

**AP2/13/2015**

**INLAND FISHERIES**

**APPEAL**

44 - 1000 - 1000

**OHara, Mary**

---

**From:** Greg Forde [Greg.Forde@fisheriesireland.ie]  
**Sent:** 16 October 2015 10:13  
**To:** Alab, Info  
**Subject:** Aquaculture Licence Appeal  
**Attachments:** Shot Head Salmon Licence T5-555 Appeal October 2015.pdf

Dear Sir / Madam,

Please find attached an appeal in respect of the recent decision of the Minister to issue a licence to Marine Harvest for a site at Shot Head in Bantry Bay T5/555.

In line with current inter state agency payments funds will be transferred ~~electronically~~. – Should there be any concern about the efficiency of this please advise me immediately and alternative payment arrangements can be made.

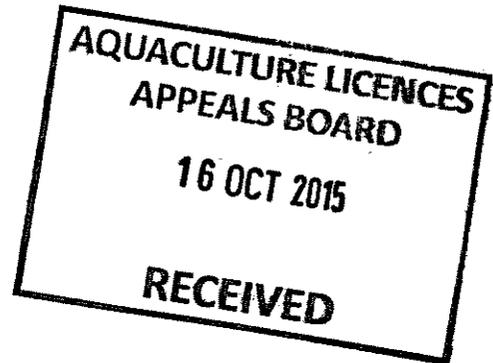
Please acknowledge receipt of this appeal.

Yours faithfully  
Gregory Forde

 Greg Forde  
Ceann na n-Oibríochtaí  
Head of Operations

-----  
**Iascach Intíre Éireann**  
**Inland Fisheries Ireland**

Tel +353 (0) 91 563 118  
Fax +353 (0) 91 566 335  
Email [greg.forde@fisheriesireland.ie](mailto:greg.forde@fisheriesireland.ie)  
Web [www.fisheriesireland.ie](http://www.fisheriesireland.ie)  
Teach Breac, Oileán an Iarla, Gaillimh, ÉIREANN.  
Teach Breac, Earl's Island, Galway, IRELAND.



**Help Protect Ireland's Inland Fisheries**

**Call 1890 34 74 24 to report illegal fishing, water pollution or invasive species.**

 This email and any attachments to it may be confidential and are intended solely for the use of the individual to whom it is addressed. Any views or opinions expressed are solely those of the author and do not necessarily represent those of Inland Fisheries Ireland. If you are not the intended recipient of this email, you must neither take any action based upon its contents, nor copy or show it to anyone. Please contact the sender if you believe you have received this email in error.

**NOTICE OF APPEAL UNDER SECTION 40(1) OF  
FISHERIES (AMENDMENT) ACT 1997 (NO. 23)**

Name and address of appellant:

Inland Fisheries Ireland, 3044 Lake Drive, Citywest Business Campus, Dublin 24.

Telephone: 01-8842600 Ext: 8357 Fax:

Mobile Tel: [REDACTED] E-mail address: greg.forde@fisheriesireland.ie

Subject matter of the appeal:

Inland Fisheries Ireland is appealing the granting of a salmon aquaculture licence to Marine Harvest at Shot Head (T5/555) on the grounds that the development will have an adverse impact on the wild sea trout and salmon populations of Bantry bay and this has not been adequately addressed in the application process or the EIS.

Site Reference Number:-

**T5/555** (as allocated by the Department of Agriculture, Food and the Marine)

Appellant's particular interest

in the outcome of the appeal:

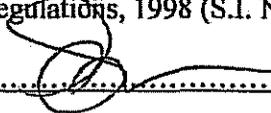
Inland Fisheries Ireland is the statutory agency charged with the management and protection of the inland fisheries of Ireland including the salmonid sea migrating species such as salmon and sea trout. The Agency has a statutory responsibility to ensure that these species are not affected by the proposed development – and in view of the risk of lice from the site affecting the wild salmonid populations of the bay IFI is seeking ALAB to overturn the Decision to grant the licence.

Outline the grounds of appeal (and, if necessary, on additional page(s) give full grounds of the appeal and the reasons, considerations and arguments on which they are based):

IFI is appealing the decision on 7 inter-related grounds: (1) The EIS is inadequate; (2) The siting is too close to existing wild salmonid fisheries; (3) the proposed production cycle is at variance with best practice; (4) The production cycle will not minimise lice levels; (5) The mitigation measures are at variance with the production cycle; (6) Wild salmonid stocks will be adversely impacted by the development; (7) Sea angling will also be impacted and may be displaced.

Fee enclosed: €152.37 being paid electronically.

(payable to the Aquaculture Licences Appeals Board in accordance with the Aquaculture Licensing Appeals (Fees) Regulations, 1998 (S.I. No. 449 of 1998))(See Note 2)

Signed by appellant:.....  ..... Date: 15/10/15

**Note 1:** This notice should be completed under each heading and duly signed by the appellant and be accompanied by such documents, particulars or information relating to the appeal as the appellant considers necessary or appropriate and specifies in the Notice.

**Note 2:** The fees payable are as follows:

Appeal by licence applicant.....€380.92

Appeal by any other individual or organisation €152.37

Request for an Oral Hearing (fee payable in addition to appeal fee) €76.18

In the event that the Board decides not to hold an Oral Hearing the fee will not be refunded.

The Aquaculture Licence Appeals Board  
Kilminchy Court  
Dublin Road  
Portlaoise  
Co. Laoise



Iascach Intire Éireann  
Inland Fisheries Ireland

15<sup>th</sup> October 2015.

**Ref: IFI Appeal on the issuing of an Aquaculture Licence and a Foreshore Licence to Bradan Fanad Teo t/a Marine Harvest Ireland, Kindrum, Fanad, Letterkenny, Co. Donegal – Ref: T5/555 for the cultivation of Atlantic salmon; *Salmo salar* on a site on the foreshore at Shot Head, Bantry Bay, Co. Cork.**

Dear Sir / Madam,

Please find the substantive content of the appeal by Inland Fisheries Ireland against the decision of the Minister to issue an Aquaculture Licence and a Foreshore Licence to Bradan Fanad Teo t/a Marine Harvest Ireland, Kindrum, Fanad, Letterkenny, Co. Donegal – Ref: T5/555 for the cultivation of Atlantic salmon; *Salmo salar* on a site on the foreshore at Shot Head, Bantry Bay, Co. Cork.

Separately IFI has arranged for an electronic transfer of funds to the ALAB Bank account in respect of this appeal for €152.37.

Can you please confirm that this has been received and advise us of the outcome of the appeal in due course.

Yours sincerely,

Gregory Forde  
Head of Operations  
Inland Fisheries Ireland  
Teach Breac  
Earl's Island  
Galway

**IFI Appeal on the issuing of an Aquaculture Licence and a Foreshore Licence to Bradan Fanad Teo t/a Marine Harvest Ireland, Kindrum, Fanad, Letterkenny, Co. Donegal – Ref: T5/555 for the cultivation of Atlantic salmon; *Salmo salar* on a site on the foreshore at Shot Head, Bantry Bay, Co. Cork.**

IFI have reviewed the application and EIS for a salmon aquaculture licence at Shot Head in Bantry Bay and note the decision of the Minister to grant an Aquaculture and Foreshore licence to Bradan Fanad Teo t/a Marine Harvest Ireland, Kindrum, Fanad, Letterkenny, Co. Donegal – Ref: T5/555 for the cultivation of Atlantic salmon; *Salmo salar* on a site on the foreshore at Shot Head, Bantry Bay, Co. Cork.

– IFI is appealing the decision on the following 7 grounds:

**(1) The EIS is inadequate.**

There is a lack of detailed analysis contained in the Environmental Impact Statement (EIS). It is clear from the reference material used to support the EIS that there are omissions in relation to the potential for impact from salmon farms on wild salmonids. Much of the research in this area has been conducted by Norwegian researchers and deals with issues encountered by Marine Harvest in Norway. In order to support this please find a reference list of material which should be considered in relation to potential impacts on wild salmonids. These are detailed in – References Section 1 at the end of this document.

Another issue that needs to be considered is where the company will source fresh water as there is now a very significant demand for freshwater to treat outbreaks of amoebic gill disease on marine salmon farms on the West coast of Ireland this entire issue needs to be considered in detail.

**(2) Site Location and Risk Assessment**

The primary consideration stated in the EIS for the siting of the farm is the relative exposure to marine and meteorological forces and site selection can also be limited by operational access and safety considerations.

IFI is of the view that there should be other very important considerations taken into account when a site is being selected for an open pen salmon production site in the sea. These include whether the site itself can be a sustainable site in terms of both salmon production and more importantly in terms of not affecting other natural ecosystems and fisheries populations including wild sea trout and salmon fisheries and their feeding and migration in the sea.

IFI would recommend that a detailed risk analysis be undertaken on any proposed salmon farm locations similar to that described in Norwegian Institute for Nature Research Report: Diserud, O.H et al NINA Report 622. 40 pp. The abstract from this report states:

*"This report describes a regional, map-based presentation of changes in wild populations of Atlantic salmon (*Salmo salar*) caused by escaped, farm salmon during 1989-2009. The maps illustrate the results of model simulations which use as input mean values of estimates of the*

*proportions of escaped farm salmon in the spawning populations and the reproductive success of farm salmon in controlled natural and semi-natural settings. The model predicts the proportions of the recruits after each spawning that have a wild salmon background, a farm salmon background, or a mix of the two. We have also estimated changes in the wild salmon populations in future salmon generations until year 2100, basing the model simulations on different scenarios for the proportions of farm salmon in future spawning populations: either as observed during the last ten years, or as a fixed percentage at 0 %, 5 % or 10 %. The results of our modelling show that by 2009, strong negative changes have occurred in many regions in Norway, and particularly so in the county of Hordaland, and that in the long run, large changes will take place in all regions if proportions of escaped farm salmon stay at the same levels as during the last ten years. Only one scenario, 0 % escaped farm salmon in the spawning populations, results in positive changes in all regions. For several regions it is urgent that this 0-scenario is realised.*

The use of modelling or risks analysis should also be supported by analysis of salmonid migration paths and foraging locations. Without these data it is not possible to provide an effective analysis of potential impacts on salmonids from parasites or disease emanating from the proposed salmon farms.

IFI also needs to know what other sites (if any) were seriously considered in the assessment process that could better ensure the protection of the wild sea trout and salmon stocks? And why these were discounted.

**(3) The Proposed Production Cycle does not follow current National guidelines in terms of best practice.**

The EIS sets out that peak biomass of 2,800 tons will occur in February and March in year 2 of each production cycle. Harvesting will commence in March of the second year and continue for six months until August when the site will be fallow in September and October. S0 (zero) smolts will be put to sea in October to November.

This proposed single bay site alteration using production each year at one of two sites in Bantry bay owned and operated by Marine Harvest is contrary to established best practice as set out in the Department of Agriculture, Fisheries & Food "Strategy for improved pest control on Irish salmon farms, May 2008". This document comments that as a result of the experience gained over a number of years an integrated approach to sea lice control has been developed in Ireland. This management strategy was endorsed by the Sea Trout Task Force and subsequently, by the Sea Trout Management and Advisory Group. This management strategy, which formed the basis for Single Bay Management (SBM) Agreements, relies on five principal components:

- *Separation of generations*
- *Annual fallowing of sites*
- *Early harvest of two sea-winter fish*
- *Targeted treatment regimes*
- *Agreed husbandry practices*

Together, these components are intended to reduce the development of lice infestations and to ensure the most effective treatment of developing infestations. They are intended to minimise

lice levels whilst controlling reliance on, and reducing use of, veterinary medicines. The separation of generations and annual fallowing prevents the vertical transmission of infestations from one generation to the next, thus retarding the development of infestations. The early harvest of two sea winter fish removes a potential reservoir of lice infestation before wild smolt runs and re-stocking farm sites.

It is clear that the proposed production strategy at Shot Head is completely contrary to best practice set in the Single Bay Management Agreements and the cumulative effect of all existing and proposed salmon farm production in the bay has not been assessed. Whole bay fallowing of Bantry Bay will never occur. Effective sea lice control will not be possible during harvesting as fish will be on starve and harvesting of farmed salmon will take place over the entire period wild salmon and sea trout are migrating to sea.

Salmon present in the spring of the second year of production constitute 2 sea winter fish which is also a strategy contrary to the principles of single bay management. As the EIS points out, an alternative strategy, known as Synchronous Stocking, is more in line with Single Bay Management and should be adopted at the proposed Shot Head site. Input of smolts in March at both Marine Harvest sites in Bantry Bay, rather than October, would mean that every second year, both sites would be free of sea lice prior to and during the annual wild salmon and sea trout migration. Also harvesting (which is a period when high lice levels are present due to no treatments taking place) would not be undertaken over the wild smolt migration period and the whole bay fallowing would be achievable every second year.

The licence issued for the Shot Head site, if at all permitted, should be amended to incorporate this synchronous stocking strategy with input of smolt in March to comply with the strategy set out in the Department of Agriculture strategy for lice control on salmon farms. It is also imperative that the production cycle at the other privately owned sites in the south of the bay just some 5 – 5.5 km from the proposed new site is also synchronised with the production regime in the two Marine Harvest sites – no such agreement is apparent to date.

#### (4) Sea Lice Management

The EIS refers to the sea lice control Protocol having six main components which include separation of generations and early harvest of 2-sea winter fish. The overall objectives of the monitoring and control strategy are synchronised production and fallowing in single bay areas to ensure the breaking of disease and parasite life cycles. This requires the use of single year classes in each bay area. The EIS notes that both Marine Harvest and Fastnet Irish Seafood use single generation site occupancy in Bantry Bay and stock only with so called S0 (zero) fish. Thus synchronised production, fallowing and treatment of all sites in Bantry Bay is achievable with cooperation between the two companies. However, the proposed production strategy at Shot Head is contrary to this synchronised production set out above.

#### (5) Mitigating Measures.

The EIS states that with regard to mitigation measures, 7.8. Single generation site operation and fallowing, the following mitigating measures have been and will be undertaken.

Biennial, single generation cycle with a minimum two month biennial fallowing period. Synchronous whole-bay stocking, treatment, harvesting, fallowing and rotation an option, subject to agreement with the other salmon farm operator in the bay; to avoid infection spread

and reduce sea lice infestation pressure on subsequent generations; to mitigate organic loading and allow for site recovery between periods of occupation. However, this production strategy is not what is proposed in the EIS. There must be a break in salmon farm production in the entire bay to allow lice numbers return to background levels.

#### (6) Wild Salmonid Stocks

Section 5.2.1 notes that Atlantic salmon are protected under the Habitats Directive and states that however, salmon are not protected by any local conservation measure, such as a Special Area of Conservation (SAC), as it is in some other bays and rivers in Ireland. From an Irish perspective, there are currently 40 Irish salmon rivers or their tributaries in SAC's where salmon have a qualifying interest under the Habitats Directive (Appendix II). However, in applying the Directive consideration must be given to all of the salmon populations nationally and not just specifically to these 40 rivers. Therefore the designated salmon rivers in Bantry bay are required to be at favourable conservation status under the EU Habitats Directive.

The impact risk of sea lice on wild salmonids is discussed in Section 5.2.3. It is concluded that, if trigger levels are adhered to, the impact risk of infestation of Bantry Bay rivers by MHI farm-origin copepodids is low. However, no published papers are examined in the EIS on the sea lice wild salmonid interactions to reach this conclusion despite the fact that there exists an extensive amount of literature in this particular area. Some of the relevant literature in this area is considered in the following paragraphs.

Tully *et al.* (1999) have demonstrated that the presence of salmon farms significantly increased the level of sea lice infestation on sea trout post smolts in Ireland. Similar findings have been reported from Norway (Grimnes *et al.* 2000) and Scotland (Mackenzie *et al.* 1998, Butler, 2002). In a recent study, Taranger *et al.* (2014) undertook a risk assessment of the effects of salmon lice on wild salmonid populations along the intensively farmed Norwegian coastline over the 2010-2013 period and found that sea trout from the majority of sampled sites from Hordaland to Finnmark had salmon lice infections, mainly resulting from salmon farming, that indicated moderate or high mortality of sea trout.

Sea lice emanating from marine salmon farms have previously been implicated in the high marine mortality of sea trout and the presence of premature returning lice infested sea trout in salmon aquaculture bays in western Ireland (Tully & Whelan, 1993, Anon 1994, Gargan *et al.* 2003). Increased lice infestation may arise from local wild salmonids or local salmon aquaculture. Tully & Whelan (1993) investigated the fecundity of ovigerous *L.salmonis* infesting wild and farmed salmon and daily production rates of nauplius larvae from these fish from a number of areas off the west coast of Ireland in 1991. They found that farmed salmon contributed 95% of the total production of nauplius larva of *L.salmonis* and production of nauplius larva during mid-April was correlated with parasitic intensity of *L.salmonis* infesting wild sea trout three weeks later.

Studies in Scotland (Butler 2002) and Norway (Heuch & Mo, 2001) have also shown that in salmon aquaculture bays in springtime the majority of caligid copepod nauplii arise from ovigerous sea lice infesting farmed salmon. Gargan *et al.* (2003) further developed the relationships between the total number of ovigerous lice in two West of Ireland bays, Killary Harbour and Clew Bay, between March and mid-May and the average number of sea lice infesting sea trout in both bays between May 1<sup>st</sup> and June 15<sup>th</sup> in each year from 1992 to 2001. Linear models fitted to the data show statistically significant relationships for both bays. Lice from farmed fish produced >90% of ovigerous lice in six of the nine years in

Killary and all of the nine years in Clew Bay for years where data was available and sea lice infestation of sea trout was proportional to the level of lice production. Similar findings have been reported on the west coast of Scotland where one-sea-winter farmed salmon contribute 98% of lice production (Butler, 2002).

A recent paper has reviewed the effect of salmon lice on sea trout (Thorstad et al. 2015) and should be examined as part of the potential effect of sea lice on wild salmonids.

It is the view of IFI that the published literature on sea lice wild salmonid interaction should have been addressed in Section 5 on biological interactions with wild salmonid stocks and as a consequence should have been a key influencing factor in the decision process undertaken by the Minister.

The EIS states that no farmed escapees have been reported in Bantry Bay since MHI acquired the Roanarrig site. However, an escape of up to 230,000 salmon occurred at the Cuan Baoi site in Bantry bay in February 2014 (subsequent to the preparation of the EIS).

It is the view of IFI that the potential impact of a large escape of farmed fish, such as that which occurred in Bantry bay in 2014, has not been adequately assessed in the EIS and thus in the licence application process. Details of how such an escape would be addressed including measures proposed to prevent these running wild salmonid rivers in the locality should have been addressed.

It is further submitted by IFI that in order to assess the potential threat posed from escaped farmed salmon, consideration must be given to the attached scientific publications as appropriate – These are in References Section 2 at the end of this document.

#### **(7) Sea Angling**

In relation to sea angling Shot Head is a known sea angling mark in particular for Mackerel, Pollock, Wrasse and Bull huss. In addition any structure or reef rising up from the bottom of the sea naturally encourages greater fish biodiversity and this in turn will draw not only boat based sea anglers but commercial fishermen as well. The fact that there is a 4 metre high rocky outcrop in the middle of the proposed site will mean that this angling mark will no longer be available to fishermen.

In summary Inland Fisheries Ireland have grave reservations that the proposed salmon farm at Shot Head will have an adverse impact on the wild salmon (a species with particular protection afforded under the Habitats Directive) and sea trout fisheries of Bantry Bay. These impacts will be permanent as long as the salmon aquaculture facility, as proposed in the EIS, remains in production.

#### **References Section 1.**

Serra-Llinares, R.M., Bjørn, P.A., Finstad, B., Nilsen, R., Harbitz, A., Berg, M. & Asplin, L. 2014. Salmon lice infection on wild salmonids in marine protected areas: an

evaluation of the Norwegian 'National Salmon Fjords'. *Aquaculture Environment Interactions* 5, 1-16.

- Taranger, G.L., Karlsen, Ø., Bannister, R.J., Glover, K.A., Husa, V., Karlsbakk, E., Kvamme, B.O., Boxaspen, K.K., Bjørn, P.A., Finstad, B., Madhun, A.S., Craig Morton, H. & Svåsand, T. 2014. Risk assessment of the environmental impact of Norwegian Atlantic salmon farming. *ICES J Mar Sci* 72: 997-1021.
- Thorstad E. B, Todd C. D, Uglem I., Bjørn P. A, Gargan P. G, Vollset K. W, Halttunen E, Kålås S, Berg M, Finstad, B. (2015) Effects of salmon lice *Lepeophtheirus salmonis* on wild sea trout *Salmo trutta*—a literature review. *Aquacult Environ Interact*. Vol. 7: 91-113.

## References Section 2.

- Clifford, S, McGinnity, P, & Ferguson, A. 1997. Genetic changes in Atlantic salmon (*Salmo salar*) populations of Northwest Irish rivers resulting from escapes of adult farm salmon. *Can. J. Fish. Aquat. Sci.* 55: 358-363 (1998).
- Glover KA, Quintela M, Wennevik V, Besnier F, Sørvik AGE, et al. (2012) Three Decades of Farmed Escapes in the Wild: A Spatio-Temporal Analysis of Atlantic Salmon Population Genetic Structure throughout Norway. *PLoS ONE* 7(8): e43129. doi:10.1371/journal.pone.0043129.
- Hansen, L.P., Fiske, P., Holm, M., Jensen, A.J. & Sægrov, H. 2006. Bestandsstatus for laks 2007. Rapport fra arbeidsgruppe. Utredning for DN 2007-2: 1-88. Directorate for Nature Management, Trondheim, Norway. (In Norwegian).
- Hindar, K., Fleming, I. A., McGinnity, P., and Diserud, O. 2006. Genetic and ecological effects of salmon farming on wild salmon: modelling from experimental results. *ICES Journal of Marine Science*, 63: 1234-1247.
- Milner, N.J. & Evans, R. 2003. The incidence of escaped Irish farmed salmon in England and Welsh rivers. *Fisheries and Management and Ecology* 10: 403-406.
- McGinnity, P, Prodo, P2, Ferguson, A, Hynes, R, O' Maoileidigh, N, Baker, N, Cotter, D, O'Hea, B, Cooke, D, Rogan, G, Taggart, J, & Cross, t. 2003. Fitness reduction and potential extinction of wild populations of Atlantic salmon, *Salmo salar*, as a result of interactions with escaped farm salmon. *Proc. R. Soc. Lond. B* (2003) 270, 2443-2450.
- Thorstad, E.B., Fleming, I.A., McGinnity, P., Soto, D., Wennevik, V. & Whoriskey, F. 2008. Incidence and impacts of escaped farmed Atlantic salmon *Salmo salar* in nature. NINA Special Report 36. 110 pp.

## Other References

- Anon 1994 . Report of the Sea Trout Task Force, Department of the Marine, Dublin.
- Butler, J.R.A. 2002. Wild salmonids and sea louse infestations on the west coast of Scotland: sources of infection and implications for the management of marine salmon farms. *Pest Management Science* 58, 595-608.
- Gargan, P.G., Tully, O. & Poole, W.R. 2003. The relationship between sea lice infestation, sea lice production and sea trout survival in Ireland, 1992-2001. In *Salmon at the Edge* (ed. D. Mills), chapter 10, pp. 119-135. Proceedings of the 6th International Atlantic Salmon Symposium, Edinburgh, UK, July 2002. Atlantic Salmon Trust/Atlantic Salmon Federation.
- Grimnes, A., Finstad, B., and Bjorn, P.A. (2000). Registrations of salmon lice on Atlantic salmon, sea trout and charr in 1999. NINA Oppdragsmelding 634: 1-34. (In Norwegian with English Abstract).

- Heuch, P.A. & Mo, T.A. 2001. A model of salmon louse production in Norway: effects of increasing salmon production and public management measures. *Diseases of Aquatic Organisms* 45, 145-152.
- Mackenzie, K., Longshaw, M., Begg, G.S., and McVicar, A.H. (1998). Sea lice (Copepoda: Caligidae) on wild sea trout (*Salmo trutta* L.) in Scotland. *ICES Journal of Marine Science* 55: 151-162.
- Taranger, G.L., Karlsen, Ø., Bannister, R.J., Glover, K.A., Husa, V., Karlsbakk, E., Kvamme, B.O., Boxaspen, K.K., Bjørn, P.A., Finstad, B., Madhun, A.S., Craig Morton, H. & Svåsand, T. 2014. Risk assessment of the environmental impact of Norwegian Atlantic salmon farming. *ICES J Mar Sci* 72: 997-1021.
- Thorstad E. B, Todd C. D, Uglem I., Bjørn P. A, Gargan P. G, Vollset K. W, Halttunen E, Kålås S, Berg M, Finstad, B. (2015) Effects of salmon lice *Lepeophtheirus salmonis* on wild sea trout *Salmo trutta*—a literature review. *Aquacult Environ Interact*. Vol. 7: 91-113.
- Tully, O. & Whelan, K.F. 1993. Production of nauplii of *Lepeophtheirus salmonis* (Krøyer) (Copepoda: Caligidae) from farmed and wild salmon and its relation to the infestation of wild sea trout (*Salmo trutta* L.) off the west coast of Ireland in 1991. *Fisheries Research* 17, 187-200.