Virtual Meeting 2 of HSBI WG

26 June 2025 10:00 – 13:00 (Pohnpei time)

Suggested changes to Voluntary HSBI Regional Guides on DNA Sampling and Use of Volumetrics Testing

WCPFC-HSBIWG02-2025-DP01

16 June 2025

Submitted by China

Amendment proposal from China on Voluntary HSBI Regional Guides

DNA proposal (HSBIWG02-WP02)

1. Para 1:
   -Support the establishment of a robust DNA testing process by CCMs at the national level to verify species identification of individual specimens in support of HSBIs. To use CCM's replace national at the second line.
   -Support the establishment of minimum practices at the CCM's national level which are necessary to ensure that DNA sampling produce accurate, precise analytical findings, and findings are conveyed in an unbiased, objective manner; and. To use CCM's replace national at the second line.
2. Para 8
   8. Genetic analysis is the method of choice for species identification when identity cannot be determined on a purely morphological basis. Such as, the morphological characteristics are unfamiliar, similar, are absent, or are partial or compromised due to their processed state. We suggest to delete "or are partial or compromised due to their processed state". The reason to delete it is for long line fisheries, normally the fish was not processed.

3. Para 9

We suggest to add the followings at the end of the para: In particularly, when the need to determine between the Pacific bluefin tuna and southern bluefin, tuna as well as small-sized bigeye tuna and yellowfin tuna.

4. Para 11

We suggest to change the head of the para: The use of DNA sampling during HSBI activities, if confirmed by the flag CCM, can assist with assessing:

5. The part of NATIONAL DNA sampling and analysis procedures

   We suggest to use CCM to replace national in the part or delete national, that is:
   CCM's DNA sampling and analysis procedures
   CCMs wishing to use DNA testing for HSBI should share their DNA Sampling Procedures with the Secretariat for posting on the HSBI website.

The CCM's DNA Sampling Procedures should include:

6. The part of Accessibility of DNA Sampling and Multi-language information
   We suggest to use CCM's to replace national at the second line of the first para under this part.

Weight Estimate Proposal (HSBIWG02-WP03)

Regarding the volumetric weight estimation guidelines proposed by France, China presents three overarching considerations for parties involved in high seas boarding and inspection:

1. Analysis of Reasons for Discrepancies Between Onboard Catch Weight and Fishing Logs:

Inconsistencies observed during onboard inspections between estimated catch weight and fishing log records are not always due to errors in the estimation method itself. Frequently, vessels retain catch from previous trips for various practical reasons, such as unfavorable market prices, limited unloading infrastructure (e.g., container yard conditions), and unstable power supplies, prompting fishermen to continue storage rather than immediate sale. Inspection officials lacking awareness of these practical circumstances might incorrectly judge discrepancies by merely comparing current trip log records against estimated onboard catch weights, thus neglecting historical retained catch and potentially resulting in erroneous conclusions.

2. Accuracy of Current Estimation Methods Requires Long-Term Validation:

Significant errors exist both in estimation methods based on fish-hold shapes and volumes, and in methods that calculate weight based on fishing log catch numbers combined with sampled fish lengths using length-weight conversion formulas. We recommend systematic validation research involving long-term continuous comparisons (at least five years) of inspection officers' estimated weights against actual landed weights, recording discrepancies each time to calculate a multi-year average error rate. Only through such extended, systematic validation can the accuracy and applicability of these estimation methods be scientifically evaluated, avoiding subjective judgments and ensuring industry credibility.

3. Scientific Issues in Weight Estimation Require Professional Examination:

The estimation method proposed by France involves complex scientific issues. Volumetric estimations based on fish hold capacity must consider spatial occupancy rates related to fish morphology, intersecting the fields of biology and mathematics. Calculations based on the number and length of fish involve species-specific length-weight relationship models, falling under the domain of resource assessment biology. Resolution of these scientific questions necessitates professional research support. We suggest thorough discussions under the Scientific Committee framework to achieve unanimous endorsement before widespread application. Although the textual procedures and logic provided by France appear generally coherent, each step introduces significant human factors potentially resulting in cumulative errors. Specific textual recommendations include:

Introduction Section:

Paragraph 3, sub-paragraph 2: The phrase "if the vessel identity or license status is unclear" seems unrelated to the weight estimation method proposed in this document.

Paragraph 3, sub-paragraph 3: The meaning of "physical evidence" in "To cross-check logbooks with physical evidence" is unclear. Does this refer to onboard catch weight calculated by this proposed method? Even if applied, the resulting weight is still an estimate and cannot match exactly with logbook entries. What constitutes a reasonable margin of error? Paragraph 4 mentions "significant discrepancies" and how is "significant" quantified?

Procedural Steps Section:
Step 2: Measuring hold capacity may be unnecessary, as vessel inspection certificates or layout diagrams typically record this information.
Step 4: Regarding storage density coefficients, different species have different coefficients. In cases where multiple fish species (e.g., primarily bigeye tuna but with small amounts of yellowfin and albacore) are stored together, which coefficient should apply? Additionally, when multiple species or the same species with individuals ranging from 8kg to 40kg are stored mixed or stacked, substantial weight variations occur despite identical hold capacities. How are inspectors' subjective judgments reconciled with electronic log records, and how is potential underreporting accurately estimated under these complex conditions?
Step 6: This step involves determining tightness coefficients of stored fish. However, judgments about whether stacking methods are "loose" or "tight" are highly subjective. Similar complexities as mentioned in step 4 apply here: different species or varying sizes of the same species significantly affect storage density. Without clear documentation, how do inspectors objectively assess density and stacking tightness?
Step 7: It is unclear if vessels have onboard "landing data." Should this term instead refer to "transshipment data"? "Landing data" typically becomes available only after the vessel docks.

These represent China’s overall and specific paragraph-based feedback on France’s proposed weight estimation document.