

Collecting recreational fisheries data: a Danish electronic log book scheme with an app for cell phones



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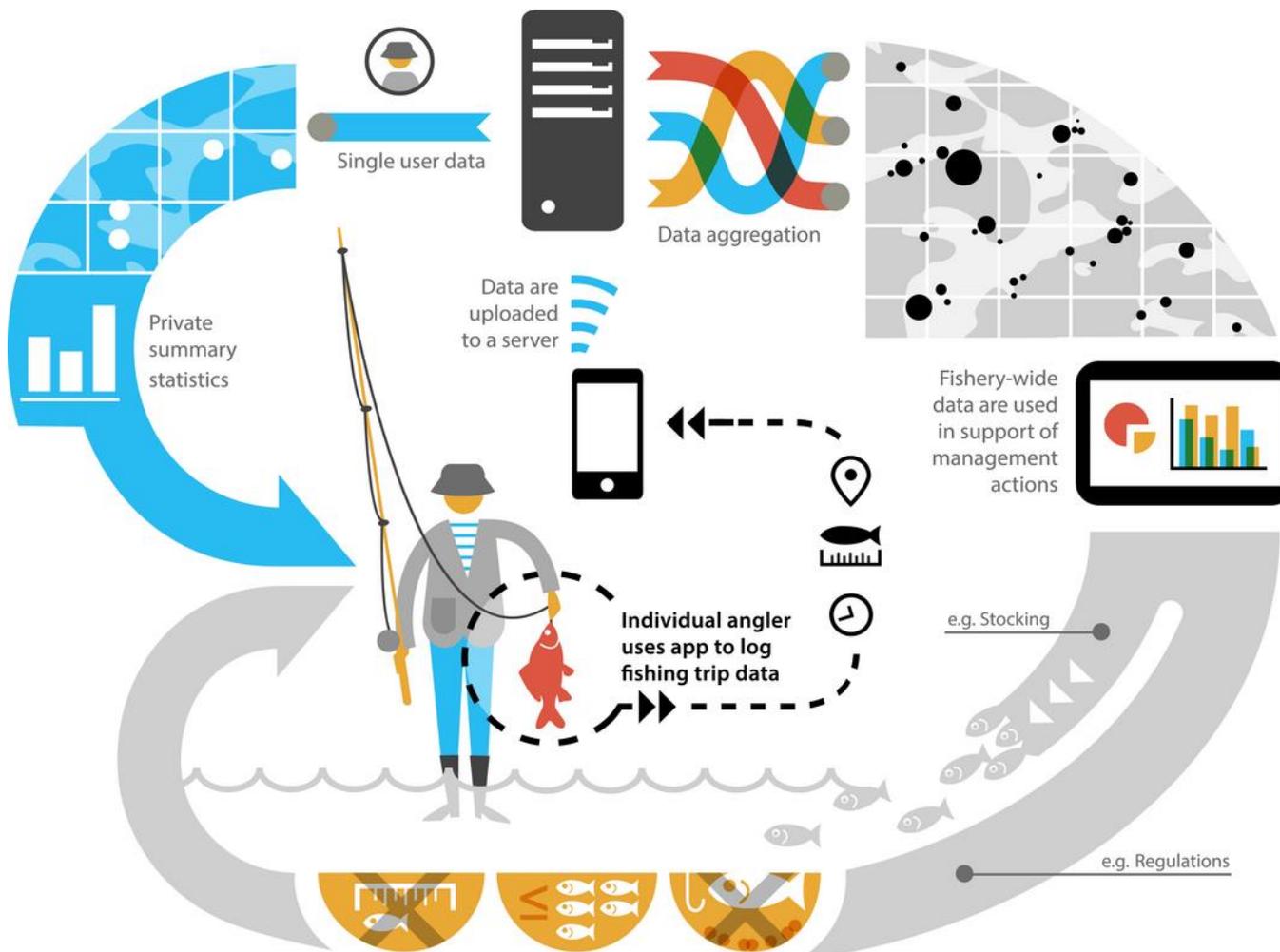
Outline

1. The concept behind electronic log books
2. The Danish example of an electronic log book
3. Electronic log books and its perspectives in an European context

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The concept behind angler apps (electronic log books)



Venturelli, Hyder & Skov
Fish and Fisheries

Angler apps as a source of recreational fisheries data: opportunities, challenges and proposed standards

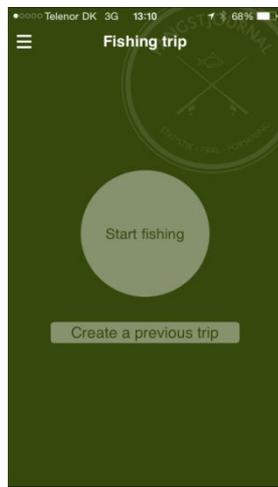
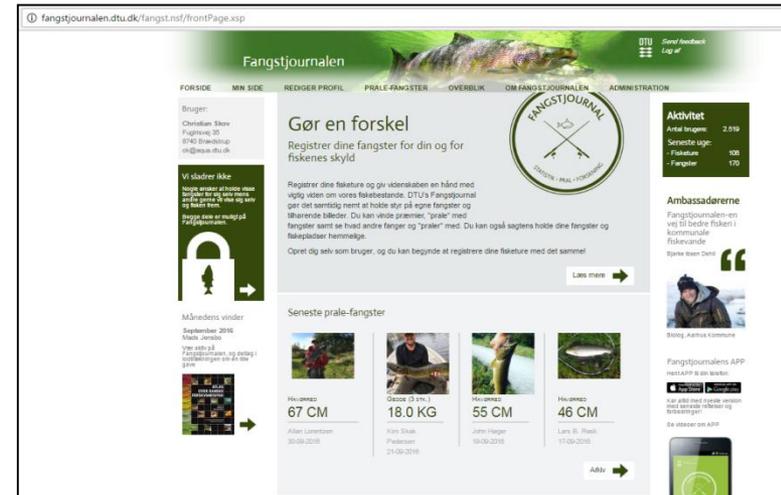
26 SEP 2016 DOI: 10.1111/faf.12189

<http://onlinelibrary.wiley.com/doi/10.1111/faf.12189/full#faf12189-fig-0001>

Danish national electronic angling log book, "Fangstjournalen"

Electronic log book for Danish reel and rod anglers fishing in streams, lakes, coastal areas and at sea

- Developed by DTU Aqua with support from ministries and angling associations
- Anglers voluntarily report catch (or no catch) after each fishing trip
- Mobile telephone and computer platform



Info

- Launched in 2016
- Development cost (so far): 110,000 EUR
- Running cost 15,000 EUR/year
- Currently 4100 users
- > 11,000 Fishing trips reported

Danish national electronic angling log book, "Fangstjournalen"

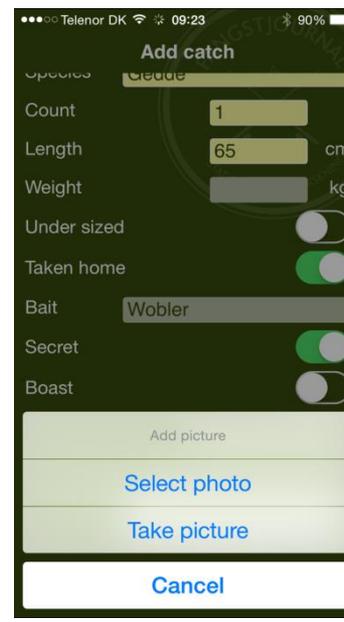
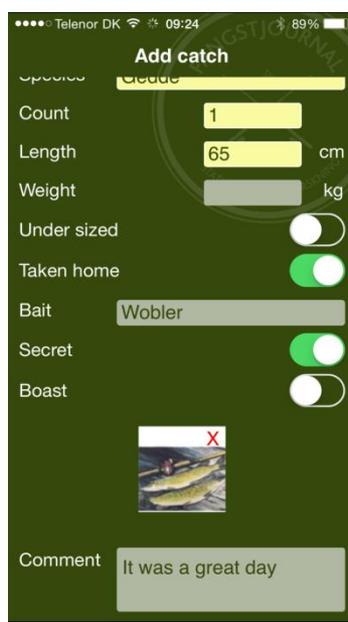
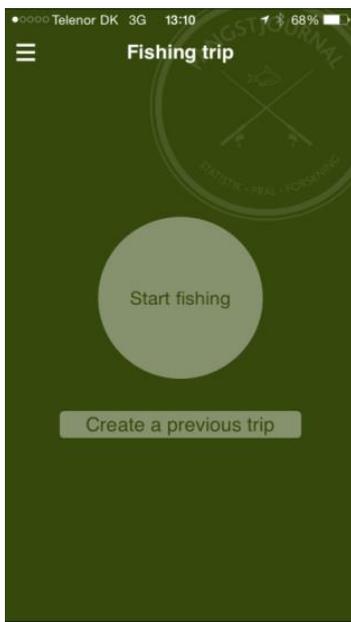
User friendly....it takes only a few "click" to register a fishing trip

A little mandatory information is required

species, length/weight, number and target species



...but more data can be registered...if the user wish to



How to motivate the anglers to use “Fangstjournalen”?

- Easy-to-use personal journal for fishing trips and related photos
- Reported catches can be more or less public (from secret to Facebook)
- Easy-to-overview maps that shows fishing trips, catch positions and more
- Possible to explore “public” catches from other anglers
- Ambassadors and prizes



How to motivate the anglers to use “Fangstjournalen”?

We also provide “services” that helps the anglers.

GPS mediated on-site Information about fisheries regulations



Weather information



Data examples

- Catch information
- Size distribution
- Harvest rates vs release rates
- Angler behaviour, gear used and more

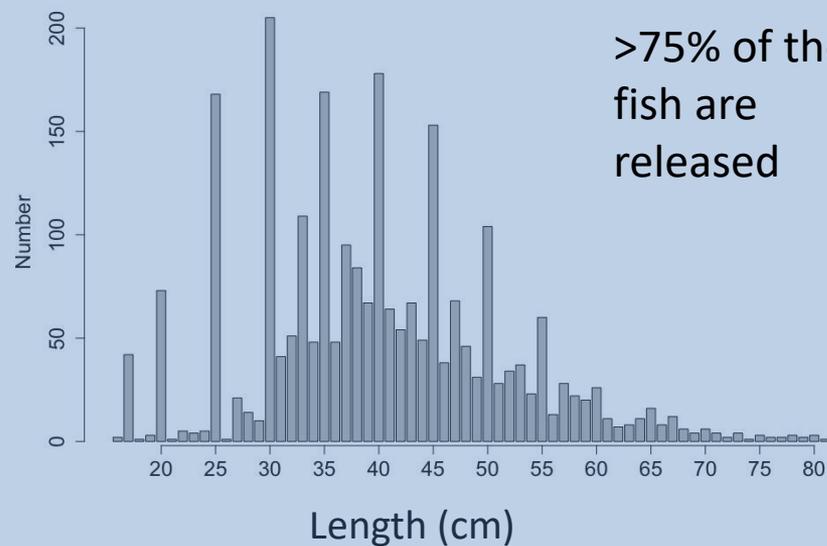


See trout angling in Denmark

Catch pr trip (CPUE)
Distribution



Length distribution



>75% of the fish are released

Electronic log books as a future tool in European Recreational Fisheries management

- Several electronic log book platforms have been developed during recent years ("Fangstjournalen" is given as an example)
- Existing platforms can be used as starting point for future apps and future development in an European context
- If anglers are motivated to participate, electronic platforms are suitable for collecting recreational fisheries data such as
 - *Temporal changes in size distribution, catch, release rates etc.*
 - *Effects of regulations, e.g. bag limits*
 - *Angler effort, behaviour and spatial distribution*
- Wide-spread and growing use of smartphones increase number of app users
- Cost effective

Electronic log books as a future tool in European Recreational Fisheries management

And the potential could be even bigger

- Demography and angler behaviour data, i.e. spatial distribution, effort
- In addition to pull out fisheries information from anglers....mobile apps can push information from managers to anglers
 - e.g., news about regulations, motivations behind regulations, stock developments
- Apps can be a vector for other aquatic citizen science initiatives, i.e. well designed apps can engage anglers through data sharing and citizen science

Electronic log books as a future tool in European Recreational Fisheries management

Challenges

All methods used to collect fisheries data have potential bias

This is also the case with electronic log books

e.g.,

User bias towards more avid anglers

Precision and digit bias

Participant drop out

Methods to correct for bias can be developed

e.g., comparison with more conventional approaches

However, If reporting is mandatory (and fishers comply), then this bias may not be relevant

Electronic log books as a future tool in European Recreational Fisheries management

Challenges



Smartphones and tablets



Computers



Landline telephones



Older cell phones



Electronic log books as a future tool in European Recreational Fisheries management

Challenges

Solutions

Incorporate these in existing platforms, e.g. using IVR solutions

Replace with traditional log books (paper)



Landline telephones



Older cell phones



Conclusions

- Denmark is one of the first (if not the first) countries that has developed an angler app that aim to capture nationwide angling...with strong support from angling associations and ministries
- Electronic angler log books is a potential tool for future fisheries management (info about catch, size distributions etc.)
- The potential is significant and will increase when challenges are resolved
- If designed properly electronic log books (and their apps) can be expanded in Europe and be used as a tool in management of DCF species e.g., sea bass

Thank you for your attention

Danish National Angling Funds

Tips & Lotto funds

Paul Venturelli & Kieran Hyder



*Sustainable fisheries management
& recreational sea fisheries event,
Brussels, 8 March 2017*