Popular science summary of the PhD thesis

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Title of the PhD thesis	Electronic Citizen Science Platforms as Methods to Collect Data from Recreational Fisheries; Strengths and Limitations
PhD school/Department	DTU Aqua

Science summary

The research from this thesis aims at investigating strengths and current limitations of electronic citizen science platforms as methods to collect data from recreational fisheries. More specifically, the inclusion of citizens, in this case anglers fishing with rod and line, in data collection and research about recreational angling using webpages and smartphone applications (apps) as tools to collect data. Data collection from recreational angling is important in order to secure sustainable management, but is also a major challenge as anglers can fish over vast geographical areas at all times of the day and year. Not surprisingly, data is therefore generally lacking in many areas. Overall, the challenges of data collection, the importance of data, and the widespread lack of it, highlight the need to rethink data collection approaches in recreational fisheries. Electronic citizen science platforms where anglers voluntarily report data about their fishing trips and catches might be a cost-efficient solution that can supplement or maybe even replace the methods we traditionally use to survey recreational angling. However, little is known about the quality and usefulness of these citizen science data. This thesis investigated participation (e.g., who are the citizen scientists and for how long do they participate), explored data quality, and looked into different research opportunities using the Danish electronic citizen science platform, Fangstjournalen as an example. The findings indicate that citizen science platforms such as Fangstjournalen in some fisheries (but not all) are able to provide recreational angling data that is similar to data collected through traditional survey methods. In addition, the novel data collection approach i.e. through apps, that electronic citizen science platforms includes, provide vast research opportunities. For example about the human dimension side of recreational angling. For the most parts, the current limitations relate to participation. For example, the participants that recruit to Fangstjournalen are not representative of the general angling population, does only reflect the participants from other survey methods in some instances (e.g., for Danish anglers and not tourists anglers), have low retention rates (i.e., a lot of anglers quickly stop using the platform), and certain angler segments (i.e., typically less committed anglers) provide data to a much lesser degree than other angler segments. These suggests that data quality could be improved e.g. by better recruitment and retention strategies towards less committed anglers and international tourists anglers. The work from this thesis is a first step in validating the usefulness of electronic citizen science platforms for anglers and the overall conclusions are for most parts encouraging. However, more work is clearly needed to better understand how the general usability of the method can be improved, including a better insight of why the methods works better for some fisheries than others.