Internet based catch diaries in fisheries and wildlife management

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Metsähallitus – “The forest and park service of Finland”

Metsähallitus is the administrator of state-owned areas in Finland

- Land 9.0 mill. hectares
- Water 3.4 mill. ha
- Managed forests 3.5 mill ha (39%)
- Conservation areas, wilderness reserves and other 4.0 mill ha (44%)
- Scrub and non-productive land 1.5 mill ha (17%)

“One key aim is to offer fishing and hunting opportunities for citizens”
Background

Metsähallitus sells annually ca. 70,000 fishing and 45,000 hunting permits.

The income is used for game and fisheries management – not for profit making!!

Some key questions:

- How to get sufficient number of reports to estimate catch / bag on different scales?
- Are customers satisfied with the fishing / hunting opportunities and other services?
Collecting reports

- Fishermen and hunters on state areas report their catch/bag and give feedback online
  - Not obligatory
  - Between 2008-2010 total of 6000 reports were registered by fishermen
  - About 1/3 of hunters report their bag annually

→ Statistically sufficient number of reports (esp. on hunting)

→ How to motivate customers to be more active in reporting and providing feedback?
www.tuikki.fi – a Fishing Diary

A free online fishing diary was published in 2011

www.tuikki.fi

– Wide selection of data from a fishing trip can be uploaded and saved
– Sharing with friends - “Fisherman’s facebook”
– Also available on mobile
www.tuikki.fi – a Fishing Diary

An interesting and motivating service for fishermen while at the same time Metsähallitus receives valuable data "automatically"

The analyzed data can be used in fisheries management on the state owned water areas (on a scale of a river or lake)

- **Monitoring**: total catch, CPUE, fishing pressure, customer feedback / satisfaction
- **Planning**: fishing regulations, stockings, habitat restoration, estimating the sustainable fishing pressure
Palvelun yleisesti

Saving new fishing data: time, catch, weather,...
Saving exact fishing place (map)…
A picture saved with mobile phone...
Own fishing equipments & photos
Comparing reports

Omat raportit

Luvan tyyppi
--- Valitse ---

Lupa-alue
--- Valitse ---

Nimetty kohde
--- Valitse ---
Ahventampi
Emäsalo (Porvoo)
Emäsalo (Porvoo)

Vuosi
2011

Päivämäärä

Muodosta raportti

Saaliskertymä Yksikkösaaliit Suurimmat kalat

<table>
<thead>
<tr>
<th>Kalastusväline</th>
<th>Kalastuskerrat</th>
<th>Saalo yhteensä (kg)</th>
<th>Yht kg</th>
<th>Cpue</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ahven  Särkikat  Taimen  Hauki Nierä (Rautu) Kuha Muut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilkkiminen/Wolfmar morri - oranssi</td>
<td>2</td>
<td>9.50 1.00 0.00 0.00 0.00</td>
<td>10.50</td>
<td>5.25</td>
</tr>
<tr>
<td>Pilkkiminen/Wolfmar morri - kulta</td>
<td>4</td>
<td>4.23 0.00 0.40 0.15 0.00</td>
<td>4.78</td>
<td>1.20</td>
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<tr>
<td>Pilkkiminen/Kippu, oranssi</td>
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<td>0.00 0.00 0.40 0.00</td>
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<tr>
<td>Pilkkiminen</td>
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<tr>
<td>Pilkkiminen/Rautulättä (rocan)</td>
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<tr>
<td>Heittoustelu/Toukkajigi</td>
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<tr>
<td>Yht.</td>
<td>10</td>
<td>17.03 1.00 0.80 0.15</td>
<td>21.24</td>
<td>2.12</td>
</tr>
</tbody>
</table>
What next...?

- Dependant on fishermen and their reporting activity - currently more than 2000 registered users
- Diary is further developed on the basis of feedback from users

→ “Fishermen are participating in fisheries management and improve their fishing opportunities in the future!”

The next step: Widening the scope to the private water areas and their management units / authorities
Wildlife diary

- Metsähallitus has a planning tool to fit hunting quotas for small game hunters on state owned land
  - Ecological & social sustainability
  - A need to update the system
- Finnish wildlife consortium* decided to develop a "wildlife diary", with Metsähallitus on the lead, to both private and state owned areas

* steering ministry, management & research authorities
Wildlife diary

The focus is on improving the quality and accuracy of bag statistics which today are based on:

– random sample from all hunters (research)
– bag reports of customers on state areas (Metsähallitus)

A few key issues:

– Reliability and accuracy of bag data, especially when concerning less abundant game species
– Lack of geographical information
– Sex- and age ratio of bagged small game
– Time lapse between submitting data and using it in e.g. management decisions
Wildlife diary

Not just a bag diary but a collection of various types of information in one common database to be used by the wildlife consortium

- wildlife observations (hunting, dog trials, public...)
- effects of hunting to local economies
- wildlife collisions / damages
- etc. etc.

System will be built on Finnish hunters’ register

The aim is to have a functional wildlife diary in two years time!
Thank you for the attention! www.tuikki.fi and the forthcoming wildlife diary is funded by:

Picture: A. Ahlholm