



**Public
Engagement
with research
using fish:
Workshop
report**



AnNex
Animal Research Nexus

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Summary

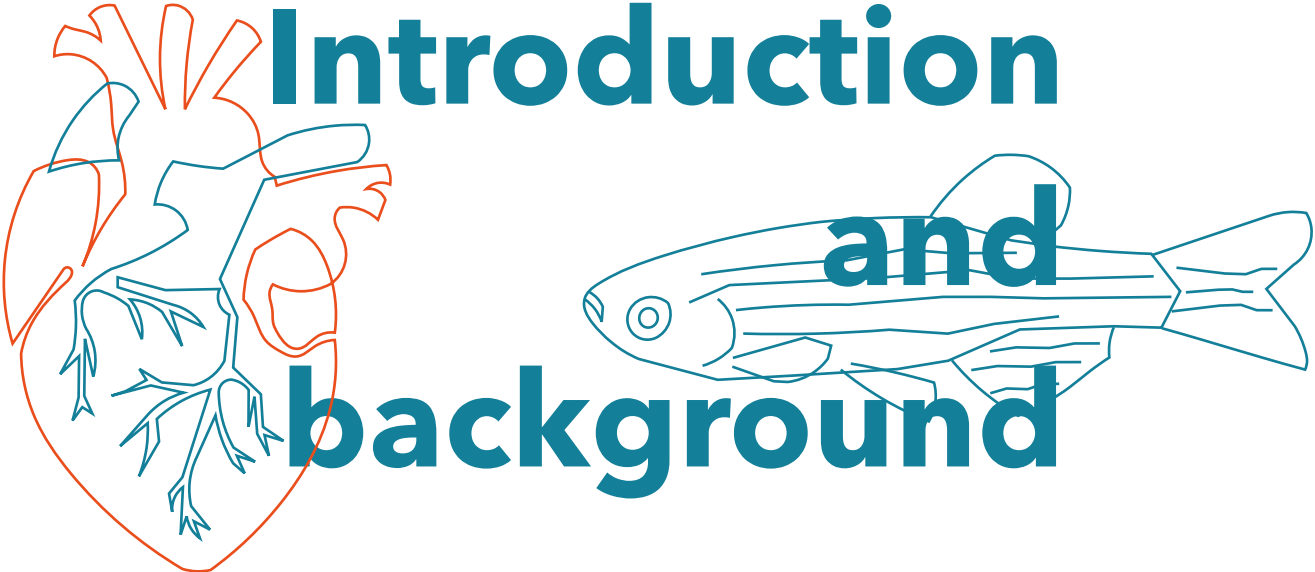
Fish are the third most commonly used protected species in research ([Understanding Animal Research, 2021](#)) and are increasingly used in initiatives to engage publics with biomedical research.

This workshop was convened in order to explore these developments, share experiences, and assess the challenges and opportunities of including discussion of fish welfare in relevant public engagement activities.

The workshop was hosted and facilitated by members of the [Animal Research Nexus](#) team, and held online on the 24th of June 2021.

Participants included three biomedical research scientists, one conservation biologist, one animal welfare physiologist, one animal technologist, two aquarium facility managers and one representative of an animal welfare organisation. Together we reflected on shared experiences of public engagement focused on the use of fish in animal research, including current practice, barriers to advancing engagement, opportunities and future directions

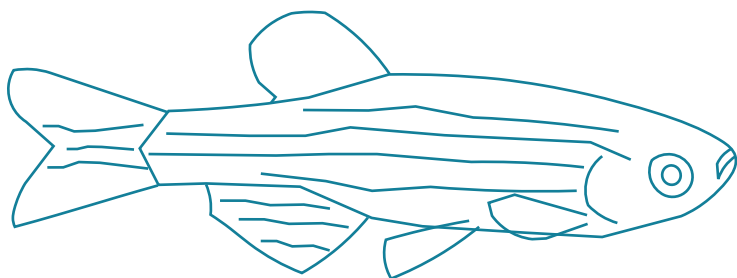
This report is a summary of those reflections.



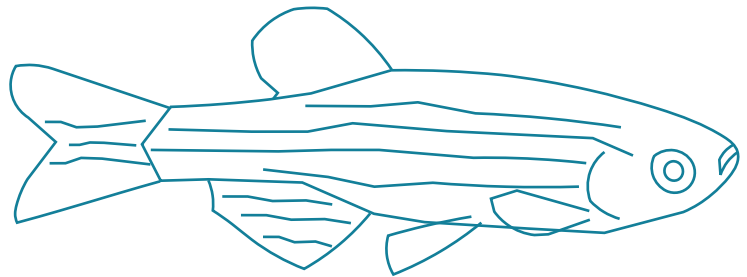
Introduction and background

In 2011 the British Heart Foundation commissioned a fund-raising television advertisement entitled '[Mending a Broken Heart](#)'. Perhaps the most well-known use of fish in a public engagement with animal research in the UK; it showed a characterful zebrafish, and explained how unique properties of zebrafish heart muscle made it a powerful biomedical model for heart disease.

This advertisement illustrates some of the tensions which emerge when using fish to engage the public. In order to be 'engaging', the creators of the ad needed to make its hero, a zebrafish, more 'relatable'. They gave it a jaunty human voice and animated its enlarged, expressive eyes. They placed the zebrafish in an attractive, but biologically impossible context - a coral reef surrounded by sharks. Evidently, and not without reason, the producers felt that an unenhanced zebrafish was unlikely to convince members of the public to reach into their pockets.



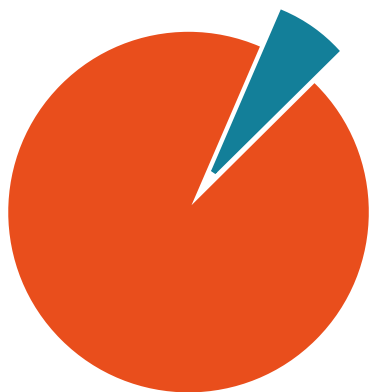
What is remarkable, however, is that such an advertisement was made at all. Indeed, it is all but impossible to conceive of an advertisement destined for national television that directly depicts any other species of protected animal used in research, such is the fear of courting controversy. Thus, while the producers felt they needed to make the subject more relatable for the advert to achieve its goal, it was the fish's lack of relatability that made the ad possible in the first place. Indeed - as was mentioned during the course of our workshop - while this advertisement is still regularly referenced in conversations with the public, it seems that few people even connect it with the practice of animal experimentation.



Fish, then, seem to fall outside of the public's imagination of animal research, while in reality they have become increasingly central to its practice. This presents opportunities as well as challenges for anyone wishing to use fish in public engagement initiatives, to engage the interest of the public in fish-based research, and to talk about fish welfare in these contexts. Our workshop sought to explore some of these challenges in more depth, and consider how we might begin to address them.

Sharing experiences

In the first part of the workshop and pre-workshop survey we invited participants to share their experiences of both using fish in their own public engagement work and seeing public engagement with fish activities produced by others.



Have fish featured in any public engagement work you have done?



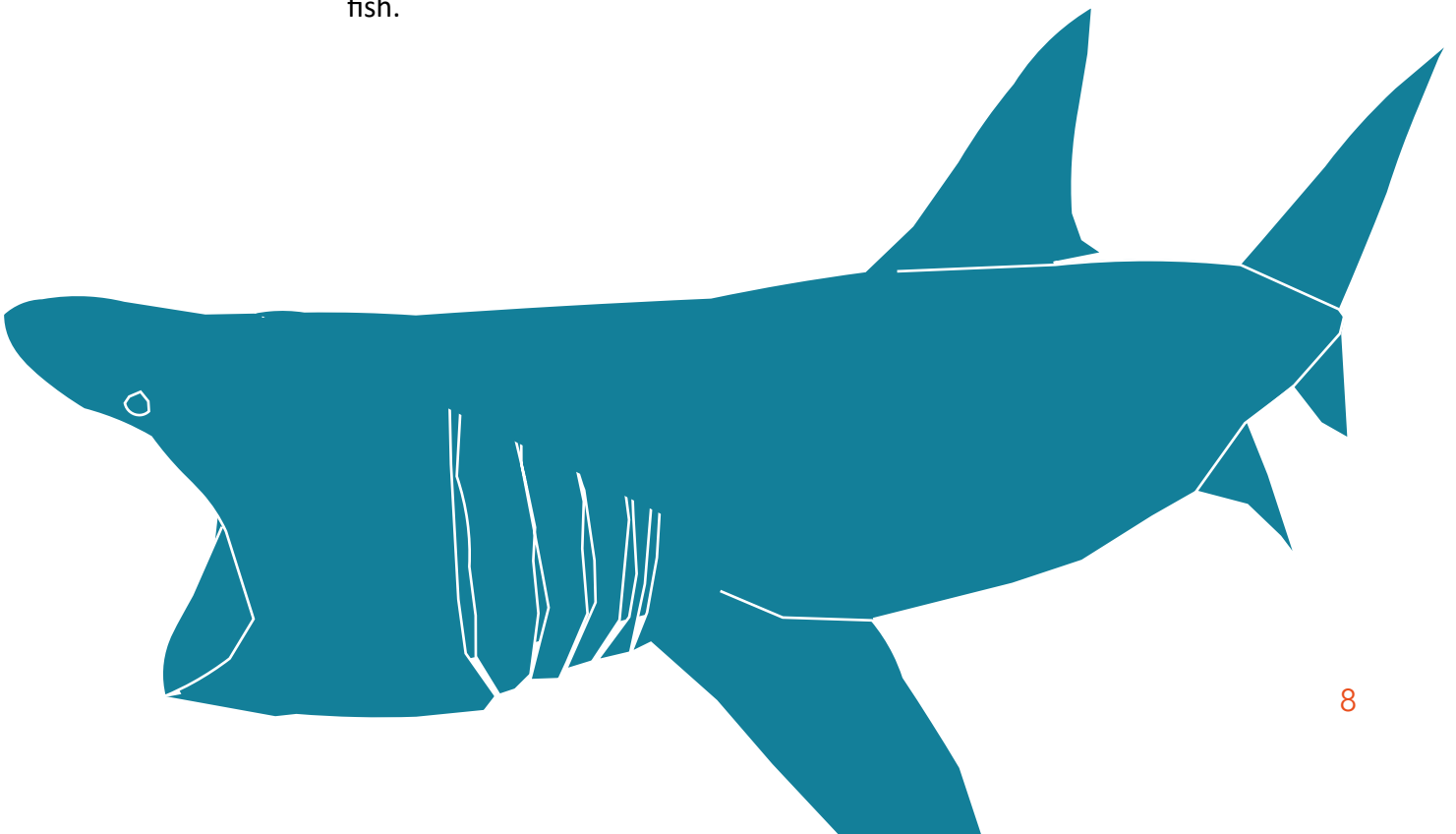
Have you seen fish feature in public engagement anywhere else?



Collectively, our participants had undertaken public engagement around biomedical research using fish in a number of settings and formats, including: showing live zebrafish (at all life stages) at science festivals and other events, as well as sites such as museums, hospitals, and markets; tours of research facilities; animation; outreach at public aquariums; public lectures; the use of social media podcasts; and television and radio interviews.

In discussion about these experiences several key points emerged:

1. In general, the public are disinterested in fish, including fish welfare.
2. At the same time, when told about the uses of fish in research, members of the public were often shocked – meaning surprised and perhaps fascinated, rather than outraged – on learning about the use of fish in research.
3. Different species (e.g. sharks) and research contexts (e.g. conservation) bring different challenges and opportunities for public engagement.
4. Typically, fish welfare as a topic is not the main the focus of public engagement involving fish.
5. Anti-vivisectionist/animal rights groups appeared to have a relative lack of interest in the use of the fish in research (with some exceptions such as PETA's ['silent scream'](#) campaign), researchers working with fish seldom get confronted by members of the public holding strong anti-animal research views.
6. A lack of public opposition can be viewed as a positive, however, ambivalence may also suggests a lack of interest in the welfare of fish.



Challenges and opportunities

Externally, fish are unlike us in appearance, environment and behaviour. This “otherness” can keep them at a physical, psychological and emotional distance from us. While this distance can make fish appear to be the “ethically easier option” and a “safe engagement species” it can limit other engagement and policy objectives, such as welfare, legislation and policy reforms. Engagement that seeks to close this distance and make fish more relatable can, paradoxically, make the use of fish in engagement more complex and less desirable. This relationship often keeps challenges and opportunities intertwined.

People are reliably surprised on learning about the use of fish in research. This could be seen as an opportunity for public engagement. While the curiosity associated with the mysterious and sometimes alien world of fish is also a significant asset.

At the same time, it is important to bear in mind that, public engagement work often takes place at the edge of capacity, with little time and resources available. This means engagement needs to focus on just one or two key messages, such as the role of fish in research, leaving limited space for a discussion of welfare issues. Nonetheless, certain moments – such as a visitor spotting a listless fish in a tank – can catalyse discussions of welfare considerations.

The infrastructures of fish research also offers both challenges and opportunities. While it can be hard to see fish in the wild, research aquariums are perhaps easier to visit than other areas of animal research facilities, as they do not pose an animal allergy risk and do not require them same levels of PPE (e.g. changing clothes, air showers) as other areas of a facility.

Fish are often viewed as an animal of "less concern" which can mean staff are less likely to face the negative reactions which can be an emotional burden on staff and a barrier to offering tours of animal research facilities. Equally, it is largely seen as acceptable to take a tank of zebrafish along to a public engagement event, whereas it would be challenging to do this with other, especially larger, mammals.

The relative lack of controversy associated with the use of fish also suggests they offer a potentially useful device in brokering particularly difficult conversations in the context of animal research, for example with patient groups, upon whom it is not always desirable to heap additional moral pressures.

In general, conservation research, animal welfare science and biomedical applications all tend to have relatively straightforward moral justifications for using fish. Resistance is more likely to be encountered in terms of justifying the validity of fish models with respect to human biology.

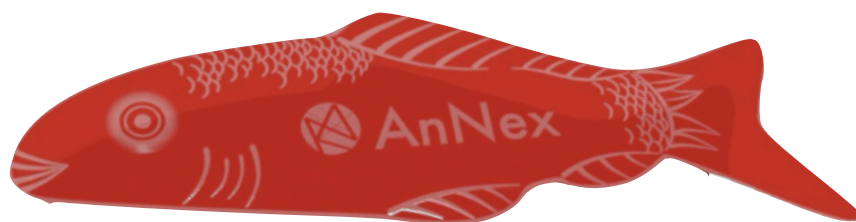
Finally, given people's relative emotional neutrality towards fish there is the possibility that discussing welfare via public engagement risks creating controversy by fuelling public concern and opposition. This may be an ethically desirable outcome in some sense, but it also clearly presents potential challenges, such as inhibiting future research and public engagement work.

Psychic Fish

In the final section of the workshop, members of the AnNex team shared a public engagement activity they had developed - [Psychic Fish](#) - designed to raise public awareness about the use of fish in research and their welfare. There was a lot of support for the activity amongst the group, and a broad consensus that the Psychic Fish could be a fun addition to any public engagement initiative, especially given that it may be possible to adapt it to different research contexts, audiences, species and life stages.

One aspect that could be further developed is to think through how the activity could be expanded or adapted to have a longer lasting impact. Participants also suggested the use of other technologies such as virtual reality to give insight into aquatic worlds, and an activity which would allow participants to 'care' for a virtual fish by checking water quality adding enrichment and so on.

Moving forward, the AnNex Team hope to work with the stakeholder group and produce a psychic fish toolkit they can adapt for use in their own public engagement work.



Conclusions

There is a broad consensus amongst stakeholders that fish are both underestimated and undervalued by wider publics which can be advantageous; as promoting this work is seen as less likely to cause controversy, however, it can also be challenge. Raising awareness of the complexity, sentience and need for welfare amongst fish may serve to make their use more controversial, but at the same time provides a strong rationale for why they are such a valuable scientific model.

Psychic fish offers one example of a public engagement tool which may help open up some of these complex questions in a fun and generative way, provoking public curiosity about fish use, care and welfare.



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