

# Swansea Inner West Pier: An EIA Evaluation

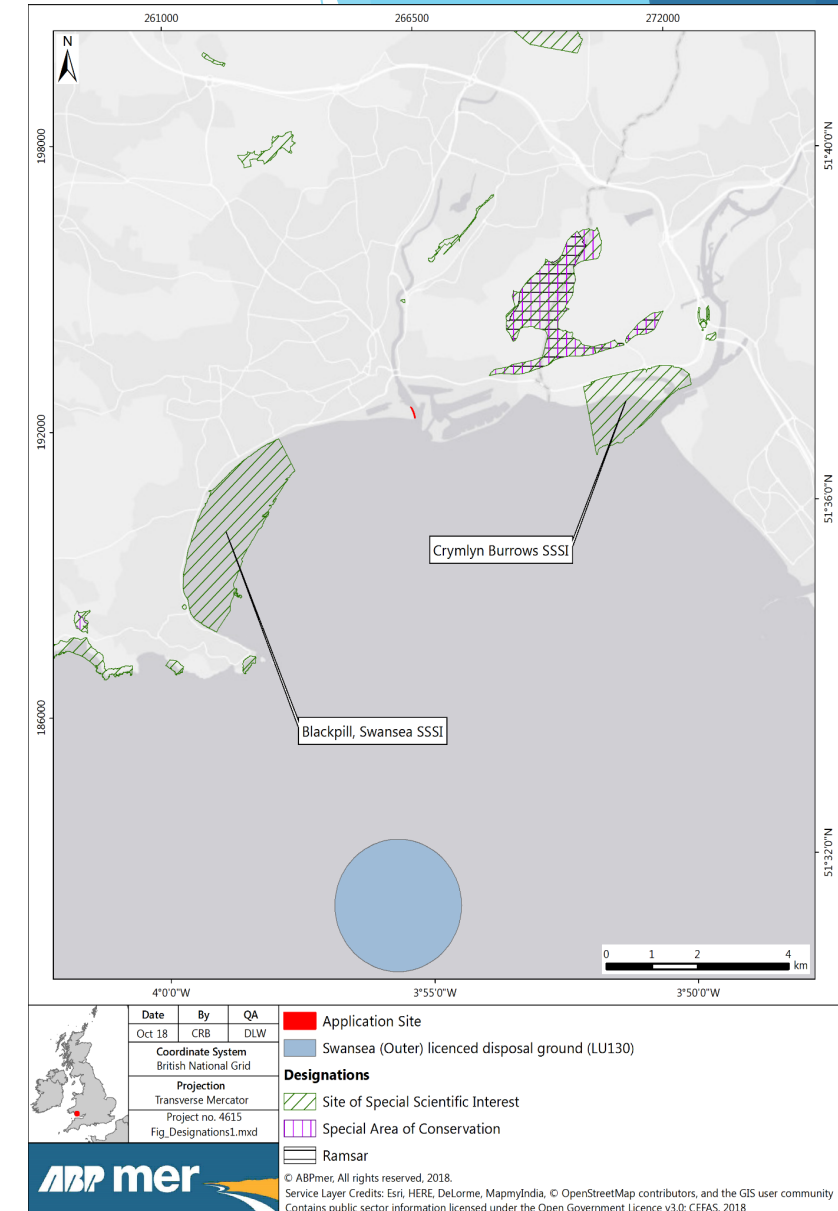
MSc Environmental Conservation & Management



**Prifysgol Cymru**  
Y Drindod Dewi Sant  
**University of Wales**  
Trinity Saint David

# Swansea Inner West Pier

- ▶ Owned & managed by Associated British Ports (ABP)
- ▶ 240m of timber retaining inner wall structurally damaged - 2017
- ▶ Replaced with a pile wall
- ▶ Construction began 04/08/2020 - scheduled to finish: June 2021
- ▶ Predominant marine & terrestrial ecological impacts
- ▶ Blackpill SSSI - 3km to the SW - mud & sand habitats
- ▶ Crymlyn Burrows SSSI - 4km to the E - largest lowland fen in Wales
- ▶ Swansea Bay SINC - W & adjacent to the site



# Environmental Impact Assessment (EIA)

- ▶ Why EIA is necessary at Swansea Inner West Pier Marine Works?
- ▶ Gauge, forecast & appraise developments' potential to incur significant environmental impacts (Senécal *et al.*, 1999; Sadler and McCabe, 2002; UNESCO, 2004).
- ▶ Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (amended); Town and Country Planning Act 1990
- ▶ Well-being of Future Generations Act 2015
- ▶ Marine and Coastal Access Act 2009
- ▶ Marine Works (EIA) Regulations 2007
- ▶ Swansea Harbour Act 1864
- ▶ NRW marine license and Welsh Gov. consent



Damage to Swansea Inner West Pier retaining wall (ABPmer, 2018)



Andrew White, Wales Online (2019)

# EIA Process

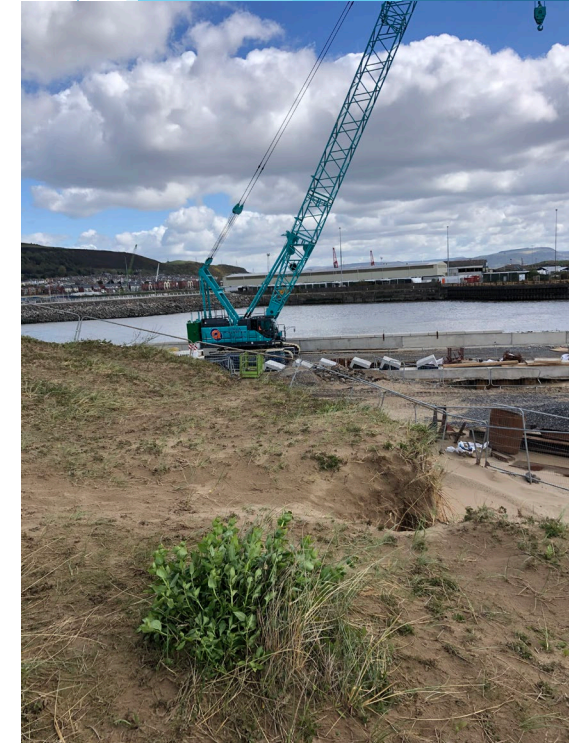
| EIA Process                    | Critique             | Comments/Recommendations                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public Engagement/Consultation | Could be amendment   | <ul style="list-style-type: none"> <li>1 stakeholder workshop - Wed 26<sup>th</sup> September 2018</li> <li>Nearby residential &amp; commercial areas</li> <li>Follow-up meetings may improve relations between ABP &amp; nearby stakeholders</li> </ul>                                                                                                              |
| Mitigation                     | Not stringent enough | <ul style="list-style-type: none"> <li>Restricted working hours (08:00-18:00 &amp; 08:00-13:00)</li> <li>Autumn/Winter piling - avoid mating, breeding &amp; migration seasons</li> <li>Piling continuing to completion (June 2021) - breached seasonal restrictions</li> </ul>                                                                                       |
| Monitoring                     | Not stringent enough | <ul style="list-style-type: none"> <li>Follow-ups to the impacts of piling on migratory birds/fish - season has already begun</li> <li>Ongoing shoreline habitat surveys (during &amp; post construction)</li> <li>Swansea Bay SINC sand dune flattened - ecological survey - future recovery?</li> </ul>                                                             |
| Cumulative Impact(s)           | Inadequate           | <ul style="list-style-type: none"> <li>No future monitoring procedure(s) to environmental impacts as a result of the construction</li> <li>Sand dune erosion from machinery &amp; removal of timber wall</li> <li>Actual impacts to marine &amp; terrestrial species yet to be seen</li> <li>No overlap with other projects e.g., Swansea Bay Tidal Lagoon</li> </ul> |



Prof. Chris House (2021)

# Environmental Impacts Evaluation

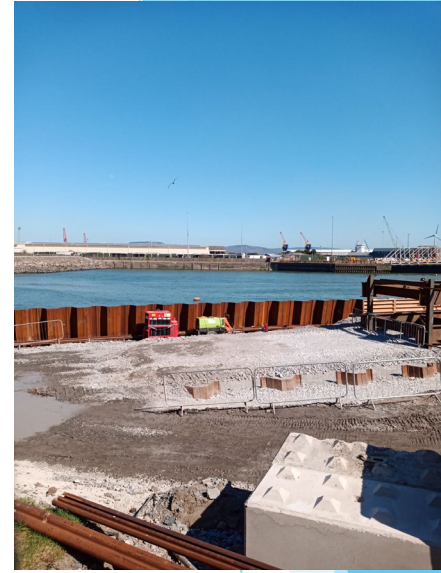
| Environmental Impacts      | Critique          | Comments                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water & Sediment Quality   | Adequate          | <ul style="list-style-type: none"> <li>Land-based construction methods - minimal leeching</li> <li>Benthic sediment retention expected to settle post-construction</li> </ul>                                                                                                                                                                                                                  |
| Marine Ecology             | Understated       | <ul style="list-style-type: none"> <li>Further detail to impacts of scouring required</li> <li>Construction has surpassed mating, breeding &amp; migration seasons - Salmonids (e.g., salmon &amp; sea trout) &amp; harbour porpoise</li> <li>Pilings (greater life-span) may allow sediments &amp; benthic habitats to thrive</li> </ul>                                                      |
| Terrestrial Ecology        | Understated       | <ul style="list-style-type: none"> <li>Effects deemed inconsequential to the dune environment</li> <li>Sand dune environment flattened nearby wall - SINC</li> <li>Invertebrates: whorl snail, robber fly, small blue butterfly &amp; sand dart moth (nationally scarce - visible June-August)</li> </ul>                                                                                      |
| Coastal & Flood Protection | Satisfactory      | <ul style="list-style-type: none"> <li>Piling is more erosion-resilient with greater longevity over timber retaining walls</li> <li>Wave protection</li> <li>Stabilised beach to the west of the pier</li> </ul>                                                                                                                                                                               |
| Airborne Noise & Vibration | Somewhat adequate | <ul style="list-style-type: none"> <li>Considerate to species' seasonal biological patterns of migration, mating, breeding and feeding yet overlapping avian breeding/nesting seasons</li> <li>Impacts deemed inconsequential to the dune environment that backs sections of the inner pier wall</li> <li>Stakeholders consulted, appropriate temporal mitigation measures in place</li> </ul> |
| Visual                     | Satisfactory      | <ul style="list-style-type: none"> <li>Minimal all-round visual impact (post-construction)</li> <li>Improvement over dilapidated timber</li> </ul>                                                                                                                                                                                                                                             |



Dylan Morgan (2021)

# Future & Recommendations

- ▶ Ongoing/Future monitoring and public consultation is required to further understand the impacts from the construction process particularly regarding dune and beach morphology
- ▶ Further intertidal habitat surveys, sand dune ecological surveys, marine acoustic surveys and phase 2 national vegetation classification study - Swansea University Bay Campus EIA (URS, 2021)
- ▶ General theme of understating impacts, pile-driving sound activity attributes to hindering reproductive processes and damaging migratory fish (Thomsen et al., 2006; Bagočius, 2021)
- ▶ Stringent restorative environmental research akin to tidal lagoons may aid in minimising environmental impacts pre, during and post construction (Elliott *et al.*, 2018)



# Conclusion

- ▶ ABP anticipated no substantial effects to be expected following the construction phase (ABP, 2018) yet, critique may prove contrary
- ▶ Not yet completed, proving difficult to fully substantiate the extent of environmental impacts and the project's success
- ▶ However, critique suggests inadequacies and stringency issues
- ▶ Inclusion of human health impact study, public perception, green house gas emissions & physical processes considerations may prove as a remedy
- ▶ 170 pages, concision could create an informed, succinct yet comprehensive EIA document (Jha-Thakur and Fischer, 2016)

# References

ABPmer., (2018). Swansea Inner West Pier Marine Works, Environmental Appraisal, ABPmer Report No. R.3080. A report produced by ABPmer for Associated British Ports, October 2018.

Bagočius, D., (2021). *Piling underwater noise impact on migrating salmon fish during Lithuanian LNG terminal construction (Curonian Lagoon, Eastern Baltic Sea Coast)*.

Elliott, K., Smith, H., Moore, F., van der Weijde, A. and Lazakis, I., (2018). Environmental interactions of tidal lagoons: A comparison of industry perspectives. *Renewable Energy*, 119, pp.309-319.

Evans, J., 2019. *The shocking state of Swansea's pier which will cost millions to repair*. [online] WalesOnline. Available at: <<https://www.walesonline.co.uk/news/wales-news/shocking-state-swanseas-pier-cost-15952544>> [Accessed 4 May 2021].

Jha-Thakur, U. and Fischer, T. B. (2016) '25 years of the UK EIA System: Strengths, weaknesses, opportunities and threats', *Environmental Impact Assessment Review*, 61. doi: 10.1016/j.eiar.2016.06.005.

Phillips. M.R., (2007). "Beach Response to a Total Exclusion Barrage: Cardiff Bay, South Wales, UK," *Journal of Coastal Research* 2007(233), 794-805.

Sadler, B. and McCabe, M. (Eds). 2002. *Environmental impact assessment training resource manual*. 2nd ed. Geneva: Economics and Trade Branch-Division of Technology, Industry and Economics-United Nations Environment Programme.

Senécal, P.; Goldsmith, B.; Conover, S.; Sadler, B. and Brown, K. 1999. *Principles of environmental impact assessment best practice*. North Dakota, USA: International Association for Impact Assessment.

*The Bay Science and Innovations Campus, Swansea University, Environmental Statement*. URS. (2010)

Thomsen F, Lüdemann K, Kafemann R, Piper W (2006) Effects of offshore wind farm noise on marine mammals and fish, biola, Hamburg, Germany on behalf of COWRIE Ltd, Newbury, UK

United Nations Department of Economic and Social Affairs, Division of Sustainable Development. (2004). *Chapter 8: Integrating Environment and Development in Decision- Making*.<http://www.un.org/esa/sustdev/natlinfo/indicators/indisd/english/chapt8e.htm>

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# Any Questions?

Thank You For Listening