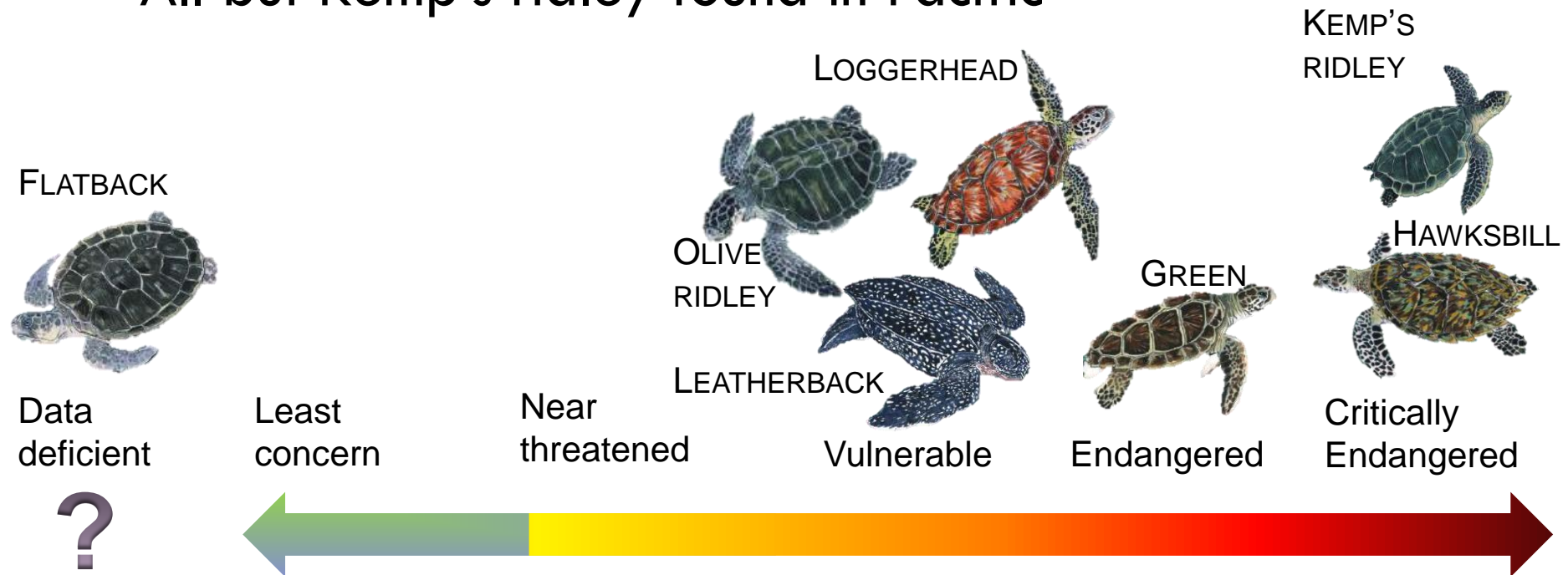# UNDERSTANDING SEA TURTLE MITIGATION ISSUES IN THE WCPFC

Shelley Clarke

ABNJ Technical Coordinator – Sharks and Bycatch

SEA TURTLE SPECIES AND THEIR STATUS

- There are 7 sea turtle species

- Six are considered threatened by IUCN (mainly based on nesting beach surveys)

- All but Kemp's ridley found in Pacific

FLATBACK

OLIVE RIDLEY

LOGGERHEAD

LEATHERBACK

GREEN

KEMP'S RIDLEY

HAWKSBILL

Data deficient

Least concern

Near threatened

Vulnerable

Endangered

Critically Endangered

?

GLOBAL CONSERVATION ACTIONS

- All sea turtle species listed on CITES App. I (trade ban) since 1981

- All species except flatback listed on CMS App. I & II

- Three sea turtle intergovernmental agreements (ACA, IAC, IOSEA)

- All five tuna RFMOs have adopted measures designed to conserve sea turtles

SPECIES AT RISK IN THE PACIFIC

- Of 11 populations worldwide with high risk + high threat (n=58), four were in the Pacific (Wallace et al. 2011)
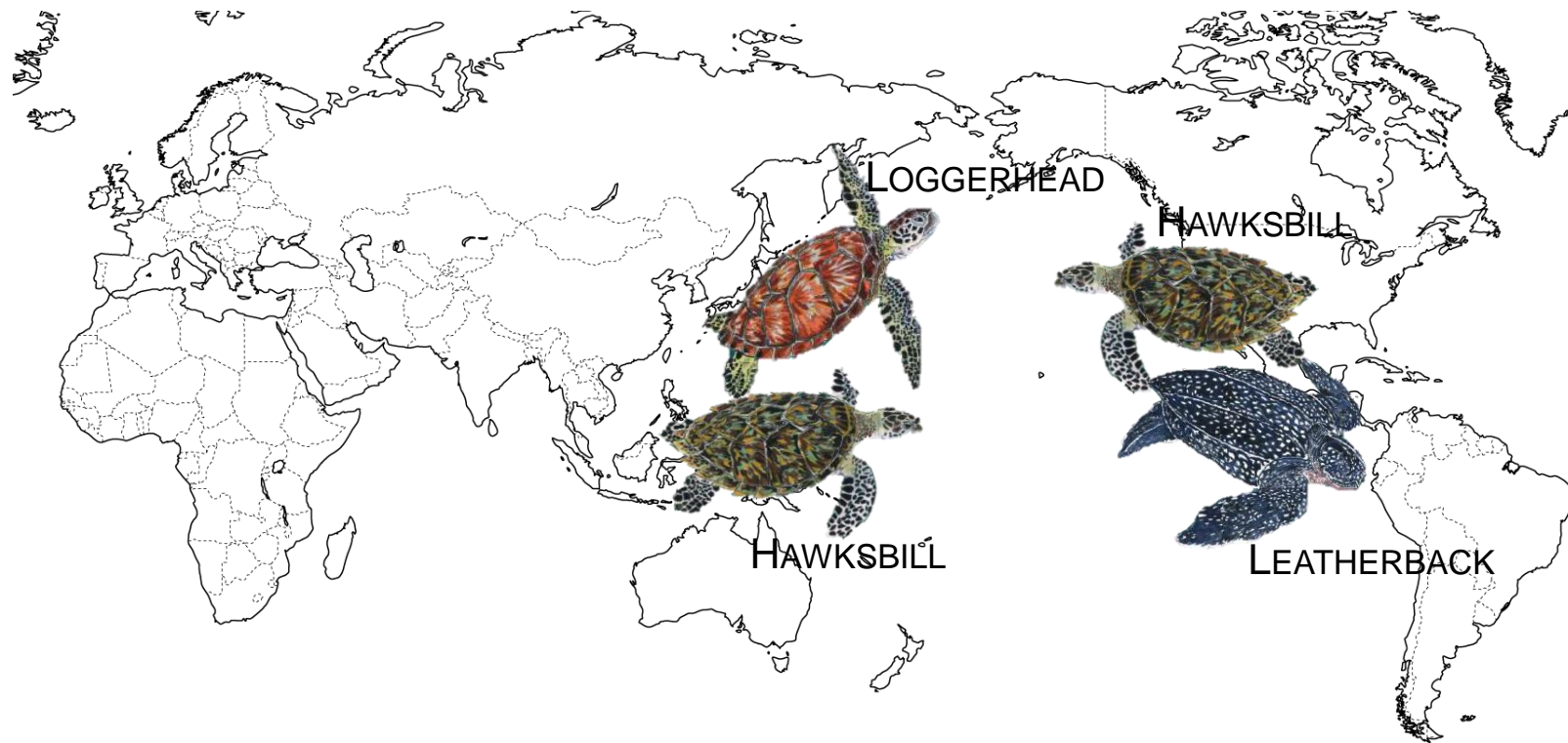
MITIGATING THREATS

- Expert judgement threat ranking (Wallace et al. 2011):
  - Fisheries bycatch
  - Climate change
  - Human consumption
  - Coastal development
  - Pollution/pathogens

- Longline gear relatively less of a threat than set nets or trawls

LONGLINE VERSUS PURSE SEINE

- WCPFC CMM 2008-03 requires mitigation of both gear types
- Threats from longlines are much more severe because:
  - Sea turtles are attracted to baited hooks
  - Higher chance of asphyxiation
  - Higher chance of serious injury from hooking
  - Some FAD entanglement but relatively low
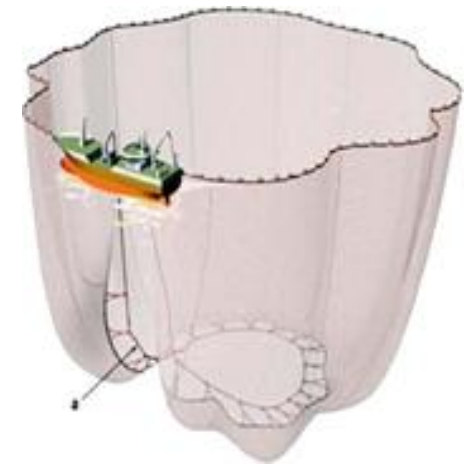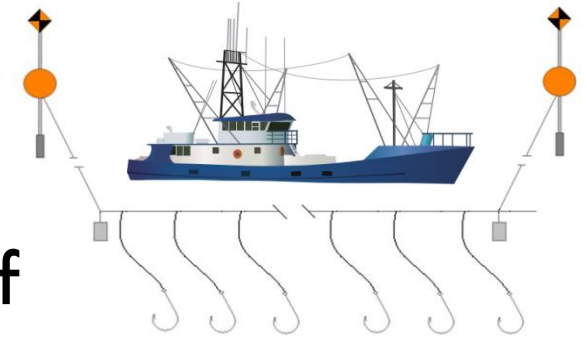
DESIGNING EFFECTIVE MITIGATION

- Need to understand sea turtle behaviors and <u>species- and life stage- specific variation in</u>:
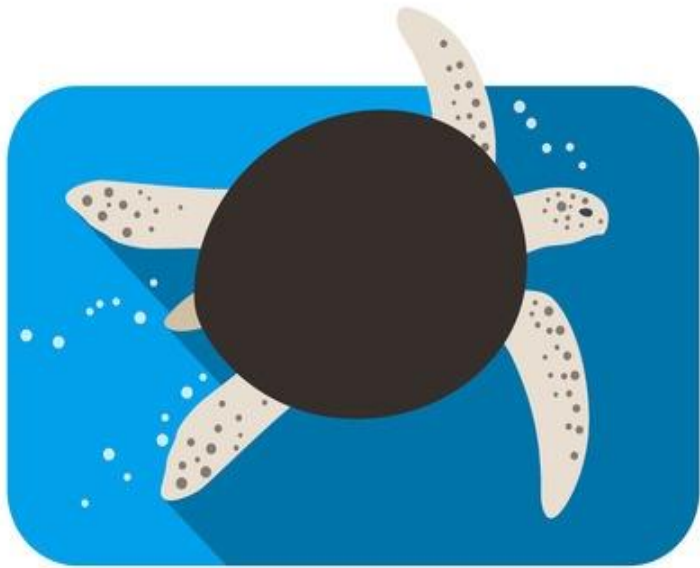

- Preferred habitat
- Attraction to bait
- Attraction to lightsticks (and possibly floats)
- Propensity to ingest
- Propensity to entangle

DESIGNING EFFECTIVE MITIGATION (CONT.)

- **Preferred habitat** – temperature, depth, migratory corridors
- **Attraction to bait** – taste, color
- **Attraction to lightsticks/gear** – spectra, flicker rate, number, color
- **Propensity to ingest** – hook type, size, offset; bait threading or texture
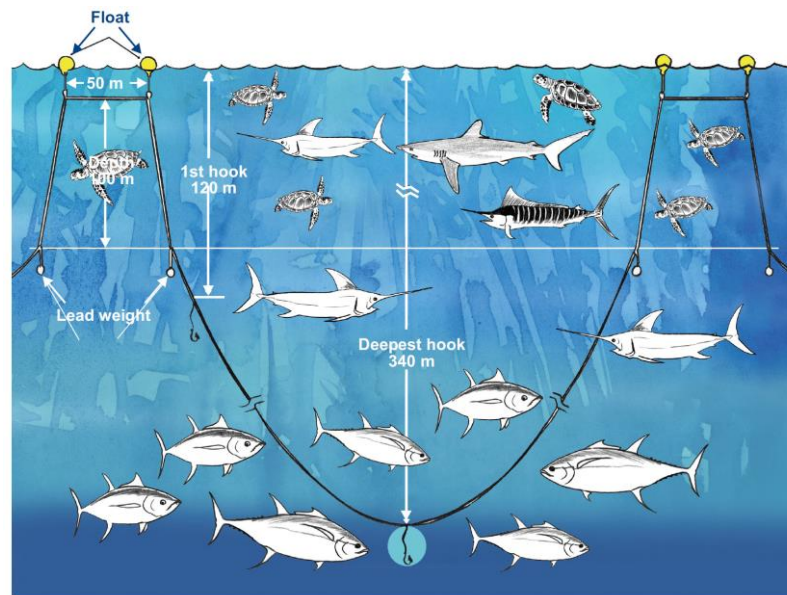- **Propensity to entangle** – leader type, length, visibility; carapace type
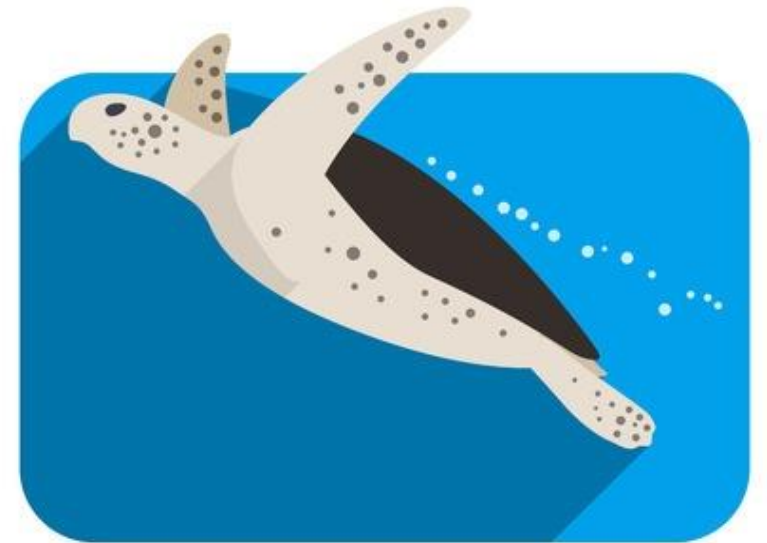
EXAMPLES OF SEA TURTLE MITIGATION TECHNIQUES
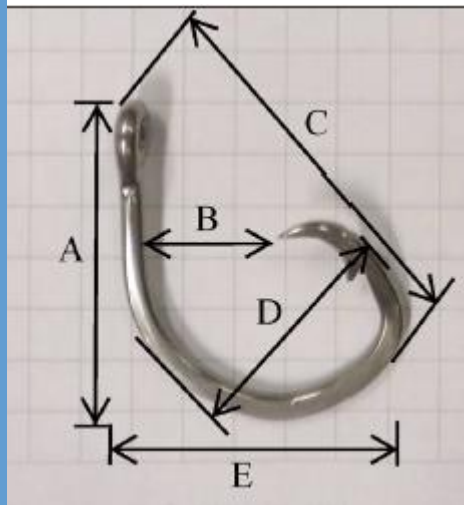

Circle Hooks

Finfish Bait

Operational Changes

Deterrents

SEA TURTLE MITIGATION REQUIRED BY WCPFC (CMM 2008-03)

- Implement the FAO Guidelines

- Report interactions annually

- Safe handling and release guidelines and equipment

- Purse seine fisheries must:

    - Avoid encirclement (to the extent practicable)

    - Practice safe release (stop the net roll)

    - Carry dip nets

- "Shallow-set longline fisheries" as of Jan. 2010 must:

    - Use large circle hooks with offsets of $<=10^\circ$ -OR-

    - Use whole finfish for bait -OR-

    - Apply an alternative measure approved by the WCPFC SC
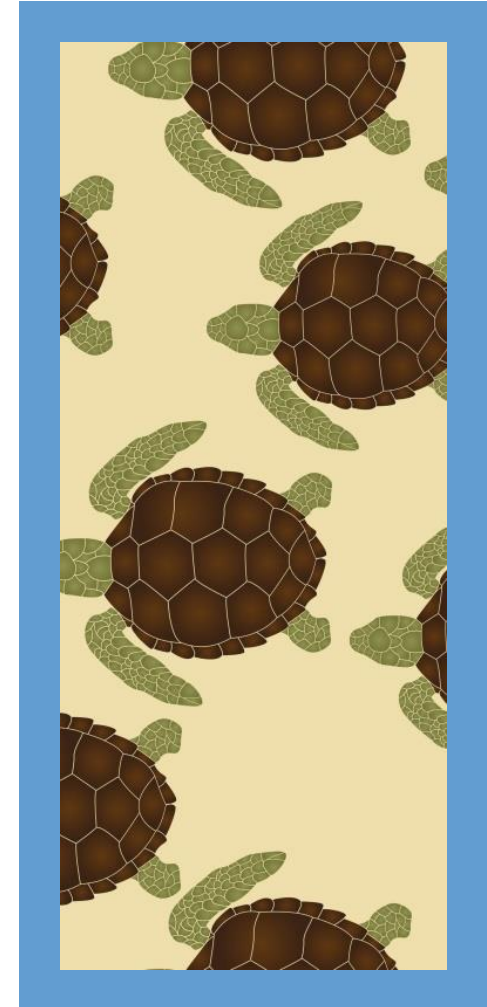
WCPFC SEA TURTLE JOINT ANALYSIS (2016)

- Two workshops with 38 participants from 16 countries, as well as IGOs and NGOs

- Observer data 1989-2015 covering 34 fleets with >2,300 observed turtles of four species

- Made recommendations on mitigation measures and data collection requirements

By Frits Ahlefeldt

WCPFC SEA TURTLE JOINT ANALYSIS RESULTS

Combinations of shallow-SWO, shallow-OTH and deep sets with:

- Large circle hooks
  and/or
- Finfish bait
  and/or
- Removal of 1-2 shallow hooks from deep sets

➡️ If all LL fisheries are required to use circle hooks & finfish bait, interactions and mortalities would be reduced by ~50%

WCPFC14 (MANILA) REQUEST TO SC14

Evaluate a US proposal which would require one of the following:

- All LL fisheries to use circle hooks OR finfish bait

- All LL fisheries to use circle hooks AND finfish bait

- Any other combination of measures

considering the effects on target and bycatch species catch rates.

SUMMARY

In August, SC14 must consider affects of circle hooks & finfish bait use on target and non-target species (other than turtles)

This information needs to come from a review of other studies (can't re-convene the sea turtle workshop)

This workshop, using BMIS, can help illustrate how such a review can be performed