Evaluation of Fish Tags as an Attenuated Rights-Based Management Approach for Recreational Fisheries in the US Gulf of Mexico

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Gulf of Mexico Recreational Fishery Management

- Trends in the GOM recreational reef fish fishery showed evidence that current command and control management is inadequate.
- Progressively more restrictive management measures (bag & size limits, seasonal closures), with little sign that effective harvest control has been achieved.
- Particular pressures evident for high-value target species such as red snapper and red grouper.
  - e.g., red snapper recreational TAC routinely violated, despite increasingly restrictive management.
Rights-Based Management for Recreational Fisheries

- Rights-based management promising, but challenges exist in application to recreational fishing.
  - Integration of (large numbers of) heterogeneous anglers
  - Monitoring, enforcement and voluntary compliance
  - Philosophical concerns with “selling” durable rights to recreational fishing
  - Ensuring opportunity to diverse angler groups
  - Traditions of spontaneous fishing activities
Harvest Tags as an Attenuated Rights-Based Management Approach

- Harvest tags assign a right to a specified quantity and type of harvest during a specified time period.
- Generally time-attenuated, non-renewable, of limited transferability, and may be limited to a specific geographic area.
- Capitalize on rights-based mechanisms, but rights conferred are weaker (or more attenuated) than those typically conferred in commercial fisheries.
- Hunting applications common; fisheries applications less common but multiple examples exist.
Some Examples from Recreational Fisheries

- Pink snapper in Freycinet Estuary, Western Australia*
- Paddlefish in Missouri River, South Dakota*
- Salmon and sea trout in Ireland
- Cod food-fish program in Newfoundland
- Tarpon in Florida*
- Billfish fishery in Maryland and North Carolina
- Multispecies Sportpac in Oregon
- Multispecies record card in Washington State.

* Impose hard harvest caps
## Fish Harvest Tag Programs Reviewed

<table>
<thead>
<tr>
<th>Program Location</th>
<th>Species</th>
<th>Tag Type (attached vs. catch card)</th>
<th>Allocation Method</th>
<th>Cost of Tags for Adult Residents</th>
<th>Tags Create Limit on Individual/Tot al Catch</th>
<th>Number of Tags / Tags Over-Subscribed (yes/no)</th>
<th>Mandatory Harvest Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shark Bay, Western Australia</td>
<td>pink snapper</td>
<td>attach</td>
<td>lottery</td>
<td>AUSS10</td>
<td>yes/yes</td>
<td>1,400 (2006) / yes</td>
<td>no</td>
</tr>
<tr>
<td>Missouri River, South Dakota</td>
<td>paddlefish</td>
<td>attach</td>
<td>lottery</td>
<td>US$5</td>
<td>yes/yes</td>
<td>275 archery, 1,400 snagging (2006) / yes</td>
<td>no</td>
</tr>
<tr>
<td>Ireland</td>
<td>salmon and sea trout</td>
<td>attach</td>
<td>with license</td>
<td>free with license</td>
<td>yes/no</td>
<td>Not limited, ~25,000 per yr. / no</td>
<td>yes</td>
</tr>
<tr>
<td>Newfoundland</td>
<td>cod</td>
<td>attach</td>
<td>with license</td>
<td>free with license</td>
<td>yes/no</td>
<td>Not limited, ~135,000 per yr. / no</td>
<td>yes</td>
</tr>
<tr>
<td>Florida</td>
<td>tarpon</td>
<td>attach</td>
<td>purchase</td>
<td>US$51.50</td>
<td>no/yes (but not binding)</td>
<td>Cap of 2,500, 300-400 sold per year / no</td>
<td>yes</td>
</tr>
<tr>
<td>North Carolina and Maryland</td>
<td>bluefin tuna, white and blue marlin, sailfish, swordfish</td>
<td>attach (acquired upon landing)</td>
<td>provided at designated landing spots</td>
<td>free</td>
<td>no/no</td>
<td>Not limited, ~2000 – 3000 per year / no</td>
<td>n.a., tag acquired only when used</td>
</tr>
<tr>
<td>Washington</td>
<td>salmon, steelhead, halibut, sturgeon, dungeness crab</td>
<td>record on card</td>
<td>purchase in addition to license</td>
<td>first card free with license, US$10 plus dealer fee for additional cards</td>
<td>yes/no</td>
<td>Not limited, ~650,000 per year / no</td>
<td>yes</td>
</tr>
<tr>
<td>Oregon</td>
<td>salmon, steelhead, halibut, sturgeon,</td>
<td>record on card</td>
<td>purchase in addition to license</td>
<td>US$21.50</td>
<td>yes/no</td>
<td>Not limited, 208,452 (2005) / no</td>
<td>no</td>
</tr>
</tbody>
</table>
Some Common Features of Harvest Tags for Hunting and Fishing

- Tags denominated in number of animals or fish and allocated to individuals and/or for-hire operators.
- Tags must often be obtained before harvest. On-site tags sometimes available but not often.
- Limited or no transferability, with a few notable exceptions.
- Multi-mode allocation/distribution mechanisms for scarce tags. Most available at nominal cost.
- Tags expire at the end of the season.
- Equity and stakeholder support critical elements.
- Many existing programs are oriented more at data collection than mortality control or revenue generation.
Management Features of Harvest Tags

Hard Harvest Limits

• Denomination of tags in number of fish allows hard harvest limits to be imposed.
• Would require large number of tags, and perhaps complex administration.
• Number of tags issued should account for potential release mortality.

Season Length

• Can allow for longer seasons compared to non-rights based management, promoting angler satisfaction.
Management Features of Harvest Tags

Rights Allocation

- Requires establishment of mechanisms for allocation of harvest tags.
- Allocation can be complicated by large numbers of anglers; heterogeneous groups; resident vs. non-resident distinctions.
- Allocation can be controversial for scarce or high-value tags; allocation methods for scarce tags include lotteries (with preference and/or bonus points) and auctions.
- Examples of various successful allocation modes in existing programs.
- May involve money cost, effort, or waiting periods to obtain tags; might require pre-planning to target certain species.
### Management Features of Harvest Tags

<table>
<thead>
<tr>
<th>Monitoring, Enforcement and Compliance</th>
<th>Monitoring and enforcement still a challenge, but ameliorated by attributes of harvest tags (ease of observability at check points, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Requires mechanisms for monitoring tags and harvest.</td>
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<tr>
<td></td>
<td>Can increase voluntary compliance and self-policing among anglers.</td>
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<td>Angler education and information materials often required.</td>
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<td>Lessons may be taken from existing programs.</td>
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</tbody>
</table>
Management Features of Harvest Tags

**Data Collection**
- Tags can provide data on some or all aspects of recreational fishing.
- Wide array of reporting and data gathering mechanisms in current tag programs provides lessons for developing methods for recreational fisheries.
- Reporting compliance varies with incentives provided by program.

**Revenue Generation**
- Revenues from the sale or auction of harvest tags can be used to support management, education, data collection, and other efforts.
- Tag revenues must be viewed within the context of the cost of implementing programs.
Management Features of Harvest Tags

Sector Integration

• Many models for integration of management for private and for-hire groups using harvest tag programs.
• Possibility of rights transfer between recreational and commercial sectors; practical mechanisms for integration are not well developed.
Conclusions

- Harvest tags offer a means to allocate scarce recreation fish resources to avoid shortening seasons and restrictive bag limits.

- They are likely to be more politically acceptable than a true rights based system, particularly for the non-charter sector.

- Harvest tags also offer a means to improve data collection and to recuperate some fishery management costs.