

AP2/2015 Shot Head

Oral Hearing Paper provided

by

Michael Millane

Inland Fisheries Ireland

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**OHara, Mary**

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**From:** Alab, Info  
**Sent:** 20 September 2017 11:14  
**To:** Mary Ohara (Alab)  
**Subject:** FW: Apellent IFI submission for record.

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**From:** Michael Millane [<mailto:Michael.Millane@fisheriesireland.ie>]  
**Sent:** 20 September 2017 10:12  
**To:** Alab, Info  
**Subject:** Apellent IFI submission for record.

Dear Mary,

Please find submission below by the appellant Inland Fisheries Ireland for the record.

Regards,

Michael Millane

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"Inland Fisheries Ireland consider, and have concerns that the particle tracking simulations in the sea lice dispersion study are inadequate and not scientifically robust enough as sea lice are known to exhibit a different behaviour than that assumed in the model.

The fundamental premise of the model assumes that sea lice particles are neutrally buoyant, where in reality sea lice exhibit a vertical movement in the water column and therefore, consideration of the vertical position of sea lice in the water column is necessary in order to simulate realistic lice dispersal.

It is known that sea lice in the water column can avoid freshwater layers, move towards host fish, away from predators and are attracted to light near the surface during the day and sink away from the surface during the night.

It is our opinion, that the conclusions drawn in the assessment of sea lice dispersion based on the assumption of the parasite as neutrally buoyant particles is not an accurate reflection of potential sea lice dispersion in Bantry Bay.

IFI are currently working with Norwegian and Scottish scientists on the EU funded Lice Track study which is developing an integrative bio-hydrodynamic sea lice dispersal model, and this is based on existing such modelling tools that have already been developed and validated in Norway by the Institute of Marine Research, which do consider the active vertical behaviour of sea lice in the water column as a component of their models. This active vertical behaviour of sea lice is important to consider as it will influence dispersal where typically currents are not uniform across the water column. We have consulted with these colleagues, on the appropriateness of assuming that sea lice are neutrally buoyant particles, and they are in agreement that this is an inadequate assumption to make and thus compromises the output of the sea lice particle tracking simulations in providing an accurate reflection of their potential dispersal in the bay.

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