



Pontardawe and Swansea Angling Society Ltd

www.pasas.org.uk

Treasurer – Phil Jones

Tidal Lagoon (Swansea Bay) plc
Suite 6, J-Shed
Kings Road
Swansea
SA1 8PL

Emailed as a PDF to info@tidallagoonpower.com

2 August 2013

Dear Sirs

PROPOSED TIDAL LAGOON, SWANSEA BAY

1. INTRODUCTION.

This is a response to your public notice which appeared in the South Wales Evening Post on 29 June 2013.

That notice is unclear because it says that "Any response or representation in respect of the proposed Project, Application and/or DCO must be received by the Applicant on or before 5 August 2013". But our understanding, based on the advice at

<http://infrastructure.planningportal.gov.uk/application-process/the-process/>

is that this is only a pre-application consultation on the Preliminary Environmental Information Report (PEIR) and that we'll be able later, at the pre-examination stage (after acceptance of the application by the Planning Inspectorate), to register, submit further views and attend a preliminary meeting run and chaired by an Inspector.

This is not therefore our final response to your proposals. We expect to present further objections later, when we've been able to study your completed Environmental Impact Assessment (EIA).

2. ABOUT US AND OTHER FISHING ORGANISATIONS.

a. Firstly, Section 9.7 and Appendix A of Appendix 9.1 need to be corrected:

i. Para 9.7.3 says

"Angling associations offer a framework of representation to small, local clubs and individual members. Incentives for joining may include: public liability insurance; legal advice; discounted goods from partners; and government lobbying on members' behalf."

Your terminology is confused and your distinction between clubs and associations is incorrect:

Pontardawe and Swansea Angling Society Ltd Reg'd Office 8 Bwllfa Rd Ynystawe Swansea SA6 5AL Registered in Wales No 6736638
Our Disabled Membership Section operates as **Tawe Disabled Fishers**

Directors:

Life President and Secretary Ray Lockyer 8 Bwllfa Rd Ynystawe Swansea SA6 5AL Tel 01792 844014 Email ray.lockyer@pasas.org.uk
Chairman Dave Hooper Berwyn 19 Cefn Rd Glais Swansea SA7 9EZ Tel 01792 844887 Mob 07813 519859 Email dave.hooper@pasas.org.uk
Treasurer Phil Jones 44 Bwllfa Road Ynystawe Swansea SA6 5AL Tel 01792 843951 Mob 07957 154992 Email phil.jones@pasas.org.uk
Social Secretary Spencer Williams 81 Capel Rd Clydach Swansea SA6 5PY Tel 01792 849293 Mob 07968 332119 Email social@pasas.org.uk
Head Bailiff Dave Hooper Berwyn 19 Cefn Rd Glais Swansea SA7 9EZ Tel 01792 844887 Mob 07813 519859 Email dave.hooper@pasas.org.uk
Tawe Disabled Fishers Secretary Des Williams 2 Heol Hen Seven Sisters Neath SA10 9AF Mob 07971 639404 Email des.williams@pasas.org.uk

Members of

Welsh Salmon & Trout Angling Association Angling Trust Fish Legal Salmon and Trout Association
Wild Trout Trust Carmarthenshire Rivers Trust Inst of Fisheries Mgt Canoe Wales

- (1) Individual anglers tend to form local organisations which might be known as clubs, associations, societies or by other names.

Most of the “local clubs” in this area are not “small” – they have hundreds of members each and between them the clubs on the rivers Tawe, Neath and Afan have more than a thousand members.

- (2) Those first-tier organisations also form second-tier organisations for the purposes of joint representation. These can also be known as associations – eg, many game angling clubs in Wales belong to the Welsh Salmon & Trout Angling Association (WSTAA). Most of the clubs on the rivers Tawe, Neath and Afan belong to the Gower Region of WSTAA.
- (3) Second-tier organisations also form third-tier organisations for higher level joint representation across disciplines – eg, WSTAA is a member of the Federation of Welsh Anglers, along with the Welsh Federation of Coarse Anglers and the Welsh Federation of Sea Anglers.
- (4) The Angling Trust is a comprehensive first-, second- and third-tier organisation with individuals as well as first- and second-tier organisations in membership.

- ii. Para 9.7.3 also says

“The Angling Trust offers club and individual membership and is very active in terms of conservation, fisheries management and protecting anglers’ rights. However, no affiliated clubs exist in South Wales.”

This is not correct. We have been members of the Angling Trust for several years (and its legal arm, Fish Legal, for several decades) and we are not the only members in South Wales.

- iii. Appendix A gets “clubs” and “associations” mixed up and says “awaiting responses” for clubs.

That’s not correct. Table 9.21 shows that we were consulted and expressed our views at an early stage. We met Eva Bishop (then Director of Tidal Development of Inazin) on 11 April 2012 and told her then of our interest and our concerns.

- b. We are a not-for-profit angling club in the Swansea Valley. We are a reputable club of long standing, having been formed in the 1940s and incorporated as a company limited by guarantee in 2008. We own, control or enjoy the fishing on most of the River Tawe between Ynysmeudwy and Morrision – about 8 miles of the lower part of the river. Our fishing is for salmon, sea trout and brown trout.
- c. We are not just “recreational anglers”. We are a business. Ownership and leasing of river bed / bank and fishing rights are property rights which carry entitlements.
- d. We have about 300 members – about 130 adult (£60 per annum), about 120 OAP/disabled (£20 per annum) and about 50 juniors (£5 or £10 per annum). These charges only partially reflect the value we place on our fishing as we minimise costs to members. We have no restrictions on membership. Most of our members are local. Our level of membership is lower than usual at the moment, apparently because of the recession – it’s

normally over 400.

- e. We are members of: the Welsh Salmon and Trout Angling Association; Angling Trust; Fish Legal; Wild Trout Trust; Carmarthenshire Rivers Trust; Institute of Fisheries Management and the Salmon and Trout Association.
- f. The benefits to the community from fishing are well-recognised both across the United Kingdom and specifically in Wales. See for example:
 - i. Fishing For Answers – The Final Report of the Social and Community Benefits of Angling Project <http://resources.anglingresearch.org.uk/sites/resources.anglingresearch.org.uk/files/Final%20report.pdf>;
 - ii. the Welsh Government guidance to Natural Resources Wales under section 4 of the Environment Act 1995; and
 - iii. the Welsh Government Wales Fisheries Strategy 2008,

3. FISH AND FISHING IN THE RIVER TAWE.

- a. As mentioned above, our fishing in the River Tawe is for salmon, sea trout and brown trout.

Over the 10 years 2003-2012 Environment Agency catch returns show that the Tawe was ranked 7th in Wales for salmon catches and 18th in Wales for sea trout catches.
- b. The quality of the salmon fishing has been improving steadily since the 1970s. The sea trout fishing is not as good now as it was in the 1970s and 80s, when the Tawe was ranked in the top ten in Wales. The decline is due in part to the River Tawe Barrage which was commissioned in the late 1980s. Although sea trout catches have declined generally in Wales in recent years, the Tawe has declined more than most.
- c. Salmon and sea trout are important species. The salmon is a protected species under the EU Habitats Directive. Both are priority fish species in the UK Biodiversity Action Plan and the Swansea BAP. They are also highly valued by the public as indicators of environmental quality, in addition to the social and economic benefits of fishing – see, for example:
 - i. Mawle, G.W. & Peirson, G. (2009). 'Economic Evaluation of Inland Fisheries'. Managers report from science project SC050026/SR2, Environment Agency. <http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/scho0109bpgi-e-e.pdf>; and
 - ii. O'Reilly, P.O. and Mawle, G.W. (2006). 'An appreciation of the social and economic values of sea trout in England and Wales' in 'Sea trout: Biology, Conservation and Management: Proceedings of First International Sea Trout Symposium, Cardiff, July 2004', editors Graeme Harris and Nigel Milner.
- d. The latest annual assessment for Welsh Government as reported to the North Atlantic Salmon Conservation Organisation through the European Union, is that the Tawe salmon stock is 'At risk' though may be improving. It is therefore important to protect both species from damage by developments.

The mouth of the River Tawe, used by juvenile and adult salmon and sea trout leaving the river and by adults returning to the river, is right alongside the proposed lagoon.

- e. The Tawe catchment contains 14 water bodies for WFD purposes. Of those that are assessed for Fish, only 3 are 'Good' while 5 are only 'Moderate' (EAW River Basin Management Plan Western Wales River Basin District Annex B: Water body status objectives). The objective is for all the water bodies to have good ecological status or potential.

We need measures to improve fisheries, not developments which are likely to harm them.

4. JUSTIFICATION AND CLAIMED BENEFITS FOR THE PROPOSED LAGOON.

- a. Approach.

The benefits to the Swansea area and to Wales appear trifling and over-stated compared with the potential environmental damage.

The Welsh Government and Natural Resources Wales approach to developments is "to ensure that our natural resources are healthy and resilient and are efficiently managed for Wales' long-term economic, social and environmental benefit". We fail to see how this proposal would fit in with those aspirations and we'll expect to see a detailed justification using the ecosystem services methodology favoured by Welsh Government.

It seems to us that Swansea Bay and Wales would suffer the environmental impacts but that the commercial profit, largely derived from public subsidy, would be siphoned off and accrue elsewhere.

- b. Electricity generation.

It's claimed that the "nominal capacity" of the generating station would be 240MW. But that's misleading. Because of utterly predictable tidal conditions, actual capacity would be a lot less. The PEIR concedes that actual generation over a year can never be any more than 400GWh, which is shown by simple calculation to equate to a maximum overall generating rate of just 46MW.

It isn't clear, therefore, why the procedure in sections 14 and 15 of the Planning Act 2008 is being used, because that procedure applies to onshore generating stations with a capacity of more than 50MW and offshore generating stations with a capacity of more than 100MW.

- c. Public access to the structure.

The likely periods when the walkway on top of the structure is available to the public needs to be described and quantified. We believe that they're likely to be quite limited. The eastern breakwater to Swansea Docks is closed to the public because of the risks from high seas and this structure would be subject to the same risks – more so, because the proposed height is lower than the existing eastern breakwater.

Because the proposed structure is so large, it would take a dangerously long time to evacuate visitors when weather deteriorates unexpectedly. So the claimed benefit of allowing public access to the structure for recreation is likely to be minimal and the images in the publicity literature of the public taking a stroll along

the top of it are fanciful.

5. PERCEIVED THREATS FROM THE PROPOSED LAGOON.

- a. The effect of the lagoon needs to be looked at cumulatively with the effects of the barrage and other issues.
- b. Chapter 9 of the PEIR appears to identify many of the issues that occur to us so we won't list them all here, although some of the more important points as far as salmon and sea trout are concerned, some points of detail and apparent errors and omissions are commented on below.
- c. We are concerned that the lagoon proposal has reached such an advanced stage without your having carried out the necessary investigations to establish the likelihood and extent of the "potential effects" listed in Table 9.5. **We believe that any of the potential effects described there would be sufficient to preclude the development and for that reason we oppose this proposal and will continue to do so vigorously at all stages, enlisting all the support we can muster.**

We would point out that the Governments' Feasibility Study in relation to tidal power lagoons on the Welsh Grounds and Bridgwater Bay further up the Severn Estuary concluded that they might cause local extinction of salmon stocks in the Wye, Usk and Severn salmon stocks. Given its proximity to the Tawe estuary, the impact on salmon and sea trout populations of the Swansea Tidal Lagoon will be even more severe, with even greater probability of local extinction.

- d. Fish likely to be affected.

We are mainly concerned with salmon and sea trout but there are also other important species bound for or leaving the River Tawe, such as sea lamprey, eel, etc.

- i. Table 9.2 is not laid out correctly. It shows sea trout incorrectly as "Other fish species", as though they are not "Migratory" or "Diadromous" – they should be in the top part of the table, with salmon and lamprey.
- ii. Table 9.6 in the PEIR shows the fish species and life stages to be considered for modelling.
 - (1) For adult sea trout the entry is "sea trout adult – local feeding behaviour". Whilst some sea trout are likely to feed in the area, it should also be recognised that most returning adults are likely to arrive from more distant waters intent on finding the Tawe and entering it to spawn. Table 9.6 doesn't appear to cover these important fish. Neither does it cover the out migration behaviour of sea trout and salmon kelts.
 - (2) For adult salmon the entry is "salmon adult – immigration / river entry" but for juvenile eels and adult lamprey the entries say "coastal river searching". The reason for the different wording is not understood. If this is meant to imply that salmon proceed directly to the river mouth without having to search for their river and without milling about outside, it would be a mistake. The arrival of salmon in Swansea Bay is likely to be driven by tides but their entry into the river is driven by river flows. They can hang around outside the river for lengthy periods waiting for a spate in the river. This is exacerbated by the Tawe Barrage, which prevents fish from entering

the estuary until river flows are quite high.

- iii. Table 9.7 in the PEIR shows migration periods for salmon and sea trout.
 - (1) Smolt (spring, autumn) – you need to be aware that salmon smolt growth and migration from the River Tawe isn't typical. We understand that they grow quickly and migrate early.
 - (2) Kelt (winter). If winter is taken as December, January and February, you need to be aware that kelts are observed in the river Tawe in March. The emigration of both salmon and sea trout kelts seems to be given little consideration in this report. Indeed this table, copied from elsewhere, is the only reference to them.

Sea trout kelts are particularly important as multiple spawners may contribute a large proportion of the annual run and even bigger proportion of egg deposition. Even for salmon, previous spawners generally contribute about 10 percent of the run, so kelts will also need protection.

- iv. Table 9.7 doesn't mention returning adult salmon and sea trout, looking to ascend the Tawe to spawn. These fish arrive in the area of the proposed lagoon all the way through from March to December.
- v. Table 9.13 in Appendix 9.1 doesn't even mention kelt migration as well as being muddled over migration and spawning times.

e. Unnatural flows.

- i. Releases from the impoundment at times other than normal ebb. The inclusion in the scheme of large sluice gates suggests to us that they will be used to control the way in which impounded water is released. Without knowing how they might be used, we're unable to assess the effect but it occurs to us that strong flows of water from the impoundment at low tide are likely to have various damaging effects.
- ii. Our experience of the Tawe Barrage is that incoming tidal flows can be so great that levels upstream of the barrage can be lower than those outside the impoundment, creating a wholly unnatural "upstream waterfall".

It seems likely that the same will apply in the case of the lagoon. Even with large sluice gates, it won't be possible for the impoundment to fill quickly enough for levels inside to match those outside. So there will be a powerful flume of water entering the impoundment, creating massive erosion / disturbance of the bed of the impoundment.

f. Fish passing through turbines.

- i. We understand that mortality / damage to fish is likely to be high, if they pass through the turbines. It seems highly likely to us that fish will be drawn through the turbines for a number of reasons.
- ii. As we understand it, returning adult salmon swim up the south side of the Bristol Channel and then back along the north side, hugging the coast, looking for their river. (Tawe salmon used to be caught

in the nets which used to operate outside the Usk.) If we're right, Tawe salmon seem likely to encounter the eastern wall of the lagoon and swim around it to the west – right past the turbine array.

- iii. Although less is known about the movements of sea trout, adult sea trout seem likely to encounter the lagoon wall in the same way. We understand that there's generally an anti-clockwise flow in Swansea Bay which is likely to carry them past the turbine array.
 - iv. Strong flows into the impoundment on an incoming tide seem likely to sweep adult salmon and sea trout through the turbines, as they pass.
 - v. If Tawe river water is carried into the impoundment on incoming tides, it follows that it will be expelled through the turbines on an ebbing tide. Salmon and sea trout looking for the river Tawe are likely to be attracted to this, making it likely that they'll also pass through the turbines on ebbing tides, when flows allow.
 - vi. When trapped inside the impoundment, fish are likely to detect Tawe river water being drawn into the impoundment. They are likely to be attracted to this.
 - vii. Salmonid movement is generally with the tide. Given that large volumes of water will pass into and out of the lagoon, we anticipate that a large proportion, perhaps the majority, of smolts and adults (fresh-run or kelts) will be entrained, probably several times. The consequences for the populations of both species of migratory salmonid, and our fisheries, are likely to be severe.
- g. Fish passing through power station cooling water intake screens and industrial supply intakes.

This risk is mentioned in the PEIR. It needs to be covered comprehensively in the EIA.

- h. Fish deterred from ascending the river to spawn or from proceeding to distant feeding grounds on departure from the river, leading to extinction of River Tawe salmon and sea trout:

- i. Because of unnatural flows close to the river mouth.

Fish looking to ascend the River Tawe currently find river water discharging into the bay from the mouth of the river between the two docks breakwaters. If the scheme goes ahead, these flows will be completely disrupted.

Even if not entrained and swept into the impoundment, fish are likely to have difficulty finding the river. Fish are literally unlikely to know whether they're coming or going.

- ii. Because of very high levels of suspended sediment.

As explained above, unnatural flows are likely to create extremely turbid conditions. It's said in the PEIR that salmon and sea trout are used to experiencing this in the Severn estuary and can cope with it. But there's a big difference between fish going with the flow in the massive Severn estuary and fish close to the River Tawe trying to find its mouth so that they can enter it.

- iii. Because of noise and vibration.

The PEIR mentions the risk. It needs to be covered comprehensively in the EIA.

- iv. Because of entrapment within the lagoon.

The risk of fish passing repeatedly through the turbines, in and out of the impoundment, is mentioned above. But it seems likely that some fish will become trapped in the impoundment and never find their way out. This would be as bad as killing them because, if they are prevented from migrating in the normal way to and from the river and their feeding grounds, they are lost from the stock of the River Tawe.

- i. Fish affected by water quality issues.

- i. From increases in suspended sediment and disturbance of historic contaminants.

Apart from the obvious risk of fish kills, there's also the risk of fish becoming tainted and unsuitable for consumption. In the case of salmon and sea trout, this would be a major concern.

- ii. From sewage discharges.

Again, the risk is mentioned in the PEIR and it needs to be addressed comprehensively in the EIA.

6. OTHER POINTS.

- a. Monitoring.

We can't see any provision in the PEIR for pre-and post-construction monitoring, with a view to quantifying the effects on salmon and sea trout.

If the proposal went ahead, we would require such monitoring so that compensation could be claimed for any damage to our fishery and remediation could be arranged. Such monitoring and remediation would obviously need to be at the developer's expense.

A level of remediation should be assumed to reflect the precision of the monitoring programme. We would point out that the precision of any monitoring programme will depend on the number of years monitoring pre- as well as post-construction. We reiterate the advice of EA Wales to learn from the monitoring and mitigation programme for the Cardiff Bay Barrage, as well as the studies in relation to the Swansea Barrage. There is no evidence in the PEIR that this advice has been followed. The stocks of both migratory salmonids in the Tawe are currently below their target levels. The target, rather than current, levels should be taken as baseline against which the impact of the lagoon would be assessed.

- b. Security.

If approved, this will be a high risk scheme for investors. In case it failed and the developer became insolvent, security would need to be provided to cover the costs of removing the structure and putting right any damage done. We can't see any provision in the PEIR for such security. It's something which we will

pursue at the highest levels before any decision on the proposal.

Any such security arrangements will need to provide for transfers of responsibility from the initial developers to any other entities. There has already been one transfer from Inazin to Tidal Lagoon Swansea Bay plc since the scheme was first promoted in 2012.

- c. Appendix 9.1 contains some inaccurate information (e.g. the life history of salmon; rod catches being described as 'non-quantitative') as well as textual errors. We hope that greater care will be taken with the full EIR.

Finally, we repeat that any damaging effect on the important River Tawe runs of salmon and sea trout would be enough to preclude the proposed development. We would not be satisfied with mitigation, remediation or compensation. As far as we are concerned, **YOU MUST NOT DAMAGE RUNS OF THESE FISH.** We fail to see how you would be able to eliminate any risk of this so **WE ARE UTTERLY OPPOSED TO THE PROPOSAL.**

Yours faithfully



Phil Jones
for Pontardawe and Swansea Angling Society Ltd

Copies to: Welsh Salmon & Trout Angling Association
Other affected clubs on the Tawe, Neath and Afan
Angling Trust and Fish Legal
Natural Resources Wales (Fisheries)
Welsh Govt (Fisheries)
Carmarthenshire Rivers Trust
Salmon and Trout Association
Councillors
Welsh Assembly Members
MPs
MEPs