

Presentation on Overfishing

Symptoms of Overfishing

- total fishing effort greater than what can be “sustainable” managed over time
- size of fish decreasing
- catch overall for industry declining
- catch per fisher or boat decreasing
- effort greater than MSY - biological and economic
- Growth and recruitment overfishing
 - Fish don't get big enough to reproduce
 - Too few adults to produce recruits to the fishery

Overfishing

- Growth overfishing occurs when too many small fish are being harvested, usually because of excessive effort and poor selectivity (e.g. too small mesh sizes) and the fish are not given the time to grow. A reduction of fishing of juveniles, or their protection, would lead to an increase in catch from the fishery.
- Examples of what causes this in Thailand?

Overfishing

- Recruitment overfishing. The adult population is fished so heavily that the number and size of the adult population (spawning biomass) is reduced to the point that it does not have the reproductive capacity to replenish itself. Egg production is low as the result of fishing out most of the large individuals.
- Examples of recruitment overfishing in Thailand?

Destructive Fishing

- Fishing that does harm to the resource or environment
- Marine habitat destroyed from fishing
 - bottom habitat for example - coral or seagrasses
- Excessive by-catch (less valuable)
- What is by-catch?
 - Catch not primarily targeted by the gear (either wrong size, or wrong species caught unintentionally)
 - Discards versus semi useable by-catch
- Lost gear
 - Ghost fishing gear
 - lost gear that still captures and kills fish
 - Entanglement of gear that kills habitat (corals)

Destructive Fishing

- Bomb fishing (destroys habitat , small fishes, non-edible species)
- Fine mesh nets (catches fish before big enough to grow and reproduce - all species)
- Trawl and push net fishing (debatable)
 - fine mesh - see above - excessive by-catch
- Poison fishing (same as above)

Most sustainable or Environmentally friendly gears

- Hand lines
- Traps (if not dropped on coral)
- Gill nets
 - bottom - avoid coral
 - surface - sometimes catch birds or turtles
 - stationary usually better than moving
- Long lines

Large Group Discussion

Destructive Fishing

- ID gears that are destructive locally and gears that are less destructive (2 lists)
- Why or How are they harmful?
- Rank you local gear types in terms of harm!
- By Catch per fishery? What type/species?
- By catch is discarded or utilized (how?)

Presentation on

Tool kit for managing fisheries

- Control effort (number of boats or gear, size, power, number of fishers)
- Closed areas (seasonal or permanent, by gear type or total closure to all fishing - MPAs/marine reserves/no-take zones)
- Gear bans (illegal fishing methods)
- Gear modifications (BRDs, TEDs, escape valves)
- Species size limits
- Total catch limits or quotas

Small Group Discussion on Fisheries Regulations

- What methods are used for each gear type?
- How easy or difficult is it to enforce these regulations (are some easier than others? Why?)
- What type of regulations do you feel are best to use to manage the fishery?
- Do you think any more regulations or management is necessary?