



**Establishment and Operation of a Regional System of Fisheries *Refugia* in
the South China Sea and Gulf of Thailand**

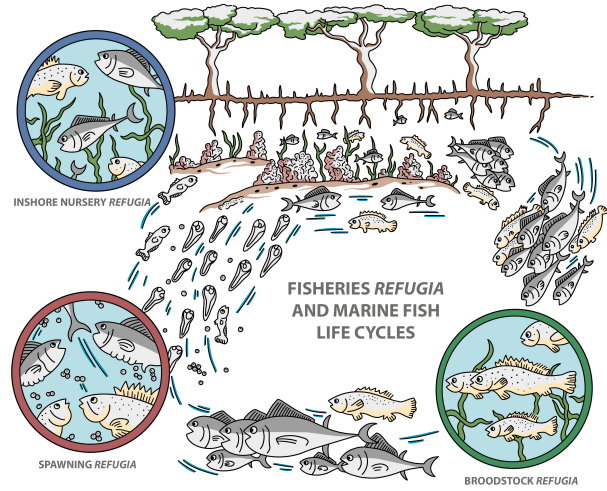
AGENDA 6

THREATS & BEST FISHING PRACTICE

PCU



Refugia Site
And Target Species



Threats

- Loss of habitat
- Habitat destruction
- Deforestation
- Illegal fishing
- Coastal development
- Water pollution
- Overfishing
- Deepen the river
- non-selective gears
- Destructive fishing gear

Immediate Cause

Root Cause

Management
Actions

- Establishment of a conservation area
- Resource enhancement, Crab bank,
- Strengthening law enforcement, MCS
- Fisheries law, policy improvement
- Rehabilitation, Replanting flooded forest
- Strengthening transboundary-bilateral operation
- Effective management measures, size regulation, mesh size regulation
- moratorium on permits for offshore tin mining and regulates the pattern of mining operations based on region.
- Empower community
- Strengthening Information dissemination

Causal Chain Analysis (CCA) from multi-stakeholder consultations

Fishing Management Options, summarized from the FAO technical guidelines for responsible fisheries

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|---------------------------|--|---|
| Technical measures | Gear modifications that improve selectivity | <ul style="list-style-type: none"> ● Gear restriction ● Mesh size restrictions ● Fishing method control ● Non-target species selectivity (TEDs, JTEDs, C-hook, etc.) |
| | Other gear issues | <ul style="list-style-type: none"> ● Environmental conditions (light level, temperature, current speed, etc.) ● Ghost fishing control |
| | Spatial and temporal controls on fishing | <ul style="list-style-type: none"> ● Seasonal closure ● Fisheries Refugia ● MPA |
| | Control of the impact from fishing gear on habitats | <ul style="list-style-type: none"> ● Prohibition of certain gear in some habitats (trawling in coral reef and seagrass areas) ● Replace a high-impact fishing method with one with less impact on the bottom, e.g. trapping, longlining or gillnetting. |
| | Energy efficiency and pollution | <ul style="list-style-type: none"> ● Reduce of CO2 emissions. ● Energy optimization |

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| Input (effort) and output (catch) control | Controlling overall fishing mortality | <ul style="list-style-type: none"> • Capacity limitation spatial/temporal • Access limitations • Effort limitation |
| | Catch controls | By-catch controls (such as quotas) |
| Ecosystem manipulation | Habitat modifications | <ul style="list-style-type: none"> • Preventing habitat degradation • Prohibition of destructive fishing methods in ecologically sensitive habitats (such as seagrass beds); • Prohibition of intentional cleaning of the seafloor to facilitate fishing; • Reduction of the intensity of fishing in some fishing grounds to ensure that non-target • Providing additional habitat |
| | Population manipulation | Restocking and stock enhancement |
| Rights-based management approaches | | <ul style="list-style-type: none"> • User rights • Effort rights • Catch rights • Effort management |