

**Eve O'Sullivan**

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**Attachments:** IFI response to PoW mtncce dredging Foreshore 1.2014.doc; IFI comment - Portof Waterford mtncce dredge - 7.19.docx

**From:** Jimmy King <[Jimmy.King@fisheriesireland.ie](mailto:Jimmy.King@fisheriesireland.ie)>

**Sent:** 30 March 2020 09:44

**To:** Karen Creed <[K.Creed@epa.ie](mailto:K.Creed@epa.ie)>

**Subject:**

*A Chara,*

*In regard to recent DAS licencing for Port of Waterford, I am attaching the comments of Inland Fisheries Ireland in regard to Foreshore Licence application from 2014 and also from the recent licence application in 2019.*

*The information and data provided by the applicant in regard to sediment levels and the naturally-high levels of same in the Waterford Harbour - 3 Sisters estuary areas is considered to have provided an evidence base pointing to a requirement to re-consider a closed period for dredging in respect of migratory fish requirements. On this basis IFI removed this closed-period requirement, pending strict adherence to foreshore licence conditions in regard to use of trailer suction hopper dredging, non-overfilling of barges (allowing sediments to settle within the hull of barges) etc.*

*IFI should have indicated to the EPA that its view in regard to removal of the closed-period should also apply to any Dumping-at-Sea permits that might be issued by EPA.*

*IFI would welcome if its views re the foreshore licencing, as per above and in attachments above, could be extended to any DAS permit or to any technical amendment to any permit recently issued re the above.*

*Yours sincerely,*

*James King*

**Dr. James King**  
**Senior Research Officer**

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D'fhéadfaí go bhfuil an ríomhphost seo agus ceangaltáin ar bith atá in éineacht leis faoi rún agus iad beartaithe

d'úsáid an duine a bhfuil a s(h)eoladh air amháin. Dearcthaí nó tuairimí ar bith atá curtha in iúl ann, baineann siad leis an údar amháin, agus ní chaithfidh go n-aontaíonn lascaigh Intíre Éireann leo. Mura tusa faighteoir beartaithe an ríomhphoist seo, ná déan rud ar bith mar gheall ar an méid atá ann, ná é a chóipeáil ná é a thaispeáint do dhuine ar bith eile. Déan teagmháil leis an seoltóir, le do thoil, má chreideann tú go bhfuair tú an ríomhphost seo trí earráid.

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**MARINE LICENCE VETTING COMMITTEE:**

**Re: DECLG file ref FS005071 Foreshore Application on behalf of Port of Waterford for maintenance dredging at Waterford Port**

***Request for observations from Mr. Matthew MC Loughlin (DECLG) dated 29.11.2013***

**IFI understanding of current PoW application:**

- The principal concern of Inland Fisheries Ireland (IFI) in regard to the dredging operations proposed in the Port of Waterford maintenance dredging application related to suspended solids (SS) and resuspension of SS into the water column with potential adverse impacts on fish life stages, migratory fish passage, and fisheries habitat.
- IFI understands that Port of Waterford has made application for maintenance dredging (DECLG Foreshore licence) and for dumping at sea (EPA DAS licence) to cover an eight-year period up to 2021. The comments from IFI cover both licence applications and are forwarded to DECLG and to EPA.
- IFI notes that maintenance dredging is proposed at a series of discrete sites, clearly identified in maps provided, that are related to shipping passage, berthing and turning circles both at the principal port area of Belview as well as at Passage East, Cheekpoint and in Waterford city quays. IFI understands that dredging will be confined to these indicated areas.
- IFI understands that dredging will be conducted by trailer suction dredge technique and that this process creates a slurry on the channel bed in the immediate area of the dredge head. The suction draws the slurry through a pipe network into the hull of the vessel undertaking the dredging. IFI understands that this process confines disturbance and suspended solids release to the immediate area of the dredging.
- Anecdotal reports pointed to naturally-high levels of Suspended Solids (SS) in the Waterford Harbour – Barrow-Suir estuarine areas. If such were the case, with high SS potentially occurring at any time of year then the argument for a 'closed period' on dredging would be diminished. The purpose of the closed period, covering March – June inclusive, was to facilitate passage up- and downstream of fish life stages – in particular, the downstream migration of salmon smolts and the upstream migration of adult Twaite shad. In its current application, Port of Waterford (PoW) provides data to emerge from a recent monitoring study it commissioned. The study investigated SS, using automated turbidity metering as a surrogate for SS, over extended periods of weeks, covering neap and spring tide events and covering periods when dredging was underway as well as no-dredge periods. In all cases, the

turbidity meter was positioned in a zone adjacent to dredging activity. The monitoring supported anecdotal reports and previous less-extensive SS data in regard to high SS events occurring at any / all times of the year both during dredging and at times of zero dredging.

**IFI's stewardship role in regard to fish species of relevance in PoW area of operation:**

The main fisheries concerns are:

- (1) that elevated suspended solids levels may increase mortality and cause adverse effects, including abrasion of gills, reduction in feeding rates and increased susceptibility to disease
- (2) silt deposition on areas where spawning or deposition of egg has occurred could impact on egg and larval survival
- (3) high suspended solid levels could obstruct fish passage/migration.

While the Habitats Directive is administered, in its generality, by National Parks and Wildlife Service (NPWS), the Minister for Communications, Energy and Natural Resources (DECLG) is charged with the conservation status and monitoring of the fish species listed in Annex II of the Directive. This annex includes Atlantic salmon, species of lamprey and species of shad. The role of the Minister is fulfilled by IFI who carries out survey works on the fish species. In the context of the present application(s) from Port of Waterford, species of interest that are listed in the Habitats Directive include Atlantic salmon, sea- and river lamprey and Allis and Twaite shad. In addition, the smelt is a species with nationally-important spawning populations in the Waterford Harbour – Barrow – Nore - Suir estuarine waters. This species migrates upriver to the head of the tide in March to spawn. Young-of-year and adult fish live in the lower estuary.

The shads are large members of the herring family. The shads have been known in Waterford Harbour for some time and are known to spawn at the upper tidal limits of the Barrow, Nore and Suir Special Areas of Conservation (SACs) under Habitats Directive. They are known to migrate upriver, from the lower Harbour area and/or the open sea, in late April - May and spawn during late May and early June. The spent fish migrate downriver after this. The fertilised eggs may float in the water column or may sink to the channel bed and hatch out there. The young, post-larval fish can be sampled in the water column of the estuaries within weeks of spawning. Adult fish may be found as by-catch in the lower harbour at various times of year. The shad populations are not considered to be large and are listed as 'Vulnerable'

(Twaite shad) and 'Data deficient' (Allis shad) in the recent Irish Red Data Book for fish.

### **IFI response to PoW applications for Foreshore and DAS licences:**

IFI welcomes the investigative monitoring and documentation compiled by PoW in regard to SS and the Port's shipping and dredging operations. The evidence provided would support the proposal to remove the current 'closed period' constraint on dredging operations. However, IFI would be concerned at a full-scale lifting of constraints with no associated monitoring or assessment over an eight-year period – the requested duration of the current maintenance dredging application.

IFI would be prepared to agree to a removal of the 'closed period' on dredging if a series of measures were agreed. These would include:

- Dredging be confined completely to those clearly circumscribed areas delineated on maps and documents supplied with the application
- Trailer suction dredging be used as the dredging mechanism, to provide maximum curtailment of elevated SS levels to the water column
- Suction dredging – boat loading to be done in a manner that allowed slurried sediment to settle out in the hull so that water overflow consisted of liquid with a low suspended solids level. The practise of constantly filling the hull and allowing overspill of heavily SS-laden waters should not be permitted
- Plough dredging should not be permitted in the period March – June inclusive due to the potential for dispersal of SS plumes and problems of controlling this process
- A monitoring programme on SS levels at various tidal and port-activity conditions, including during dredging operations, should be compiled and presented to EPA and DECLG for an interim review, after Year 3 of the proposed 8-year licencing period. This monitoring programme should broadly follow the format of that supplied with the current application. Relevant stakeholders e.g. NPWS, IFI, commercial fishermen to be involved in the planning of this programme
- PoW to engage with IFI in regard to protection and monitoring of relevant fish species.

James J. King (IFI R&D) and Frank O'Donoghue (IFI Clonmel)  
Inland Fisheries Ireland  
22.1.2014

CC Terry Mc Mahon MLVC;

**MARINE LICENCE VETTING COMMITTEE:**

**Re: DECLG file ref. FS 006973 Foreshore Application by Port of Waterford in respect of maintenance dredging operations of the navigational and berthing areas within the harbour limits of the Port of Waterford**

***Request for observations from Mr. Matthew Mc Laughlin (DHPLG) dated 1.7.2019***

**Overview:**

This application is in respect of maintenance dredging to be undertaken to retain all the port facilities and access at identified depths related to Ordnance Datum or OD.

A trailer suction hopper dredger is used to remove relevant materials from the dredge area and place them into storage hoppers on-board for subsequent disposal at the dumping-at-sea site.

The use of interim hydrographical surveys on-site determines when the required navigation depths have been achieved

Plough dredging is used locally to smooth out irregularities and to mobilise sediments from areas inaccessible to the suction dredge ship and direct them to locations where these can be removed by suctioning.

A series of mitigations is proposed to minimise sediment release in dredging:

- Maintaining a low speed during dredging;
- Only utilising water jets when necessary to ensure adequate production;
- Minimise the use of overflowing whenever possible;
- Set a maximum density limit of 1.1t/m<sup>3</sup> for automatic light mixture overboard and
- Dredging will be undertaken as efficiently as possible so that the number of dredger movements is minimised.

**IFI comment:**

The identification of the proposed dredge areas is clearly laid out in maps provided.

Previous investigations undertaken by Port of Waterford indicate naturally high levels of suspended solids in the estuary. The investigations also indicate that elevated suspended solids created by the suction dredging used does not lead to suspended solids levels that are inconsistent with the high naturally-occurring levels.

As identified in the AA Screening documentation, the areas where dredging is proposed constitute the fairway or migration route for migratory fish species moving to and from freshwater. These species include the Annex II fish species Atlantic salmon, Twaité shad and the sea- and river lamprey. In addition the European eel, smelt, thin-lipped mullet and flounder all migrate in- and out of the dredging areas in the course of their life cycles. Given the transitory nature of the fish migrations and the absence of impact of the dredging on the target spawning destinations for these fish species it is not considered that the dredging will impact adversely on this aspect of the lifecycles.

Investigations by IFI have shown that the shad and smelt spawning areas lie at the upper tidal reaches of the Suir, Nore and Barrow – with smelt spawning in March and the shad spawning in May-June. Post-larval and Young-of-year smelt and shad (2 – 4 cm in length) have been found in mid-summer in the lower reaches of the Suir and Barrow – upstream of the dredging areas. These fish are approx. 6 – 7 cm in length in the autumn of their first year. The IFI studies show that the full range of smelt size and age groups appear to remain within the Waterford Harbour – 3 Sisters area over the entire life cycle. Given this, it is imperative that factors impacting into their environment, such as the proposed dredging, would not impact in a manner that endangered the species in these waters.

Telemetry studies by IFI have likewise shown that adult Twaité shad drop down from the spawning grounds quite rapidly after spawning and that these fish move around between the lower reaches of the Suir, Barrow and the Cheekpoint - Duncannon areas during much of the year. The extent to which these fish move between the open sea and Waterford Harbour is not known.

Fish status surveys by IFI for Water Framework Directive and for the National Bass Programme have identified the diversity of species within the waters where dredging is to take place. Many areas, particularly those upstream of Passage –Ballyhack may constitute nursery areas for a range of fish species including bass, black sole, gilthead bream, mullets and flounder.

All of the above point to the fisheries significance of the areas to be dredged – not including the shellfish rearing areas. As such it is important that appropriate mitigation measures are brought forward and strictly implemented. IFI considers that the use of the trailer suction hopper dredger is desirable in focussing the dredging action into a confined space and in removing the disturbed material in a manner that minimises release of suspended solids. The suite of mitigations is considered appropriate and should be included as a foreshore licence condition. Attention is drawn to the issue of overflowing – where barges continue to be filled in circumstances that allow water to overspill, without permitting the sediments to have an

adequate opportunity to settle in the bottom of the boat. Overflowing of water is reasonable, and cost-effective, as the water is displaced by more extracted materials. However the overflowing should be done in a manner that allows sediments to settle with the overflow water to have low sediment levels. This, again, should be a foreshore licence condition.

James J. King (IFI R&D) and Jane Gilleran (IFI Southeast RBD, Clonmel)  
Inland Fisheries Ireland  
7.11.2019

CC Terry Mc Mahon MLVC;

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