

AQUATIC HABITAT REHABILITATION

Habitat talk in the recreational fishing media

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Introduction

Recreational fishing is a popular leisure activity. In New South Wales (NSW), approximately 20% of the population like to go fishing for recreation (NSW DPI 2003). People of all ages fish and there are no clear distinctions relating to socio-economic status, geographical locations or educational attainment (Henry & Lyle 2003).

Recreational fishers are considered primary stakeholders in the health of the habitats upon which fish rely to survive and thrive and can make significant contributions to the understanding and management of aquatic environments (Ormsby 2004; Granek *et al.* 2008). However, in Australia, recreational fishers are not as involved in habitat rehabilitation as they are in some other countries, principally the United Kingdom and United States of America.

In the United Kingdom, for example, 20 per cent of fishers volunteered time to conservation activities (Brown *et al.* 2012). In the USA there is strong agreement within the recreational fishing community regarding the value of investment in environmental works (Carpenter 2012). There is also evidence that suggests that fishers play a key role in shaping pro-environmental legislation in some countries (Bate 2001; Kirchofer 2002; Cowx *et al.* 2010).

This widespread support for investment in habitat is thought to be based on the recreational fishers' perceptions of the value of fish habitat to their fishing experience (Arlinghaus 2006).

The 2011 Australian Recreational Fishing Industry Development Strategy includes the Strategy "Encourage recreational fishers to be involved in research, community monitoring and habitat enhancement programs" (Recreational Fishing Advisory Committee 2011). This suggests an underlying appreciation of the importance of habitat to healthy fisheries. However, it appears that in comparison to the UK and USA relatively small numbers of recreational fishers are openly supportive of significant investment in habitat rehabilitation or actively involved in on-ground works.

Support and understanding for habitat rehabilitation activities in general stem from a combination of attitudes, peer acceptance and information (NSW Council on Environmental Education 2006). Initial work by Fisheries NSW (NSW DPI 2010) to find out more about these factors identified that, firstly, fishers preferentially trusted information provided by other fishers; more specifically, by respected or 'good' fishers (Li *et al.* 2010, NSW DPI 2010). This has implications for how valuable and/or reliable information is perceived as being because it will depend on who is providing it.

Secondly, fishers have preferred sources of information, although the relative position of specific preferences can and does change. The internet is a strongly preferred source of information (NSW DPI 2010) with fishing magazines generally in the top three (Sutton 2006, NSW DPI 2010).

Both internet forums and fishing magazines provide a variety of information in formats designed to attract recreational fisher readership. Both also utilise specific fishers to either provide articles or to lend weight to these articles. They are both, therefore, tapping into the trust that fishers have for information provided by other fishers.

The media can be important agents of influence. So there was a need to understand the extent to which fishing media was providing information about the relationships fish have with habitat and the implications of habitat change for fisheries productivity and recreational fishing success.

This project assessed fishing magazines, television programs, online Forums and radio programs to find out what type of fish habitat related information was presented, how this information was referenced and in what context it occurred.

We analysed the Spring 2012 issue of twelve different recreational fishing magazines, seven broadcasts of one free-to-air radio program, four popular internet Forum sites and five broadcasts of one popular free-to-air Television program.

What we found

There were a range of fish species and fish habitats mentioned in the media reviewed, however, while two-thirds of the media items had some reference to habitat, no articles were primarily about habitat. Also, there were only a few instances in which the reference to habitat could make a meaningful contribution to a broader recreational fisher conversation about fish habitat.

Saltwater habitat was the most frequently mentioned, followed by estuaries and freshwater. Of the specific habitat features that fish use, 'aquatic vegetation' was the most mentioned, followed by 'snag' (large woody debris or structure), and 'reef'. Several artificial habitat features were referenced, namely wharves and jetties, bridge pylons, dams and rock walls.

The fish species that were mentioned in relation to aspects of habitat were similar to those recorded as being the most commonly caught in Australia (Henry & Lyle 2003). This varied with the media type, for example, Bream (*Sparidae* spp) were the most referenced within magazine articles and radio programs, Mangrove Jack, (*Lutjanus argentimaculatus*) within Forums, and Barramundi (*Lates calcarifer*) within the television programs.

However, in all media sources the principal reason for habitat being talked about was in relation to finding adult fish.

The second most frequent reason for a reference to habitat varied between media sources. In magazines, it was in relation to adult fish finding food. In both radio and Forums, it related to habitat rehabilitation. In television programs, it related to fish reproduction.

There were far more references to habitat in relation to catching adult fish than to conservation and rehabilitation: 72% versus 28% respectively. As such, this tells us that the references to habitat are primarily about fishing rather than fisheries productivity. The broader context of what fish need to survive and thrive and the factors affecting this, of which habitat is the most significant, appear to be missing.

Habitat is important: where is it?

This study highlights several things to note with regard to how and why habitat was referenced in the fishing media.

Most of what was included about habitat rehabilitation was passive

Information that related to the importance of habitat or to habitat rehabilitation was passive in that it was largely a passing-on of media releases

rather than informative articles or substantive discussion.

Almost without exception these media releases were provided by a government agency. This is significant because fishers do not place government highly on their list of trusted or preferred sources of information (NSW DPI 2010). The information therefore is not going to be accepted as readily or taken as seriously as it is likely to be provided by another, respected fisher. It also highlights an apparent lack of focus by these authoritative voices on the central importance of habitat for fisheries productivity and successful fishing.

Key fish habitat features were not covered to the extent that would be expected given their importance as fish habitat.

The predominance of references to habitat focussing on finding adult fish was expected as the media sources largely revolve around finding and catching adult fish. Fishers may not understand that habitat has greater values than simply the places where adult fish are and therefore overlook the range of habitat that fish use throughout their lifecycle as a key component to the success of their fishing effort.

In addition, the value of key fish habitat features that do not have an obvious direct impact, such as riparian vegetation, could be being over-looked by fishers.

The type of media appeared to influence the context within which habitat information was presented.

This variation in habitat-related information between media sources could be related to the amount of content in each issue or program, the drivers behind the content and the audience. Given the diversity represented by the fisher community it is realistic to expect a diversity of media form and content. It is also reasonable to expect current content to reflect responses to earlier content and the editor's or presenter's perception of audience interest and needs. The lack of specific habitat content is therefore suggestive of a lack of interest, a lack of understanding of its relevance, poor or negative responses to previous habitat related content or some combination of the above.

Given the diversity within the recreational fishing community and the interest in habitat and its importance evident in various surveys, it appears that there is a gap in what is currently provided by the recreational fishing magazines, radio and television.

The diversity of discussion in Forums and substantial number of posts on habitat protection, rehabilitation, research and funding could be a reflection of the context. The diversity of authors, many of whom gain their authority through earlier posts, might be a factor. It is possible that Forums offer 'space' for broader discussion and can introduce a range of habitat information and perspectives on the significance of habitat beyond what is considered to be necessary to catching adult fish. Readers can opt-in or move on but revenue, in terms of for example magazine issues sold, is not affected.

Previous studies have indicated that while the majority of fishers now prefer to access information online, the most trusted source of information remains other fishers (NSWDPI 2010). Magazines, radio and television use fishers as the presenters and authors of their material. Magazines usually include a photograph of each contributing author, commonly holding a fish or fishing, both of which adds to their inferred credibility as 'a fisher' and lends credibility to them as an authoritative voice.

Validation in the context of online Forums relates not only to the perceived quality and veracity of an individual's posts but also to the peer response to these posts. Given the lack of constraints related to advertising interests and circulation, the potential exists within the internet Forums for an authoritative voice, once established and accepted, to raise topics, such as habitat, that might be seen by some as peripheral or irrelevant

The paucity of information about the central importance of habitat to fisheries productivity has implications for management.

The more information known about recreational fisheries, the better management decisions can be made (Ormsby 2004). Expectations of engagement by fishers in either fisheries management generally or habitat rehabilitation specifically are based on assumptions about what fishers are interested in and talking about.

Given the results of this review, it does not appear that the majority of fishers are engaged in habitat issues or appreciate the implications of habitat on fisheries productivity.

That said, surveys of fishers both in Australia and overseas demonstrate a generalised support for funding and activities that improve habitat so the lack of discussion within the recreational fishing media could mean that:

- (a) habitat is seen as something someone else is dealing with
- (b) habitat is considered peripheral to the core activities of being a fisher

- (c) habitat is seen as central but fishers are unwilling to identify themselves as being concerned or interested or
- (d) conversations about habitat are occurring but not within mainstream or online media.

Each of these requires a different response in terms of information, education and engagement in fisheries management.

Further research is needed into the role and influence of fishing media, in its various types, and the impact it has, if any, on fisher attitudes and behaviour towards fish habitat issues.

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More information

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References and bibliography

- Arlinghaus R. (2006) Overcoming Human Obstacles to Conservation of Recreational Fishery Resources, with Emphasis on Central Europe. *Environmental Conservation* 33, 46-59.
- Bate R. (2001). *Saving Our Streams: The Role of the Anglers' Conservation Association in Protecting English and Welsh Rivers*. London: The Institute of Economic Affairs and Profile Books.
- Brown A., Djohari N. & Stolk P. (2012) *Fishing for Answers: The Final Report of the Social and Community Benefits of Angling Project*; Substance, Manchester.
- Carpenter B. (2012) National Survey of Hunters and Anglers; National Wildlife Federation, Chesapeake Beach Consulting.
- Cooke S. & Cowx I. (2004) The Role of Recreational Fishing in Global Fish Crises. *Bioscience* 54, 857-859.
- Cowx I., Arlinghaus R. & Cooke S. (2010) Harmonizing Recreational Fisheries and Conservation Objectives for Aquatic Biodiversity in Inland Waters. *Journal of Fish Biology* 76, 2194-2215.
- Fedler A. & Ditton R. (1994) Understanding Angler Motivations in Fisheries Management. *Fisheries* 19, 6-13.
- Granek E., Madin M., Brown M., Figueira W., Cameron D., Hogan G., Kristianson, Z., De Villiers P., Williams J., Post J., Zahn S. & Arlinghaus R. (2008) Engaging Recreational Fisheries in Management and Conservation: Global Case Studies. *Conservation Biology* 5, 1125-1134.
- Griffiths, S. (2012) Recreational Catch Composition, Catch Rates, Effort and Expenditure in a Specialized Land-Based Pelagic Game Fish Fishery. *Fisheries Research* 127-128, 40-44.
- Henry G. & Lyle J. (2003) *The National Recreational and Indigenous Fishing Survey*. Available at: http://www.daff.gov.au/__data/assets/pdf_file/0011/23501/final_recsurvey_report.pdf
- Ihde T., Wilberg M., Loewensteiner D., Secor D. & Miller T. (2011) The Increasing Importance of Marine Recreational Fishing in the US: Challenges for Management. *Fisheries Research* 108, 268-276.
- Kearney R. (2002) Recreational Fishing: Value is in the Eye of the Beholder. In: T. Pitcher & C. Hollingworth (eds) *Recreational Fisheries: Ecological, Economic, and Social Evaluation*. Blackwell Science, Oxford, pp. 1–16.
- Kirchhofer A. (2002). The role of legislation, institutions and policy making in fish conservation in Switzerland: past, present and future challenges. In M. Collares-Pereira, I. Cowx & M. Coelho (eds) *Conservation of Freshwater Fish: Options for the Future*. pp. 389–401. Oxford: Blackwell Science.
- Li O., Sutton S., and Tynan L. (2010) Communicating Scientific Information to Recreational Fishers, *Human Dimensions of Wildlife*, 15, 106-118.
- NSW Council on Environmental Education (2006) *NSW Environmental Education Plan 2007-10*. Available at: http://www.environment.nsw.gov.au/resources/cee/2006347_ifs_enedplan20072010.pdf
- NSWDPI (2003) *Survey of Recreational Fishing in NSW* Available at: http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/171209/Survey-of-Recreational-Fishing-in-New-South-Wales.pdf
- NSW DPI. (2010) *More Habitat More Fish: A Strategy for Educating Recreational Fishers about Habitat*. Available at: http://www.fishhabitatnetwork.com.au/pdfs/educating%20Recreational%20Fishers%20Strategy_final.pdf
- Ormsby J. (2004) *A Review of the Social, Motivational and Experiential Characteristics of Recreational Anglers from Queensland and the Great Barrier Reef Region*; Great Barrier Reef Marine Park Authority Research Publication. No. 78.
- Pitcher T. & Hollingworth C. (2002) Fishing for fun: where's the catch? In: Recreational Fishing Advisory Committee (2011) *Australian Recreational Fishing Industry Development Strategy*. Commonwealth of Australia, Canberra.
- Recreational Fishing Advisory Committee (2011) *Australian Recreational Fishing Industry Development Strategy*. Commonwealth of Australia, Canberra.
- Sutton S. (2006) Understanding Recreational Fishers' Participation in Public Consultation Programs. *Human Dimensions of Wildlife* 11, 1-13.

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