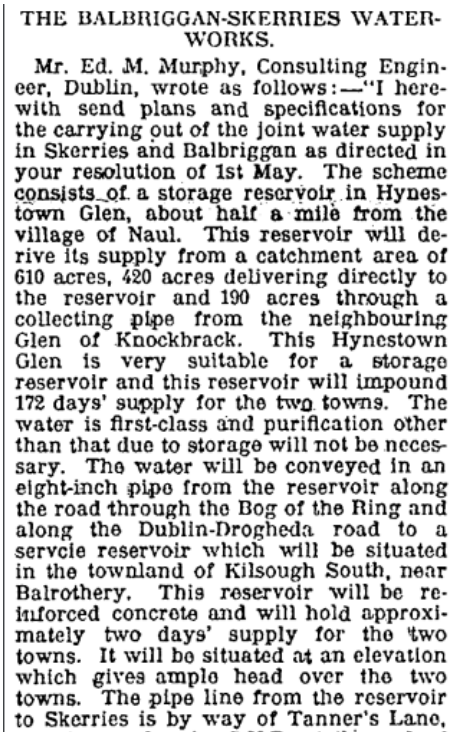
Pipes For The Waterworks Scheme.

The Harbour was alive with steamers discharging 1,250 tons of coals for the merchants last week-end. It gave much-needed employment and the five steamers were discharged in record time.

On Friday morning the SS. *Straidie* arrived at New Pier with a cargo of 252 tons of 9-inch cast-iron pipes for the Balbriggan-Skerries waterworks contractor. The vessel was quickly discharged and most of the pipes were taken by lorry to the Dublin road and Balrothery where they will be laid down to take the water from Hynestown Reservoir to Tannerswater and thence to Balbriggan and Skerries. Good progress is being made with the work.

The Hampton auction took place, and all the crops, meadows, potatoes and turnips were sold at fair prices by H. M. Dardis, Auctioneer, Skerries. Messrs. Cox and Co., solicitors, Dublin, had carriage of sale. It is suggested in connection with the rumoured purchase of the estate by a German mining syndicate that operations will not start until the electric power from the Shannon Scheme is available.

Figure 21 – Pipes for New Water Supply Scheme (Drogheda Independent, 1928)



THE BALBRIGGAN-SKERRIES WATER-WORKS.

Mr. Ed. M. Murphy, Consulting Engineer, Dublin, wrote as follows:—"I herewith send plans and specifications for the carrying out of the joint water supply in Skerries and Balbriggan as directed in your resolution of 1st May. The scheme consists of a storage reservoir in Hynestown Glen, about half a mile from the village of Naul. This reservoir will derive its supply from a catchment area of 610 acres, 420 acres delivering directly to the reservoir and 190 acres through a collecting pipe from the neighbouring Glen of Knockbrack. This Hynestown Glen is very suitable for a storage reservoir and this reservoir will impound 172 days' supply for the two towns. The water is first-class and purification other than that due to storage will not be necessary. The water will be conveyed in an eight-inch pipe from the reservoir along the road through the Bog of the Ring and along the Dublin-Drogheda road to a service reservoir which will be situated in the townland of Kilsough South, near Balrothery. This reservoir will be reinforced concrete and will hold approximately two days' supply for the two towns. It will be situated at an elevation which gives ample head over the two towns. The pipe line from the reservoir to Skerries is by way of Tanner's Lane,

Figure 22 – Article on Hynestown Reservoir (Drogheda Independent, 1925)

27. Concluding comments

The Covid-19 Pandemic has afforded local residents additional time to spend more time in their area and observe their environment. The silver lining is that there was additional time allowed to research the environmental issues we observed, while the country ground to a halt during various lockdowns and most people were working from home. A significant amount of time was spent researching legacy infrastructure issues in Naul which has led to the serious pollution environmental issues on the Delvin River. Many issues have been identified and are still to be addressed, as history has shown mistakes in relation to the Naul WWTP have been made and repeated, working on the current approach historical conundrums appear posed to be repeated yet again.

Naul WWTP should not be operating if it is not licensed to discharge into a lake. As there is limited space on the WWTP site it may not be possible to install holding tanks. Strong consideration should be given to identifying an alternative location for an entirely new WWTP to serve the Naul Agglomeration.

I am firmly of the belief that the Local Authority should begin feasibility studies to assess the possibility of designing a constructed wetland to deal with effluent from the Naul agglomeration in an environmentally sensitive way.

While there may not be the space within Naul village for this, there may be space east of the village in the river valley, which was once a natural wetland, up until c.1993. The 3rd Cycle River Basin Management identified this area (Delvin_020) as an area for restoration by Meath County Council and Fingal County Council. There is a possibility that Irish Water, Fingal County Council and Meath County Council could work together in partnership and form a landscape restoration plan which could incorporate a constructed wetland to process wastewater from Naul Village. This could involve environmental restoration with habitat formation, which would be a sustainable way managing wastewater for the Naul agglomeration going forward.

Alternatively, I believe the only other option which Irish Water could investigate is the construction of a sewer network to link the villages of Naul (and Garristown) to the Wastewater Treatment Works at Barnageerah in Skerries. Currently work is being undertaken to construct a sewage network from Stamullen to link into the Balbriggan sewer network with onward distribution to Barnageerah WWTW (Irish Water, 2022).

Prior to the Naul Sewerage Scheme construction local residents who had objected to the siting of the current plant were in favour of a piped outfall to sea. According to an article in the Evening Herald in 1971 the acting Dublin County Council City Engineer Mr. Kevin O'Donnell stated *'population of Naul was 95. The proposed sewage scheme had a capacity for 400. There was no evidence to suggest that the population would expand much in the future…The effluent from the sewage works would be so diluted as not to cause offence. The cost of the scheme would be about £25,500. The cost of piping the effluent to the sea would be £50,000 extra'* (Evening Herald, 1971).

Irish Water, Fingal County Council and Meath County Council should assess whether a new network extension can link Naul to the Stamullen or Balbriggan agglomeration. The existing Naul WWTP could then be converted to a pumping station and the Delvin River relieved from pollution issues which have been regularly occurring at Naul and Stamullen WWTP for some years now.

This solution is what residents wanted 50 years ago and should have been done at a time when it was more economically advantageous to construct the required infrastructure. It appears highly unlikely that it will be possible to upgrade the Naul WWTP at its current location given the various constraints with hydromorphology, Habitats and species of conservation value, Abstractions and groundwater issues at Naul. If the EPA were to allow further increase at the Naul WWTP it would have a further observable affect the Delvin River's WFD status, 2027 targets will fail.

It is clear a solution is needed which balances the interest of the community, economic development of Naul Village and its outstanding natural environment. Upgrading the Naul WWTP in its present location and on the current model however seems to be the wrong direction, which in my opinion should have been discontinued many years ago.

An alternative long-term sustainable solution for wastewater management and treatment is required for the Naul Agglomeration. The data contained in this submission will hopefully contribute to a better understanding of the dynamics and social ecological systems of the Delvin River and inform better informed assessment going forward.

Irish Water, The EPA and Fingal County Council must meet with local stakeholders such as Naul Community Council (info@naulvillage.com) if there is any path forward to be found in relation to UWWT in Naul. The local community are left feeling that there is no other option but to go the legal route which happened 50 years ago and may now need to be revisited. The way this river and historic landscape is treated is tragic, this is so wrong and cannot continue.

'When the last tree has been cut down, the last fish caught, the last river poisoned, only then will we realise we cannot eat money'.

Below is a non-exhaustive list of material consulted in relation to the Naul WWTP and Delvin River as part of this submission.

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