Necessary But Not Sufficient: Allocation of Allowable Catch as a Management Tool in Shared Fisheries

Robin Connor
Ministry of Fisheries
Wellington NZ

Views expressed are those of the author and do not necessarily reflect the Ministry’s position or Government policy
General Point

In contentious areas like allocation in shared fisheries, effective – that is, successful – policy needs to address the strongly held values that underlie conflict, and make real links between these values and the management system.
Sharing the Value

- Management for best total value
- Sharing complicated by differing values
- Need to identify qualitative nature
- Link to institutions instruments or criteria that provide for them
- Will discuss two sources of value for non-commercial fishers
- How these might be addressed in context of the NZ management system
NZ Management Framework

- Dominated by commercial QMS – ITQs
- TAC must lead stock biomass to $\geq B_{\text{msy}}$
- TAC split between commercial & non-commercial (“recreational” and customary)
- Minister decides TACC allowing for non-commercial interests
- Commercial & customary regimes developed
- “Recreational” regulated open access
Values for Non-commercial Fishers: Fish Size and Catch Rate

- Big fish and lots of them
- Closely related to stock size
- To link to management system we need to refer to the standard surplus production model that is the basis of sustained yield management
Surplus Production Model

- Unfished stock does not grow ($B_0$)
- Fishing induces growth by removing biomass
  - Creates niche space – promotes growth and recruitment
- Fishdown continues to increase annual biomass growth until $B_{msy}$ is reached – then starts decreasing
- $B_{msy}$ e.g. 25% of $B_0$ : maybe 40% of numbers
  => 40% of $B_0$ chance of catching a much smaller fish
- Easy to understand – harder to provide for under high demand

[www.fish.govt.nz]
Kahawai example

- Iconic non-commercial species
- Widely available to shore and boat fishers
- Spirited medium sized pelagic species
- Food and sport fish
- Commercial fishery is largely low value manufacturing and bait fishery

• Commercial values maximised by Bmsy
• Recreational values: B_0 > B_R > Bmsy
Links to Management

- Ensure shared stocks at least at Bmsy
  - Implications for research and funding

- Minimise stock rebuild times if below Bmsy
  - Implies significant short-term cuts to catch

- Consider managing significantly above Bmsy
  - Criteria difficult; use value heuristic
  - Trade-offs with decisions on allocated shares to achieve best value
Values for Non-commercial Fishers: Time and Place

- Access often constrained by time and costs to sites close to home
- Utility is directly obtained from the experience and mostly immediate consumption of fish
- Binds value to time, place, culture and species
- Means less adaptable to changes such as those brought on by fish-down
Links to Management: Time and Place

- Potential for spatial management tools
- QMS – QMA spatial scale & TAC changes can’t deal with issues such as local depletion
- Small scale area/season tools to protect “recreational” values could combine with broad method exclusion zones
- Tools for local initiation of proposals may draw stakeholders into participatory management
Conclusion

• Sharing the fish is about sharing the value
• Reducing conflicts requires understanding of the qualitative nature of the values that are at stake
• Identify links with existing management tools and potential new tools
• When key values are protected stakeholders from all sectors are more likely to be able to work together on the broader challenges of managing shared fisheries