

### Screening for Appropriate Assessment

#### Screening matrix and Finding of No Significant Effects matrix

Format from: European Commission. 2002. Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Luxembourg. (Annex 2 p67 -68)

<b>Part 1. Screening matrix</b>	
<i>Brief description of the project or plan</i>	<p>Production of 17 acres of Salad Potatoes including abstraction of water from River Nore at [REDACTED] Production methodology is described on the Teagasc website (<a href="https://www.teagasc.ie/crops/crops/potatoes/salad-potatoes-agronomy-/irrigation/">https://www.teagasc.ie/crops/crops/potatoes/salad-potatoes-agronomy-/irrigation/</a>) The email with ARC application form 4/6/20, describes abstraction and irrigation as follows; "Irrigation of 17 acres of salad potatoes every 5 days. The flow rate of the Nore is currently 2850 litres per second. We are abstracting between 12.5 and 15 litres per second. Which equates to under 0.5% of the flow currently in the river at that location. These figures are from the opw website. We will be requiring approximately 35 to 40 hours every 5 days if the weather remains dry. Either way we will be finished irrigation by mid July at the latest as the crop is a short term crop."</p> <p>The application is further qualified as follows (email 5/6/20);          "Pipe used is lay flat which is rolled out on day if irrigation and rolled up when finished.          Pump sits close to river Bank          Pipe reller is parked in the headland and attached to that is a rain gun which us pulled down the field, all this equipment is layed on the surface of the field.          There is no ancillary work required for this job.          Photo attached of the filter used at the pipe inlet          Model off the pump is Briggs R80          Water is applied with the rain gun as outline above, through aa 24mm nozzle.          Abstraction rates as outlined in application form."</p>
<i>Brief description of the Natura 2000 site</i>	<p>The location of the crop production area is adjacent to but outside the River Barrow and River Nore SAC (002162) and the River Nore SPA (004233). The location of abstraction is within the River Barrow and River Nore SAC (002162) and the River Nore SPA (004233). The qualifying interests of these sites (listed in Appendix I) include a number of aquatic habitats and species.</p>

	<p>Due to scale and location, and absence of a pathway of impact to any other site, only these two sites are potentially affected by the works. Other Natura sites are ruled out of consideration for the remainder of the assessment due to the localised nature of the impacts.</p>
<p><i>Assessment criteria</i>  <i>Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.</i></p>	<p>Salad potato production will require ploughing and will likely require fertiliser, herbicide and pesticide use.</p> <p>Activity will abstract water from river</p> <p>Activity will cause noise. Placement of pipe and equipment will result in minor level of human disturbance at river edge</p> <p>Placement of pipe in water may impact on riparian vegetation or cause introduction of invasive species.</p> <p>Abstraction can result in “bycatch” of aquatic organisms caught in intake pipe, and in particular salmon fry and lamprey juveniles.</p>
<p><i>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:</i>  <i>size and scale;</i>  <i>land-take;</i>  <i>distance from the Natura 2000 site or key features of the site;</i>  <i>resource requirements (water abstraction etc.);</i>  <i>emissions (disposal to land, water or air);</i>  <i>excavation requirements;</i>  <i>transportation requirements;</i>  <i>duration of construction, operation, decommissioning, etc.;</i>  <i>other.</i></p>	<p><b>Size and scale, duration</b> The applicant proposes to plant 17 acres of salad potatoes. There may be impacts to water quality from potato production (siltation, fertiliser, herbicide and pesticide use). The applicant proposes to abstract up to 15 litres of water per second for up to 40 hours every 5 days up to mid July 2020. Disturbance at river bank is during set up and take down only and is therefore temporary and very limited. Noise is during operation of pump and is outside SAC and attenuated by air so that there is no excessive noise disturbance within SAC.</p> <p>The rolling out of the pipe will extend through approx. 2 metres of fringing riparian scrub habitat.</p> <p><b>Land take</b> none. Applicant has clarified that no ancillary works are required for placement of pipe or other equipment. All equipment other than pipe are to be located outside of designated area.</p> <p><b>Distance from Natura sites</b> The proposal is adjacent to and within River Barrow and River Nore SAC and the River Nore SPA. Pump will be placed outside SAC.</p> <p><b>Resource, excavation and transport requirements</b>  Activity will result in abstraction of water from river.</p>

	<p><b>Emissions</b> Running of farm machinery and pump will emit diesel fumes (outside SAC, SPA)</p> <p><b>Invasive species</b> The introduction of the pipe to the water could cause introduction of invasive species.</p> <p><b>In combination.</b> There are no other ARC applications for consent or consents issued by this Department for water abstraction in the River Nore catchment in Kilkenny.</p> <p>There are a number of other water abstractions listed for Co. Kilkenny in the EPA Water Abstraction Register, which are either upstream of the application or downstream on the main channel of the River Nore, see Appendix 2. Of these, the four water supply extractions for Kilkenny city are the most likely to act in combination, due to proximity. The extractions listed for each of these four points are for max 1,552 m<sup>3</sup> per day each, totalling max 6,208m<sup>3</sup> per day. As this is for a public water supply, the extraction rates are expected to be relatively constant throughout the year.</p> <p>The proposed activity will act directly in combination with these extractions, extracting an additional up to 1,296m<sup>3</sup> in a 24 hour period and at times of lower river levels.</p>
<p><i>Describe any likely changes to the site arising as a result of:</i></p> <ul style="list-style-type: none"> <li><i>reduction of habitat area;</i></li> <li><i>disturbance to key species;</i></li> <li><i>habitat or species fragmentation;</i></li> <li><i>reduction in species density;</i></li> <li><i>changes in key indicators of conservation value (water quality etc.);</i></li> <li><i>climate change.</i></li> </ul>	<p>There will be a change to key indicator flow rate in the main channel of the River Nore; a reduction due to water abstraction. While the maximum amount has been quantified by the application (up to 15 litres per second for up to 40 hour periods = up to 2,160 cubic metres in 40 hours, every 5 days), the water resource in the river will fluctuate due to hydrological variation and is likely to reduce due to dry periods at this time of year, coinciding with maximum demand from the current application.</p> <p>The water level in the river is provided by the OPW at waterlevel.ie (station 0000015104 "Sycamores", circa 1km downstream of application). Water level on date of application (time 12pm) was 0.914m. The water level in the date range 5/5/20 to 11/6/20 has varied from max reading 1.056m (10/5/20 17.00) to 0.88m (9/6/20 21.00) and has been steadily declining over the period up to 10/6/20. The 95<sup>th</sup> percentile flow at that location is identified as 0.843m. The 95<sup>th</sup> percentile flow rate has been estimated to be 85.2l/s at Sycamores recording station (ref email advice in Appendix 3)</p> <p>There may be loss of qualifying interest species Salmon and also three Lamprey species (juveniles in</p>

	<p>silts) at location of abstraction, through disturbance of silts and potentially through loss of individuals that may be drawn into water intake despite use of screen. [Note that a specific screening filter is in use, as identified by picture attached to Further Information email 5/6/20. The screening filter is an inherent part of the project as the water intake has to be managed to prevent clogging of pipes. However, there is no detail available on the suitability or efficacy of the screening filter for preventing intake of aquatic organisms– IFI advice required.]</p> <p>There may be localised, minor, temporary disturbance to species through human presence and noise of machinery. The location has no specific sensitivity to disturbance and the level of human presence will be minimal.</p> <p>There may be some minor impact on riparian vegetation through rolling out and taking in of pipe through narrow band of scrub habitat on river bank. Impact will be temporary and negligible as the habitat is a very narrow band of quite robust dry scrub at this location.</p> <p>Knock-on loss of food source or impact on foraging area may affect Kingfisher or Otter.</p> <p>There may be changes to water quality from potato production (water run-off leading to siltation, fertiliser, herbicide and pesticide use).</p>
<p><i>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</i>  <i>interference with the key relationships that define the structure of the site;</i>  <i>interference with key relationships that define the function of the site.</i></p>	<p>Water abstraction holds potential to impact on flow rate in river and potentially (if reducing flow to, or near, 95<sup>th</sup> percentile flow) affecting ability of river to retain sufficient flow, to support aquatic habitats and species and to sufficiently dilute and metabolise nutrient inputs. There may be impacts to water quality from potato production (water run-off leading to siltation, fertiliser, herbicide and pesticide use).</p>
<p><i>Provide indicators of significance as a result of the identification of effects set out above in terms of:</i>  <i>loss;</i>  <i>fragmentation;</i>  <i>disruption;</i>  <i>disturbance;</i>  <i>change to key elements of the site (e.g. water quality etc.).</i></p>	<p>Loss of water from the system is estimated to be at up to 15 litres per second during operation. Where this leads to river flow going below 95<sup>th</sup> percentile, this would constitute a likely significant effect.</p> <p>Levels of abstraction leading to flow above but approaching 95<sup>th</sup> percentile could also constitute significant effect in combination with other abstractions and nutrient inputs (email of advice Appendix 3 refers to need to establish appropriate water level threshold for 15l/s abstraction)</p>

	<p>Loss of individuals of population of Salmon and Lamprey could be significant where impacting on conservation objectives for these species.</p> <p>Disturbance from human presence and noise of pump and diesel fume emissions are deemed to be negligible as they are low level, temporary and not affecting species or location particularly vulnerable to disturbance.</p> <p>Local impact on riparian vegetation is temporary and not affecting qualifying interest habitats.</p> <p>The risk of introduction of invasive species is considered very low, unlikely to have a significant effect. However, it should be managed by cleaning all equipment prior to use in the event of the project proceeding.</p> <p>There may be impacts to water quality from potato production (water run-off leading to siltation, fertiliser, herbicide and pesticide use). Effects on the sites may be significant in combination with other water quality impacts.</p>
<p><i>Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.</i></p>	<p>Potential for significant impacts from water abstraction: magnitude of impact uncertain due to fluctuating water levels in river.</p> <p>Potential for significant impacts from potato production on water quality: magnitude of impact uncertain.</p> <p>Potential for impacts from loss of Salmon and Lamprey caught in water abstraction system, magnitude uncertain.</p> <p><b>Conclusion: Likely significant effects cannot be ruled out. Potentially significant effects found in relation to Salmon, Sea, Brook and River Lamprey (subject to consultation with IFI), floating river vegetation, Crayfish, Otter on the River Barrow and River Nore SAC and Kingfisher on the River Nore SPA. Appropriate Assessment is required.</b></p>
<p><b>Part 2: Finding of no significant effects report matrix</b></p>	<p>N/A, see above</p>
<p><i>Name of project or plan</i></p>	<p>water abstraction</p>
<p><i>Name and location of Natura 2000 site</i></p>	<p>River Barrow and River Nore SAC, River Nore SPA</p>
<p><i>Description of the project or plan</i></p>	<p><b>See above</b></p>

<i>Is the project or plan directly connected with or necessary to the management of the site (provide details)?</i>	No
<i>Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?</i> <i>The assessment of significance of effects Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.</i>	Yes, see above  Likely significant effects cannot be ruled out, see above.
<i>Explain why these effects are not considered significant.</i>	N/A
<i>List of agencies consulted: provide contact name and telephone or e-mail address.</i>	IFI (Scientific Officer role locally vacant. Informal phone request to officer from adjacent area (Donnachadh Byrne) for advice re Salmon and Lamprey 4/6/20) EPA (email request to <a href="mailto:info@epa.ie">info@epa.ie</a> for info from register of water abstractions 5/6/20,)
<i>Response to consultation.</i>	No IFI response to date EPA acknowledgement received 5/6/20, info received 8/6/20
<i>Data collected to carry out the assessment;</i> <ul style="list-style-type: none"> <li>• <i>Who carried out the assessment</i></li> <li>• <i>Sources of data</i></li> <li>• <i>Where can the full results of the assessment be accessed and viewed</i></li> </ul>	Ciara O Mahony, Wildlife Inspector Grade 2 <a href="http://www.npws.ie">www.npws.ie</a> and local NPWS staff knowledge This document contains full screening assessment.

## References

Department of the Environment, Heritage and Local Government (DoEHLG) 2009. Guidance on Appropriate Assessment for Planning Authorities. DoEHLG.

European Commission (2002) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Luxembourg.

NPWS (2011) Conservation Objectives: River Barrow and River Nore Special Area of Conservation. Version 1.0 19/7/11. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.

NPWS (2020) Conservation objectives for River Nore SPA [004233]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.

## Appendix I

## Qualifying Interests of 2 sites for consideration of impacts

Qualifying Interests of River Barrow and River Nore SAC	Potential for impact
Estuaries [1130}	Outside of zone of impact
Mudflats and sandflats not covered by seawater at low tide [1140]	Outside of zone of impact
Reefs [1170]	Outside of zone of impact
Salicornia and other annuals colonising mud and sand [1310]	Outside of zone of impact
Atlantic salt meadows ( <i>Glaucopuccinellietalia maritima</i> ) [1330]	Outside of zone of impact
Mediterranean salt meadows ( <i>Juncetalia maritimi</i> ) [1410]	Outside of zone of impact
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]	Possible impact through water pollution and generalised impact on river at or near 95 <sup>th</sup> percentile flow. Habitat requires relatively unmodified flow rate. Local distribution not identified: not observed in immediate vicinity of abstraction or immediately downstream.
European dry heaths [4030]	Outside of zone of impact
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	Outside of zone of impact
Petrifying springs with tufa formation ( <i>Cratoneurion</i> ) [7220]	No known presence locally
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	Outside of zone of impact
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) [91E0]	Outside of zone of impact
<i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) [1016]	No known presence locally
<i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]	Status as a qualifying interest is under review, see NPWS (2011).
<i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	Possible impact through water pollution and generalised impact on river at or near 95 <sup>th</sup> percentile flow.
<i>Petromyzon marinus</i> (Sea Lamprey) [1095]	Possible impact through water pollution and generalised impact on river at or near 95 <sup>th</sup> percentile flow. Possible impact through direct loss of Salmon fry or Lamprey juveniles in abstracted water <b>Subject to IFI consultation</b>
<i>Lampetra planeri</i> (Brook Lamprey) [1096]	Possible impact through water pollution and generalised impact on river at or near 95 <sup>th</sup> percentile flow. Possible impact through direct loss of Salmon fry or Lamprey juveniles in abstracted water

	<b>Subject to IFI consultation</b>
Lampetra fluviatilis (River Lamprey) [1099]	Possible impact through water pollution and generalised impact on river at or near 95th percentile flow. Possible impact through direct loss of Salmon fry or Lamprey juveniles in abstracted water <b>Subject to IFI consultation</b>
Alosa fallax fallax (Twaite Shad) [1103]	Outside of zone of impact
Salmo salar (Salmon) [1106]	Possible impact through water pollution and generalised impact on river at or near 95th percentile flow. Possible impact through direct loss of Salmon fry or Lamprey juveniles in abstracted water <b>Subject to IFI consultation</b>
Lutra lutra (Otter) [1355]	Possible impact through water pollution and generalised impact on river at or near 95th percentile flow.
Trichomanes speciosum (Killarney Fern) [1421]	Outside of zone of impact
Margaritifera durrovensis (Nore Pearl Mussel) [1990]	Outside of (upstream of) zone of impact
<b>Qualifying interest of River Nore SPA</b>	
Kingfisher	Possible impact through water pollution and generalised impact on river at or near 95 <sup>th</sup> percentile flow.



## Appendix 2

## Water abstraction points listed in EPA Register (summary data)

Ref no	Location	Primary use	Max daily volume estimate (m <sup>3</sup> per day)
APR000142	Ballyraggett	Industrial	12000
WAB0001777	Ballyraggett	Public water supply	508
WAB0000873	Clogh Castlecomer	Public water supply	572
WAB0000843	River Dinan	Public water supply	1552
WAB0000884	River Douglas	Public water supply	1552
WAB0001613	River Dinan	Public water supply	1552
WAB0001695	River Douglas	Public water supply	1552
R01462-01	River Nore Mount Juliet	Golf course	450
R01479-01	Castlecomer	Golf course	25

Appendix 3

Record of email advice from Shane Regan, Hydrologist, NPWS Science and Biodiversity Unit

**From:** Shane Regan  
**Sent:** Friday 12 June 2020 10:46  
**To:** Ciara O'Mahony  
**Cc:** Gerry Clabby; Maurice Eakin  
**Subject:** Re: water flow data in Kilkenny  
**Attachments:** EPA RR 203 final web-3.pdf; WL analysis.xlsx

Hi Ciara,

I had a look at the data. There is no flow rating for the station, but there is for a station (15002) c. 2 km downstream. There is a linear relationship between water level at this station and 15104 so I take the flow as being representative of what is happening at 15104. As 15002 is downstream, the flow rate will be marginally higher. As a guess I would say 15104 is maybe 98% of the flow at 15002.

The Q95 water level is 45.183 (i.e. water level in the river is above this level 95% of the time, based on the water level record collected [2006-present]). When this level is reached the flow at 15002 is c. 0.087 m<sup>3</sup>/s (or 87 l/s), so it is probably c. 85.2 l/s at 15104.

If water is extracted at a rate of 15 l/s from the river, to keep above the Q95 at 15104, the water level should not drop below something like 45.20. The records for 2020 show this level has not yet been exceeded, so abstraction probably is not having an impact yet. But on the 1st June this year, the water level is at 45.253, so it is getting close. A few more week of drought conditions and the water level will drop below the Q95. Looking at the 2018 record, this happened during that summer.

**So, my advice is:**

- 1. Determine what the water level threshold for a 15 l/s abstraction is at station 15104 (if it is allowed to continue). This can be done with the flow and water level records attached. It's something I can do but it would take a little bit of time. I would say it should be done as part of an AA if that is recommended.**
- 2. Determine if 15 l/s is an accurate abstraction rate or if this should be investigated. You can see that the flow drops quite quickly once it gets to a low level (like 2018). The forecast is wet for the next week so I expect water levels to rise, but the rest of the summer may be very dry.**

**Also, the EPA are conducting research on eflows. A report on this is attached.**

**Hope this helps , let me know if it makes sense!**

**Shane**

**From: Ciara O'Mahony**

**Sent: Tuesday 9 June 2020 15:53**

**To: Shane Regan**

**Subject: water flow data in Kilkenny**

**Shane,**

**Thanks for taking call earlier.**

**The station I am interested in is "Sycamores" station no. 15104 on waterlevel.ie**

**<https://waterlevel.ie/0000015104/>**

**I would be interested to know if there is any flow data recorded at that location.**

**The location of the water abstraction point mentioned is approx 1km upstream of that location.**

**Best wishes,**

**Ciara O Mahony**