Comisión Interamericana del Atún Tropical
Inter-American Tropical Tuna Commission

CONSIDERATIONS FOR CONDUCTING CLOSE KIN MARK RECAPTURE OF STOCKS MANAGED BY THE IATTC

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Rationale

- Difficult to estimate absolute biomass
  - The bimodal pattern in the bigeye risk analysis relates to two levels of biomass
- Many species do not have time series to do full stock assessment
  - Silky shark

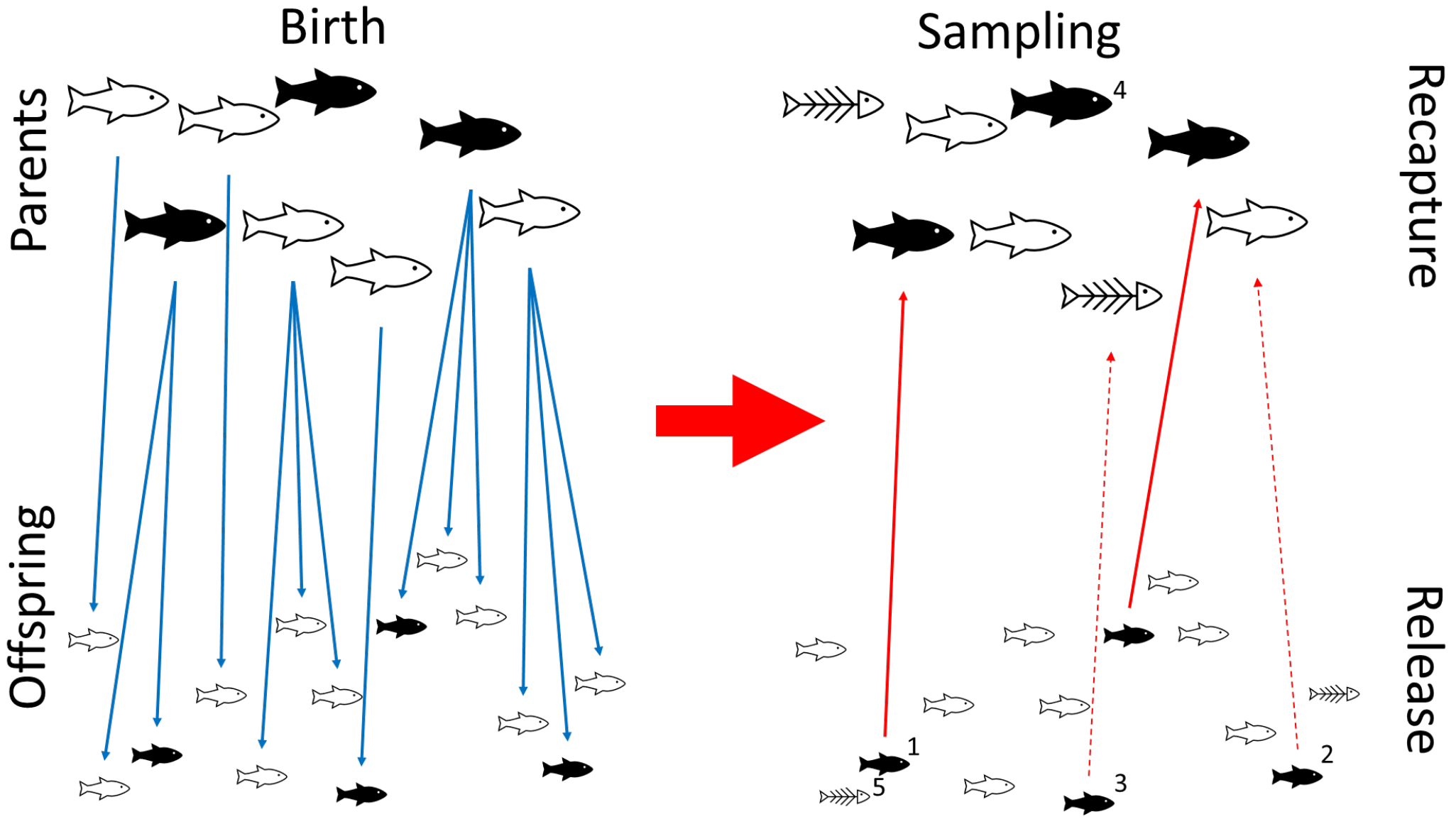
Close Kin Mark Recapture

- Estimates
  - Absolute spawning abundance
  - Adult survival
  - Relative reproductive output by age
  - Stock structure

Close Kin Mark Recapture

- Do not have to release fish alive
  - Increases tagging opportunities
- Overcomes
  - Tagging related mortality
  - Tag loss
  - Tag non-reporting
- Tag mixing improved through natural larval and juvenile dispersal
- The tagging effect (e.g. trap-happy, trap-shy) reduced

Close Kin Mark Recapture



Silky Shark: Main recommendations and considerations

- Aging in the EPO
- Expand sampling efforts to WCPO in collaboration with WCPFC/SPC.
- Use the sampling program for shark fisheries in North/Central/South America
- Fecundity increases with age indicating that both POPs and HSPs will be needed.
- Improve catch estimates for the high-seas longline fishery.
- Improved catch estimates for the purse seine fishery.

Bigeye Tuna: Main recommendations and considerations

- Issues with sampling from high-seas longliners
  - Observers taking tissue samples onboard
  - Sampling at port
  - Sampling at the markets
- Evaluate the need for date and location information from high-seas longline
- Expand sampling efforts to WCPO in collaboration with WCPFC/SPC.

Costs

- Silky sharks – mid to high hundreds of thousands
- Bigeye tuna - low millions of dollars

Workplan

- 2021
  - Initial feasibility study
  - Initial sampling investigations
- 2022
  - Desktop study design
  - Field work to evaluate sampling methods
- 2023-2025
  - Sampling
  - Genetic analysis
  - Develop quantitative methods
- 2026
  - Present estimates at SAC

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Questions