

Executive summary

The ICES-FAO Working Group on Fishing Technology and Fish Behaviour (WGFTFB) met in Bangkok, Thailand from 6 to 10 May 2013 in a three-session mini-symposium and-to address four Terms of Reference. The main outcomes are detailed below.

Key Findings

Low Impact and Fuel Efficient Fishing (LIFE; Section 0)

- There is no single solution of increasing interest and uptake of new fishing gear by fishers, as it often depends on the fishery and individual circumstances
- Consideration should be given to incentivizing the participation of fishers and the development of incentive frameworks
- Fishers must be part of efforts to find solutions to problems facing their fishery
- Consideration should be given to how motivation and incentives (economic, regulatory, peer pressure, societal expectations, public perception, markets, etc.) can drive uptake and change by fishers
- WGFTFB should consider its role (if any in regard to the consideration of appropriate motives and incentives.

Use of artificial light as a stimulus on fish behavior in fish capture (LIGHT; Section 7.3)

- Why light fisheries are so popular in the east and less so in the west is not precisely clear but is probably linked to abundance and schooling behavior.
- Knowledge of why fish are positively phototactic is not well understood and remains an area of ongoing research
- Light fisheries are often less harmful to the environment and overfishing is seemingly less of an issue than in fisheries using other gear
- In some fisheries light can create conflict between fisheries or fishers and is difficult to regulate.

Selectivity of trawls in multispecies/crustacean fisheries (SHRIMP; Section 7.4)

- Despite many years of development, significant additional efforts are still required to optimize the performance of bycatch reduction devices in this fishery, and to overturn negative attitudes by fishers.
- The challenge to get fishers to use grids, let alone large ones, is difficult given their concerns for shrimp loss and impact of cumbersome grids on the fishing operation.
- The option of utilizing bycatch was seen as a somewhat attractive option that could provide additional income to fishers. However, warnings were raised regarding the sustainability of this activity and that this should not

be seen as a quick response to initial issues and concerns with TEDS or BRDs.

- The role of WGFTFB on the issue of “balanced fishing” was debated but there was no clear agreement on the next steps.

Innovative dynamic catch control devices in fishing (Section 0)

- A preliminary definition of dynamic catch controls was made: "Dynamic catch controls are systems that change the structure and functioning of the gear during the fishing operation so that the gear stops collecting fish when the desired amount of fish has been retained by the gear and actively release excess fish".
- The group identified the drivers for using dynamic catch controls. Some of the most relevant are: control of catch size; release of excessive catch without harm; keep fish alive for freshness; quality and pricing; safety.
- We defined the scope to specifically include only trawls, seines and purse-seines. In other than these gears the group did not identify need for dynamic catch control. The group agreed on not including separator trawl techniques (separator panels, separator ropes, eliminator trawl, etc.) as dynamic catch controls systems.

Future applications of artificial light in fishing gear design and operations (Section 9)

- The Topic Group should continue to work by correspondence in 2013/2014, with the aim of addressing the current terms of reference and presenting a draft report to the plenary session of ICES/FAO WGFTFB in 2014.

Relationships among vessel characteristics and gear specifications in commercial fisheries, with a focus on European fisheries (Section 10)

The Topic Group will continue to work by correspondence in 2013/2014, with the aim of addressing the following items:

- Data collection of main characteristics of trawlnets used in different Mediterranean fisheries;
- Assessment of maximum dimensions and adequate rigging for trawl fishing gears.
- Empirical relationships among different parts of the fishing trawl gears, including different type of likely attachments, as well as between some of these parts and the otterboard size and the engine power of the vessel shall be reported.