Renewable resource exploitation: fishery regulation

NRE - Lecture 5

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- Market failure - absence of a resource price
- *Economic* overfishing implies excessive effort (inputs) and *rent dissipation*
- Rationale for regulation or *management*
Economic management instruments
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- Designed to impose a *user cost* for the resource (proxy for $\lambda$)

  - Taxes and tradeable quotas
  - Tax on catch (harvest)
  - Firms choose $q$ so that $p(q) = \tau$ if $\tau = \lambda$ then catch will be optimal
  - Knowing $\lambda$ would require a huge amount of information
  - But a tax could still be used to regulate catch (landings)
  - Politically unpopular!
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Economic management instruments *contd*.

- Individual transferable quotas (ITQs)

- The regulator only has to choose a total catch (TAC).
- The quota price is set by the market.
- Firms choose $q$ so that $p_c(q) = s$.
- Second-best approach - choose a "safe" TAC.
- Quota market ensures efficient allocation.
- Practical issues: enforcement, discards.
- ITQ systems in Australia, New Zealand, Iceland, and Canada.
Economic management instruments *contd*.

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ITQs: firm demand
ITQs: industry *inverse* demand
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- Fiscal measures for rent capture?
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- Capacity reduction - decommissioning/buyback schemes

- Other (technical) measures
  - minimum mesh sizes, minimum landing sizes
  - closed areas/seasons
  - gear modifications, etc. (seabirds, cetaceans)
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- Cost recovery?
Fishery management policies
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  http://ec.europa.eu/fisheries/index_en.htm
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- UK fisheries management
  http://www.defra.gov.uk/marine/index.htm
  http://www.scotland.gov.uk/Topics/Fisheries/Sea-Fisheries
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- New Zealand’s ITQ system