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Estimates of annual catches of tropical tuna by the Philippines relevant to WCPFC CMM on Tropical Tunas "other commercial fisheries"

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This paper is identical to the paper presented to SC16, TCC16 and WCPFC17, with the following updates:

- **Tables A1–A3 have been updated to include the latest estimates (including 2020 estimates)**
- **Figures A1–A4 have been added to provide an indication of the distribution of the tuna catch for small-scale, artisanal gears in the Philippines domestic fisheries.**

Abstract

This paper provides a brief description of the gear types in the Philippines domestic fisheries with the purpose of considering whether they should be applicable under the Other Commercial fisheries category of the WCPFC tropical tuna measure (currently CMM 2018-01, paras 50 and 51). Based on the information provided, WCPFC is requested to consider and agree on the following outcomes:

1. The Philippines domestic hook-and-line, drift gillnet, troll, small-scale longline and other small-scale gears comprise small craft that, due to their size and concerns on safety, are restricted to fish in the archipelagic waters and territorial seas of the Philippines. Most of these fisheries are managed by Philippines local government by the virtue of Republic Act 7160 "Local Government Code of 1991". The National Government through BFAR for example acts as technical advisory body to the Local Government Units (LGUs) in managing the fisheries resources within the municipal waters (15kms from the shoreline). As such, these gears should not be applicable with respect to the Other Commercial fisheries category of the WCPFC tropical tuna measure, noting that these fisheries will continue to be covered under the Philippines national tuna management plan and other national regulations that applies on these fisheries.
2. The Philippine large-fish Handline fishery operates in the archipelagic waters/territorial seas of the Philippines, but also beyond these areas, which is therefore applicable with respect to the Other Commercial fisheries category of the WCPFC tropical tuna measure. The recent establishment of FMAs in the Philippines and the availability of historical Philippines NSAP data provide a means of separating out the catch from this fishery that is applicable to the Other Commercial fisheries category (i.e. considering EEZ/high seas catch only). As such, the SPC (as WCPFC SSP) is directed to use this methodology in the future to produce tables of Other Commercial fisheries for the evaluation of compliance with the tropical tuna measure.
3. Future Philippines Annual catch estimates workshops will determine catch estimates for hook-and-line and handline gears as follows:
    i. Separate estimates of (a) small-fish catch and (b) large fish catch from these gears will be generated since they are required for science, and are the basis for regulation under the National Tuna Management Plan (NTMP);
    ii. In addition to i. above, catch of these gears (hook-and-line and handline gears) will be broken down based on vessel size with the "small" vessels defined as "not more than 24 meters or not more than 20GT". The 'small' vessel category will also include boats using none or not more than 4 pakuras, since it is due to their size that these vessels are limited to fish in AWs and PH territorial seas. These separate estimates will be the basis for consideration under the Other Commercial Fisheries of the tropical tuna measure

1. Introduction

WCPFC16 tasked the SPC, in collaboration with Indonesia and the Philippines, to develop a paper containing all information on the 'other commercial fisheries' of the Philippines to be presented to SC16 for review. The WCPFC16 tasking emanated from discussions at TCC15, which were summarised in the TCC15 report as follows:

> *59. TCC15 acknowledged ongoing difficulties in evaluating compliance with limits related to the other commercial fisheries for bigeye, yellowfin and skipjack tuna (paragraph 51 of CMM 2017-01, subsequently replaced by CMM 2018-01). TCC15 noted that the fisheries are complex and available data for these fisheries are limited which has led to uncertainties and difficulties in determining appropriate limits, including in determining which fisheries should be included. TCC15 recognised that significant work is underway under the continuation of the West Pacific East Asia (WPEA) project and acknowledges the generous support of New Zealand to facilitate this work through WPEA-ITM.*
>
> *60. TCC15 tasked the Scientific Services Provider to develop a working paper in conjunction with Indonesia and the Philippines to assist WCPFC16 to interpret (and if necessary clarify) paragraph 50 and 51 of the tropical tuna measure (CMM 2018-01) in a way that makes it possible to evaluate compliance with the purpose of paragraph 51, which is: to ensure that in other commercial fisheries, the total catch of a CCM's bigeye, skipjack and yellowfin catch does not exceed either the average level for the period of 2001-2004 or the level of 2004.*

Relevant excerpts from WCPFC Conservation and Management Measure (CMM) 2018-01 are provided below:

> ***PRINCIPLES FOR APPLICATION OF THE MEASURE***
>
> ***Area of Application***
>
> *4. Coastal states are encouraged to take measures in archipelagic waters and territorial seas which are consistent with the objectives of this Measure and to inform the Commission Secretariat of the relevant measures that they will apply in these waters.*
>
> *7. In giving effect to this CMM, the Commission shall pay attention to:*
>
> *…*
>
> *(c) the need to avoid adverse impacts on subsistence, small-scale and artisanal fishers.*
>
> *…*
>
> ***OTHER COMMERCIAL FISHERIES***
>
> *50. To assist the Commission in the further development of provisions to manage the catch of bigeye, yellowfin, and skipjack tunas, the Scientific and Technical and Compliance Committees during their meeting in 2019 will provide advice to the Commission on which fisheries should be included in this effort and what information is needed to develop appropriate management measures for those fisheries.*
>
> *51. CCMs shall take necessary measures to ensure that the total catch of their respective other commercial tuna fisheries for bigeye, yellowfin or skipjack tuna, but excluding those fisheries taking less than 2,000 tonnes of bigeye, yellowfin and skipjack, shall not exceed either the average level for the period 2001-2004 or the level of 2004.*

This paper attempts to cover the following areas:

- explain the current issues in the application of CMM 2018–01 "Other Commercial Fisheries" to the Philippines tuna fisheries;
- provide a brief description of the domestic Philippines tuna fisheries (in the context of "Other Commercial fisheries" in the tropical tuna measure);

- provide an explanation, with justification, of the Philippines tuna fisheries which should be considered under the tropical tuna measure's "Other commercial fisheries", and those fisheries that should be considered under the Philippines national tuna management plan.

It is anticipated that advice from SC16 on the review of this paper will be provided to the TCC16 and WCPFC17 with the aim of reviewing paragraph 51 in CMM 2018-01 to ensure appropriate limits can be determined, measured and assessed in the Compliance Monitoring Scheme (Paragraph 376, WCPFC16 Summary Report).

2. Issues in the application of CMM 2018-01 Other commercial fisheries to the Philippines

Reliable historical annual catch estimates from longline and purse seine fleets operating in the WCFPC area have ensured that reliable baselines (based on catch and effort in years back to 2001) could be established to evaluate compliance and the effectiveness of the iterations of the tropical tuna measure (CMM 2018-01 is the current version relevant for 2019 activities).

Most of the Philippines domestic tuna fisheries comprise artisanal, small-scale vessels which fish using a number of different artisanal gears and are a critically important sector contributing to the livelihoods and food security of the Philippines population. The Philippines Statistical Authority (PSA – formerly, Bureau of Agricultural Statistics–BAS) are responsible for compiling annual catch estimates, but their official estimates are not broken down by gear and species (only species breakdown) and as mandated, cover all fish landed in the Philippines, so include a significant amount of foreign flagged catch which does not satisfy the requirements as WCPFC annual catch estimates (which should be for the member country flagged/chartered vessels only). BFAR/NFRDI have collected tuna landings and size data from their domestic vessels throughout the Philippines since 1997 through the National Stock Assessment Program (NSAP), managed through respective BFAR regional offices. Coverage of NSAP data in the early years was low but has been augmented in the past ten years through support from the Philippines Government and the WCPFC-administered West-Pacific, East-Asia (WPEA) project. While these data do not provide specific spatial information of each fishing operation (as is the case with logbooks from the longline and purse seine fisheries), they have been used in the process to produce annual catch estimates for the Philippines domestic fisheries in recent years.

Acknowledging the uncertainty in the estimates from the Philippines domestic fisheries, BFAR/NFRDI in conjunction with the WCPFC Secretariat and the Pacific Community (SPC) conducted the first annual tuna catch estimates workshop in June 2008 and these workshops have been conducted on an annual basis since then. The first few years of these workshops attempted to establish methodologies and a review process to produce the estimates, acknowledging the paucity of data available and proposing recommendations to improve data collection. Estimates of catch in the Purse seine, Ringnet and Handline fisheries where the priority in these early years of the workshops since there was more data available, and so more reliable estimates.

It was acknowledged that the catch estimates for most gears in the Philippines domestic fisheries, which are relevant for the tropical tuna measure baseline years (2001–2004), are uncertain compared to estimates produced since the establishment of the annual catch estimates workshops in 2008 (noting further work is anticipated to improve estimates for some non-NSAP monitored sites).

SPC are responsible for producing tables of catch estimates for the purpose of evaluating compliance with the tropical tuna measure's "Other Commercial Fisheries" (the latest version is available as Table 6 in WCPFC16-2019-IP05-rev1). A recent review by the relevant Philippines agencies (BFAR and NFRDI) and SPC of the information compiled, estimated and presented in this table for the Philippines domestic fisheries has identified the following issues:

- The Philippines considers that only their larger purse seine vessels should be considered in the category of 'commercial' vessels. The Philippines requests more information (e.g. a clear definition) on what constitutes a 'commercial' vessel in the context of the tropical tuna measure, considering factors such as vessel size, catch, gear used;
- The estimation of catch by gear representing the Other Commercial fisheries of the Philippines has used an arbitrary assignment of 80%:20% to breakdown the catch within archipelagic waters (AWs) and outside AWs. SPC has explained that this methodology was based on anecdotal information they were provided with and used in the absence of any other information available to partition the catch to exclude the AWs catch;
- As noted in the table, there is no EFFORT data available for these fisheries and the estimate is therefore acknowledged to be highly uncertain and in the Philippines opinion, should not be used;
- This table appears to include catches taken in West Philippine Sea (South China Sea), which lies to the west of the Philippines, Celebes Sea and other Archipelagic waters, which are outside the jurisdiction of the tropical tuna measure, so these catches should not be included. However, the Philippines considers these catches are important for purposes of science and need to be reported;
- The ringnet catch is currently included with purse seine and covered in the tropical tuna measure (CMM 2018-01[1]) "Attachment 2 – Measures for the Philippines", so should not be considered under "Other Commercial Fisheries".

3. Philippines domestic tuna fisheries

3.1. Brief overview of Philippines domestic tuna fisheries

There are various documents that provide detailed descriptions of the various gears used in the Philippines domestic fisheries (e.g. Barut and Garvilles [2010], , Dickson and Natividad [1997], Itano and Williams [2009]). The Philippines has regularly submitted annual catch estimates and other required data (according to members reporting obligations) for these gears to the WCFPC, primarily covering annual catch estimates, but also other types of data (e.g. logbook, ROP/observer and port-based size data). Annual workshops supported by the WCPFC-administered West-Pacific, East-Asia (WPEA) project have been conducted in the Philippines for more than ten years with the purpose of improving the data collected from their domestic fisheries, particularly the reliability of annual catch estimates by gear and species.

The Philippines EEZ includes established archipelagic waters and territorial seas (see Figure 1). In response to the need for better national fisheries management for tuna and other species, the Philippines has recently established Fisheries Management Areas (FMAs) – see Figure 2.

[1] https://www.wcpfc.int/doc/cmm-2018-01/conservation-and-management-measure-bigeye-yellowfin-and-skipjack-tuna-western-and

Figure 1. Map of the Philippines, including Archipelagic waters, territorial seas and EEZ areas.

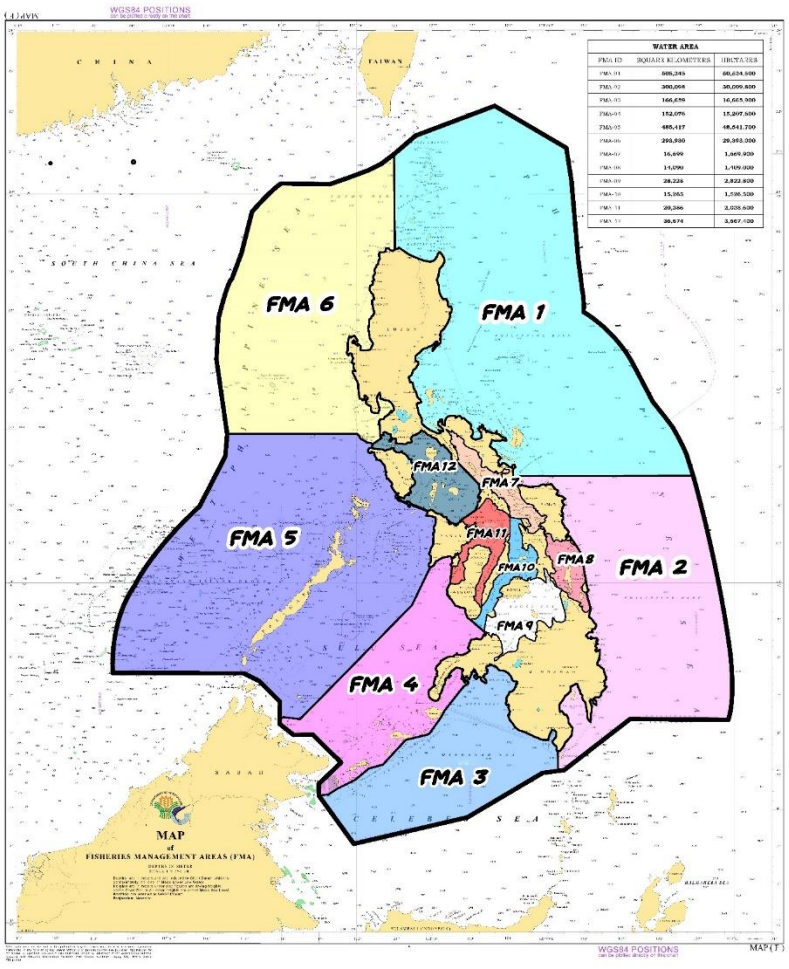

Figure 2. Map of the Philippines, showing the recently established Fisheries Management Areas (FMAs)

The Philippines domestic gears comprise purse seine, ringnet, small-fish Hook-and-line, large-fish Handline, drift gillnet, troll, artisanal longline (tuna drift longline), and other small-scale gears (Bagnet, beach seine). The vessels that fish in the Philippines domestic fisheries are categorised as either 'municipal' or 'commercial' and the purse seine gear is essentially the only fishery/gear included in the 'commercial' category. There has not been a recent inventory of municipal fishing gears and boat yet. We only have figures on registered commercial vessels. Many of the small-scale commercial vessels are registered as municipal boats)

The Philippines have several fleets operating in the WCPFC Area beyond the Philippines EEZ :

- A restricted number of domestic-based purse seine and ringnet vessels that fish in the High Seas Pocket #1 (which is covered under CMM 2018-01 Attachment 2),
- A 'distant-water' purse seine fleet (flagged to the Philippines) that are based in Papua New Guinea and other Pacific Island countries, and
- Some (larger) vessels using the handline gear to target large yellowfin tuna in international waters adjacent to the Philippines EEZ.

With respect to CMM 2018-01, the management and compliance for the Philippines purse seine and ringnet gears/fisheries are covered under the sections for "PURSE SEINE FISHERY" and CMM 2018-01 Attachment 2, as mentioned above. The Philippines currently does not have a commercial longline fishery, and if so, this gear/fishery would be covered under the sections for "LONGLINE FISHERY" in the CMM 2018-01.

Excluding purse seine, ringnet and longline gears which are covered under specific sections of the tropical tuna measure, the other gears from the Philippines domestic fisheries that could be considered under the "OTHER COMMERCIAL FISHERIES" are therefore:

- Small-fish Hook-and-line
- Large-fish Handline
- Drift gillnet
- Troll
- Artisanal longline (tuna drift longline)
- Other small-scale gears (Bagnet, beach seine)

The following sections provide an explanation of each of these other gears (i.e. excluding purse seine, ringnet and longline) and their relevance, or exclusion, to the applicability under the CMM 2018-01 OTHER COMMERCIAL FISHERIES.

3.2. Small-fish hook-and-line

The small-fish hook-and-line fishery comprises small craft that, due to their size and concerns on safety, are restricted to fish in the archipelagic waters and territorial seas of the Philippines. The catches of these vessels are categorized as "Municipal" in the Philippines national data collection systems. The method of fishing is to target small tunas using one or multiple (small) hooks at the surface during daylight hours. These catches are typically for subsistence or sold at local markets. Figure 3 shows some photos of a hook-and-line vessel.

Figure 3. Examples of Philippine vessels using the hook-and-line gear

The annual catch estimates for this fishery are shown in Table A1 in the ANNEXES and have fluctuated between 20,000 t. and 32,000 t. over the past five years. Prior to the specific attention to annual catch estimates in this fishery through The Philippines National Stock Assessment Project (NSAP) Data Review workshops and Philippines Annual Catch Estimates workshops conducted with support from the WCPFC/WPEA, there was some uncertainty in the available catch estimates for this fishery; that is, estimates for years prior to 2014 are considered to be less reliable than estimates since 2014.

Historical NSAP data (Table A2) show that almost all fishing with this gear is confined to archipelagic waters (AWs) and territorial seas (TS), based on the fishing ground information collected for each landing (i.e. the percentage of catch outside of the AWs/TS is < 1%).

The Philippines therefore considers their hook-and-line fishery should not be included in the tropical tuna measure's Other Commercial Fisheries category but will continue to be covered under their national tuna management plan.

These fisheries/gears (and those that follow) are managed by PHL local government by the virtue of Republic Act 7160 "Local Government Code of 1991". The National Government through BFAR for example acts as technical advisory body to LGUs in managing the fisheries resources within the municipal waters (15kms from the shoreline).

3.3. Large-fish Handline

The large-fish Handline fishery comprises both small craft and larger vessels (> 24m or > 20GT). The larger vessels can have several small one-person *pakura* used to fish in the vicinity of the larger vessel and are mainly based out of General Santos City (although there are a few vessels elsewhere in Davao, Samar and Mindoro). The vessels that target large yellowfin tuna with the handline gear are also referred to as "pump boats". The general characteristics that distinguish the vessels targeting small-fish hook-and-line and those targeting large yellowfin tuna is shown in Table 2. However, this distinction is not always clear, for example, there are instances when small craft can target both large yellowfin at night and small tunas in the day within one trip. Also, large tunas are not necessarily always caught at night; they are mostly caught at dawn or early morning, or from late afternoon to early evening; fishers tend to catch small tunas only in the morning or when not able to catch large tunas.

Large yellowfin tuna dominate the catch from this gear type (typically >= 95% of the total catch) and the catches are either landed directly at General Santos City Market 1 (see photo) or transported/planed into this market, where the catch is processed and available for export or the high-end local markets. Some Handline catch from central and northern regions may be transported directly to Manila (as a high-end product for local consumption). Figure 4 show some photos of a hook-and-line vessel.

Table 2. Draft characteristics of large-fish HANDLINE and small-fish HOOK-and-LINE targetting in the Philippines domestic fisheries

Attribute	When to assign GEAR as either …		
	large-fish HANDLINE (H) ***(using Larger Vessels)***	**large-fish HANDLINE (H)** ***(using Smaller Vessels)***	**small-fish HOOK-and-LINE (K)**
Size of YFT catch	Most of the catch are large YFT > 70 cms	Most of the catch are large YFT > 70 cms	Most of the catch are small TUNA (SKJ, YFT) < 70 cm
Hook size	LARGE hooks Usually ingle hook	LARGE hooks Usually ingle hook	SMALL hooks Number of hooks >=10
Species composition	Large YFT comprise most of the catch (generally > 90%)	Large YFT comprise most of the catch (generally > 90%)	Most of the catch is small tuna (SKJ, YFT). There may be some large YFT, but most of catch is small tuna.
Vessel Size	>24m or >20GT with *"pakura"*	<24m or <20GT without *"pakura"*	<24m or <20GT without *"pakura"*
Primary fishing period and depth	Mostly caught at dawn or early morning, or from late afternoon to early evening. Fishing occurs mostly a depth of more than 50 metres.	Mostly caught at dawn or early morning, or from late afternoon to early evening. Fishing occurs mostly a depth of more than 50 metres.	Fishers tend to catch small tunas only in the morning (or when not able to catch large tunas). Fishing occurs mainly at the surface.

The annual catch estimates for this fishery are shown in Table A1 in the ANNEXES and have fluctuated between 20,000 t. and 30,000 t. over the past five years. Since the product from this fishery is of more value, the historical estimates for the large-fish handline fishery is deemed more certain than the estimates from the small-fish hook-and-line fishery.

Unlike the small-fish hook-and-line vessels, which are restricted to archipelagic waters (AW) and territorial seas (TS), some (larger) handline vessels targeting large yellowfin tuna travel far from port and outside the archipelagic waters. There is yet to be a logbook programme implemented for this fishery, but the NSAP data collection provides an indication of the fishing grounds used by handline vessels in the Philippines, so a distinction of fishing within the AWs/TS and beyond is possible.

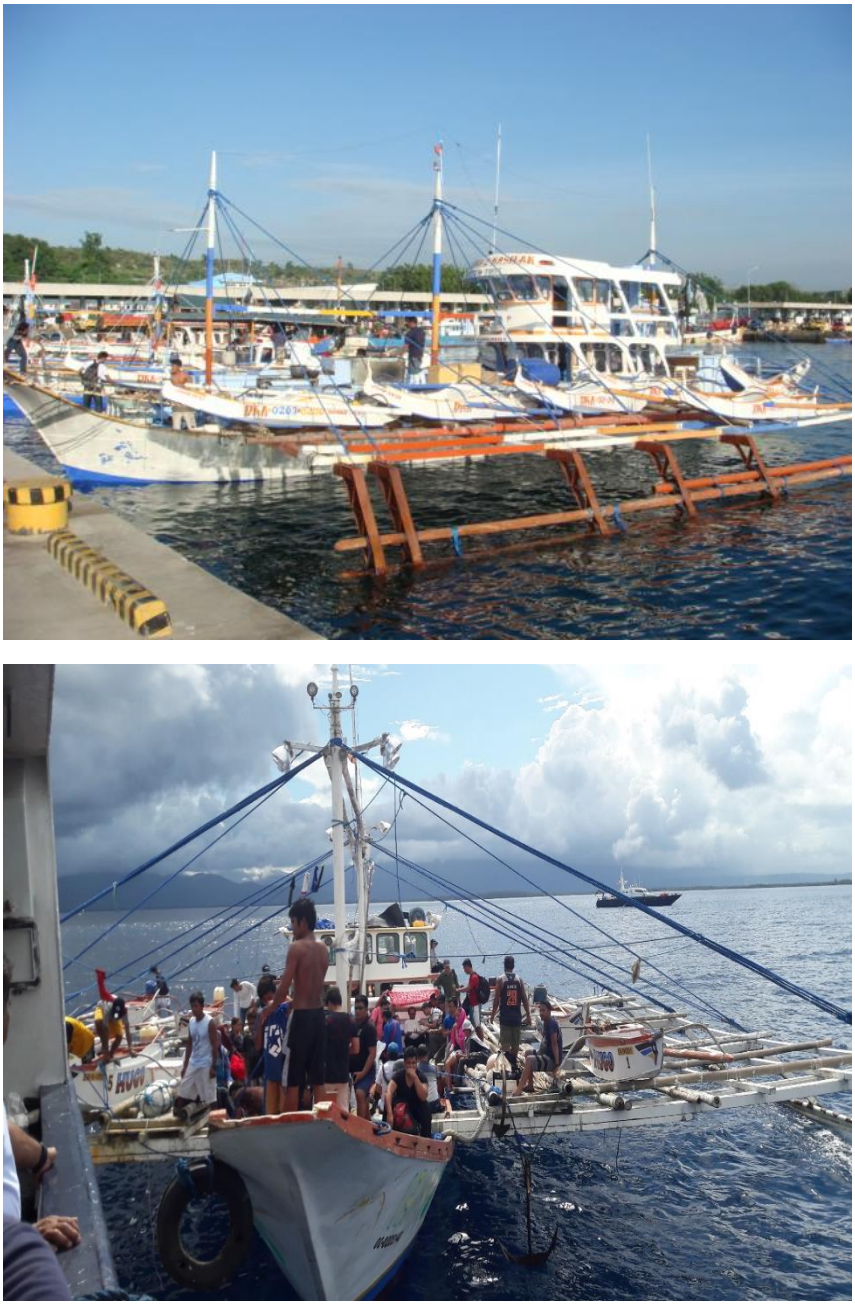

Figure 4. Examples of Philippine vessels using the large-fish Handline gear

Historical NSAP data (Table A2) show that the proportion of fishing with this gear within and outside archipelagic waters (AWs) and territorial seas (TS), has fluctuated over time and no doubt is related to availability of large-fish fish close to landing sites, access to certain fishing grounds, sea/weather conditions and other determinants (i.e. over the past decade, the percentage of catch outside AWs/TS has fluctuated in the range 20% to 95%, mainly depending on access weather, fishing conditions and access to waters outside the AWs).

The Philippines considers that the smaller vessels that are included in their large-fish handline fishery should not be included in the tropical tuna measure's Other Commercial Fisheries category but acknowledge that separating the catch of this component is not feasible. Under the current guidelines within the NSAP, catch of large fish caught by small vessels can be attributed under large-fish handline (when the primary target of the trip is large fish), but it is also possible that some large fish can also be

a part of the catch of vessels which predominantly use hook-and-line to target 'small fish'. It is understood that the smaller vessels would usually be restricted to the AWs/TS areas, and so this catch component would be excluded from consideration under the tropical tuna measure's Other Commercial Fisheries. The Philippines will nonetheless continue to also have the large-fish Handline fishery covered under their national tuna management plan.

Future Philippines Annual catch estimates workshops will determine catch estimates for hook-and-line and handline gears as follows:

i. **Separate estimates of (a) small-fish catch and (b) large fish catch from these gears will be generated since they are required for science, and are the basis for regulation under the National Tuna Management Plan (NTMP)**
ii. **In addition to i. above, catch of these gears (hook-and-line and handline gears) will be broken down based on vessel size with the "small" vessels defined as "not more than 24 meters or not more than 20GT". The 'small' vessel category will also include boats using none or not more than 4 pakuras, since it is due to their size that these vessels are limited to fish in AWs and PH territorial seas. These separate estimates will be the basis for consideration under the Other Commercial Fisheries of the tropical tuna measure.**

In regards to the annual evaluation of the tropical tuna measure's Other Commercial Fisheries, SPC will use the historical NSAP data to determine both the baseline limits and current year catches for the large-fish handline fishery for waters outside the AWs/TS only (and this information is presented in Table A3 in the ANNEX).

3.4. Troll

The Troll fishery comprises small craft that, due to their size and concerns on safety, are restricted to fish in the archipelagic waters and territorial seas of the Philippines. The catches of these vessels are cateogorized as "Municipal" in the Philippines national data collection systems. This fishery is similar to the hook-and-line fishery and catches from this gear were included in the hook-and-line fishery estimates for years prior to 2009, when distinction of estimates for the troll fishery catch was first attempted (See Table A1 in ANNEX). The total tuna catch from the troll fishery has ranged from less than 1,000 t. to 7,000 t over the past ten years.

Historical NSAP data (Table A2) show that almost all fishing with this gear is confined to archipelagic waters and territorial seas, based on the fishing ground information collected for each landing (i.e. the percentage of catch outside of the AWs/TS is typically < 1%).

The Philippines therefore considers their troll fishery should not be included in the tropical tuna measure's Other Commercial Fisheries category, but will continue to be covered under their national tuna management plan.

3.5. Drift gillnet

The Drift gillnet fishery comprises small craft that, due to their size and concerns on safety, are restricted to fish in the archipelagic waters and territorial seas of the Philippines. The catches of these vessels are categorized as "Municipal" in the Philippines national data collection systems. The catches from this fishery were included in the "other gears" estimates for years prior to 2009, when distinction of estimates for this fisher was first attempted (See Table A1 in ANNEX). The total tuna catch from the drift gillnet fishery has ranged from less than 1,000 t. to 7,000 t over the past ten years.

Historical NSAP data (Table A2) show that almost all fishing with this gear is confined to archipelagic waters and territorial seas, based on the fishing ground information collected for each landing (i.e. the percentage of catch outside of the AWs/TS is < 1%).

The Philippines therefore considers their drift gillnet fishery should not be included in the tropical tuna measure's Other Commercial Fisheries category but will continue to be covered under their national tuna management plan.

3.6. Small-scale Longline

The small-scale, artisanal drift longline fishery comprises small craft that, due to their size and concerns on safety, are restricted to fish in the archipelagic waters and territorial seas of the Philippines. The catches of these vessels are categorized as "Municipal" in the Philippines national data collection systems. The catches from this fishery were included in the "other gears" estimates for years prior to 2009, when distinction of estimates for this fisher was first attempted (See Table A1 in ANNEX). The total tuna catch from the drift longline fishery has generally been less than 1,000 t.

Historical NSAP data (Table A2) show that almost all fishing with this gear is confined to archipelagic waters and territorial seas, based on the fishing ground information collected for each landing (i.e. the percentage of catch outside of the AWs/TS is < 1%).

The Philippines therefore considers their drift longline fishery should not be included in the tropical tuna measure's Other Commercial Fisheries category but will continue to be covered under their national tuna management plan and other national regulations that applies on these fisheries.

3.7. Other gears

The other small-scale gears (e.g. bagnet, beach seine) are clearly restricted to AWs/TS and also catch less than 2,000 t. in recent years, so are exempt from the Other Commercial fisheries category of the WCPFC tropical tuna measure.

4. Summary of points for WCPFC consideration

This paper provides a brief description of the gear types in the Philippines domestic fisheries with the purpose of considering whether they should be applicable under the Other Commercial fisheries category of the WCPFC tropical tuna measure. Based on the information provided, WCPFC is requested to consider and agree on the following outcomes:

1. The Philippines domestic hook-and-line, drift gillnet, troll, small-scale longline and other small-scale gears comprise small craft that, due to their size and concerns on safety, are restricted to fish in the archipelagic waters and territorial seas of the Philippines. Most of these fisheries are managed by Philippines local government by the virtue of Republic Act 7160 "Local Government Code of 1991". The National Government through BFAR for example acts as technical advisory body to the Local Government Units (LGUs) in managing the fisheries resources within the municipal waters (15kms from the shoreline). As such, these gears should not be applicable with respect to the Other Commercial fisheries category of the WCPFC tropical tuna measure, noting that these fisheries will continue to be covered under the Philippines national tuna management plan and other national regulations that applies on these fisheries.
2. The Philippine large-fish Handline fishery operates in the archipelagic waters/territorial seas of the Philippines, but also beyond these areas, which is therefore applicable with respect to the Other Commercial fisheries category of the WCPFC tropical tuna measure. The recent establishment of FMAs in the Philippines and the availability of historical Philippines NSAP data provide a means of separating out the catch from this fishery that is applicable to the Other

Commercial fisheries category (i.e. considering EEZ/high seas catch only). As such, the SPC (as WCPFC SSP) is directed to use this methodology in the future to produce tables of Other Commercial fisheries for the evaluation of compliance with the tropical tuna measure.

3. Future Philippines Annual catch estimates workshops will determine catch estimates for hook-and-line and handline gears as follows:

    i. Separate estimates of (a) small-fish catch and (b) large fish catch from these gears will be generated since they are required for science, and are the basis for regulation under the National Tuna Management Plan (NTMP);
    ii. In addition to i. above, catch of these gears (hook-and-line and handline gears) will be broken down based on vessel size with the "small" vessels defined as "not more than 24 meters or not more than 20GT". The 'small' vessel category will also include boats using none or not more than 4 pakuras, since it is due to their size that these vessels are limited to fish in AWs and PH territorial seas. These separate estimates will be the basis for consideration under the Other Commercial Fisheries of the tropical tuna measure

5. References

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ANNEXES

Table A1. Annual catch estimates of tropical tuna (SKJ/YFT/BET) for the Philippines domestic fisheries by gear (excluding purse seine, longline).

YEAR	Philippines tropical tuna (SKJ+YFT+BET) catch estimate					
	Large-fish HANDLINE	Hook-and-line (small fish)	Drift Gillnet	Troll	Small-scale LONGLINE	Others
2000	9,964	74,829	...	...	...	2,033
2001	9,263	69,568	...	...	...	1,891
2002	10,279	77,196	...	...	...	2,098
2003	13,012	97,726	...	...	...	2,656
2004	13,362	100,352	...	...	...	2,727
2005	13,660	102,590	...	...	...	2,778
2006	15,053	113,047	...	...	...	3,062
2007	17,374	130,482	...	...	...	3,534
2008	16,349	130,482	...	...	...	9,235
2009	8,200	70,000	356	327	298	1,716
2010	11,729	70,000	440	1,395	120	2,076
2011	10,864	20,200	838	578	455	0
2012	15,396	20,000	1,377	1,923	548	520
2013	14,206	21,780	1,571	1,801	2,769	350
2014	31,444	15,356	3,031	6,125	327	280
2015	24,388	31,144	7,436	5,699	298	879
2016	20,397	20,379	4,067	4,164	70	789
2017	28,362	26,110	1,119	6,828	401	1,142
2018	24,087	36,676	1,636	3,758	351	1,713
2019	28,532	23,275	1,468	3,867	232	884
2020	17,501	30,152	1,789	5,718	75	1,879

Table A2. Annual estimated percentage (%) of the tropical tuna (SKJ/YFT/BET) catch by gear that is taken outside archipelagic waters (AWs) and territorial seas (TS) (based on NSAP data)

YEAR	% of catch by gear outside AWs and TS (according to NSAP fishing ground and FMA data)					
	Large-fish HANDLINE	Hook-and-line (small fish)	Drift Gillnet	Troll	Small-scale LONGLINE	Others
2000	7.5%	0.00%	0.0%	0.0%	0.0%	0.0%
2001	2.5%	0.00%	0.0%	0.0%	0.0%	0.0%
2002	21.1%	0.00%	0.0%	0.0%	0.0%	0.0%
2003	94.4%	0.00%	0.0%	0.0%	0.0%	0.0%
2004	99.9%	0.00%	0.0%	0.0%	0.0%	0.0%
2005	97.4%	0.00%	0.0%	0.0%	0.0%	0.0%
2006	98.0%	0.00%	0.0%	0.0%	0.0%	0.0%
2007	98.6%	0.00%	0.0%	0.0%	0.0%	0.0%
2008	97.9%	0.00%	0.0%	0.0%	0.0%	0.0%
2009	97.0%	0.00%	0.0%	0.0%	0.0%	0.0%
2010	95.3%	0.00%	0.0%	0.0%	0.0%	0.0%
2011	74.6%	0.00%	0.0%	0.0%	0.0%	0.0%
2012	25.4%	0.00%	0.0%	0.0%	0.0%	0.0%
2013	27.5%	0.00%	0.0%	0.0%	0.0%	0.0%
2014	82.0%	0.00%	0.0%	0.0%	0.0%	0.0%
2015	17.3%	0.00%	0.0%	0.0%	0.0%	0.0%
2016	11.7%	0.00%	0.0%	0.0%	0.0%	0.0%
2017	0.6%	0.00%	0.0%	0.0%	0.0%	0.0%
2018	1.3%	0.00%	0.0%	0.0%	0.0%	0.0%
2019	13.7%	0.75%	0.0%	0.0%	0.0%	0.0%
2020	4.4%	1.93%	0.0%	0.0%	0.0%	0.0%

Notes

1 The catch by gear outside Archipelagic waters (AWs) and Territorial Seas (TS) has been determined from the % of tuna catch outside AWs/TS from NSAP data (using the FMAs and Fishing Ground in the NSAP data).This is only relevant to the catch of Handline vessels fishing in FMAs 1 and 2

2 Purse seine/ringnet and (large-scale) longline are dealt with in separate sections of the WCPFC tropical tuna measure. Philippines does not have active commercial longline fishery

3 The other fisheries shown here (hook-and-line, gillnet, troll, small-scale longline and others) operate in the Philippines AWs/TS so are exempt from the CMM TT "Other COMMERCIAL fisheries" obligations.

4 The Fishing Ground listed as "Pacific Ocean" in the NSAP data in the Philippines regions on the Pacific coast for the gear types hook-and-line, gillnet, troll, small-scale longline and others, are acknowledged to be very small craft that operate within the Philippines Territorial Seas, so are exempt from the CMM TT "Other COMMERCIAL fisheries" obligations.

See Figures A1–A4 which provide an indication of the distribution of catch for small-scale/artisanal gears

Table A3. Annual catch estimates of tropical tuna (SKJ/YFT/BET) for the Philippines domestic fisheries by gear, <u>for waters outside archipelagic waters (AWs) and territorial seas (TS),</u> including evaluation of recent years catches under the Other Commercial Fisheries category of the tropical tuna measure.

	YEAR	Philippines tropical tuna (SKJ+YFT+BET) catch estimate, <u>for waters outside AWs and TS</u>					
		Large-fish HANDLINE	Hook-and-line (small fish)	Drift Gillnet	Troll	Small-scale LONGLINE	Others
	2000	749	0	...	...	...	0
	2001	233	0	...	...	...	0
	2002	2,170	0	...	...	...	0
	2003	12,282	0	...	...	...	0
	2004	13,343	0	...	...	...	0
	2005	13,311	0	...	...	...	0
	2006	14,750	0	...	...	...	0
	2007	17,135	0	...	...	...	0
	2008	16,009	0	...	...	...	0
	2009	7,956	0	0	0	0	0
	2010	11,173	0	0	0	0	0
	2011	8,110	0	0	0	0	0
	2012	3,912	0	0	0	0	0
	2013	3,907	0	0	0	0	0
	2014	25,769	0	1	0	0	0
	2015	4,211	0	0	0	0	0
	2016	2,384	0	0	0	0	0
	2017	164	0	0	0	0	0
	2018	304	0	0	0	0	0
	2019	3,895	175	0	0	0	0
	2020	764	583	0	0	0	0
CMM 2017-01 Limit	2018 (ex AWs)	13,343	N/A	N/A	N/A	N/A	N/A
CMM 2018-01 Limit	2019 (ex AWs)	13,343	N/A	N/A	N/A	N/A	N/A
CMM 2018-01 Limit	2020 (ex AWs)	13,343	N/A	N/A	N/A	N/A	N/A
	2018 evaluation	*Under Limit*	N/A	N/A	N/A	N/A	N/A
	2019 evaluation	*Under Limit*	N/A	N/A	N/A	N/A	N/A
	2020 evaluation	*Under Limit*	N/A	N/A	N/A	N/A	N/A

Notes

1 The catch by gear outside Archipelagic waters (AWs) and Territorial Seas (TS) has been determined from the % of tuna catch outside AWs/TS from NSAP data (using the FMAs and Fishing Ground in the NSAP data). This is only relevant to the catch of Handline vessels fishing in FMAs 1 and 2

2 Purse seine/ringnet and (large-scale) longline are dealt with in separate sections of the WCPFC tropical tuna measure. Philippines does not have active longline fishery

3 The other fisheries shown here (hook-and-line, gillnet, troll, small-scale longline and others) operate in the Philippines AWs/TS so are exempt from the CMM TT "Other COMMERCIAL fisheries" obligations.

4 The Fishing Ground listed as "Pacific Ocean" in the NSAP data in the Philippines regions on the Pacific coast for the gear types hook-and-line, gillnet, troll, small-scale longline and others, are acknowledged to be very small craft that operate in the Philippines Territorial Seas, so are exempt from the CMM TT "Other COMMERCIAL fisheries" obligations.

See Figures A1–A4 which provide an indication of the distribution of catch for small-scale/artisanal gears

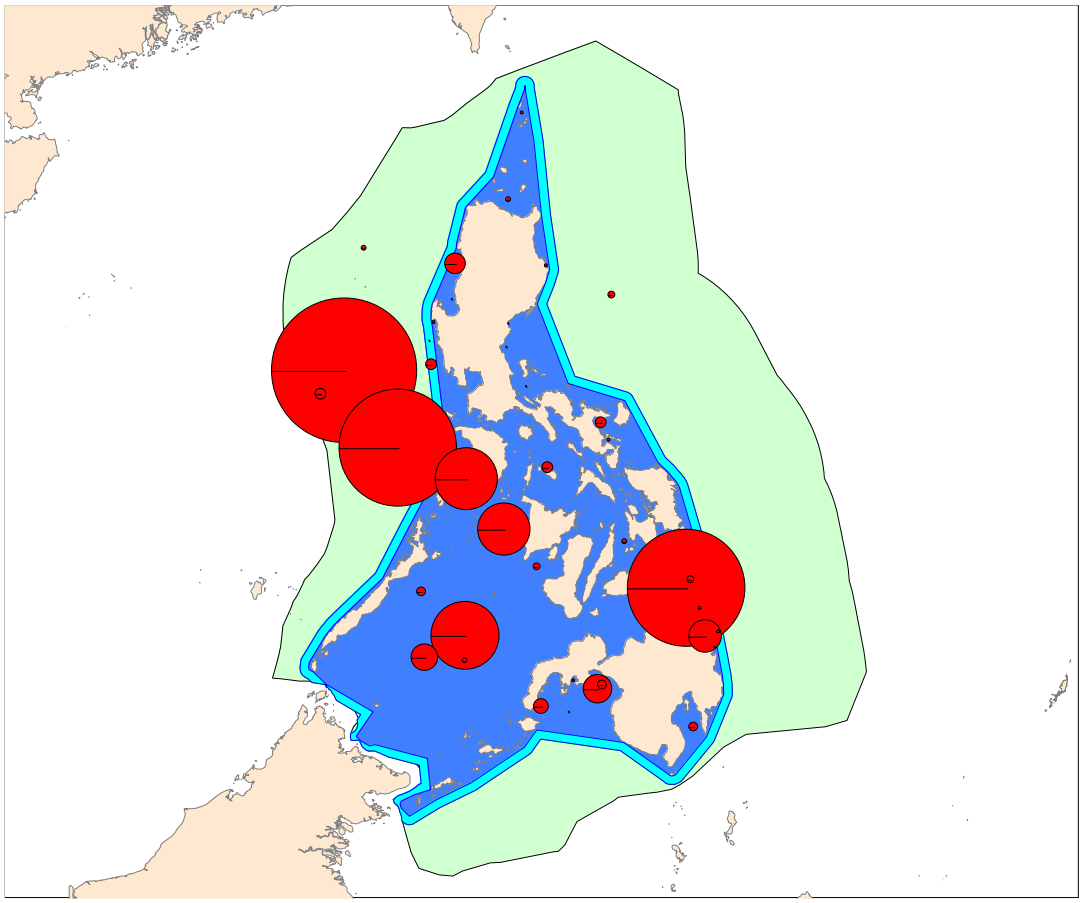

Figure A1. Distribution of tuna catch from the Philippines **small-fish HOOK-and-LINE** gear by fishing ground (Philippines National Stock Assessment Project (NSAP) database, 2015-2020)

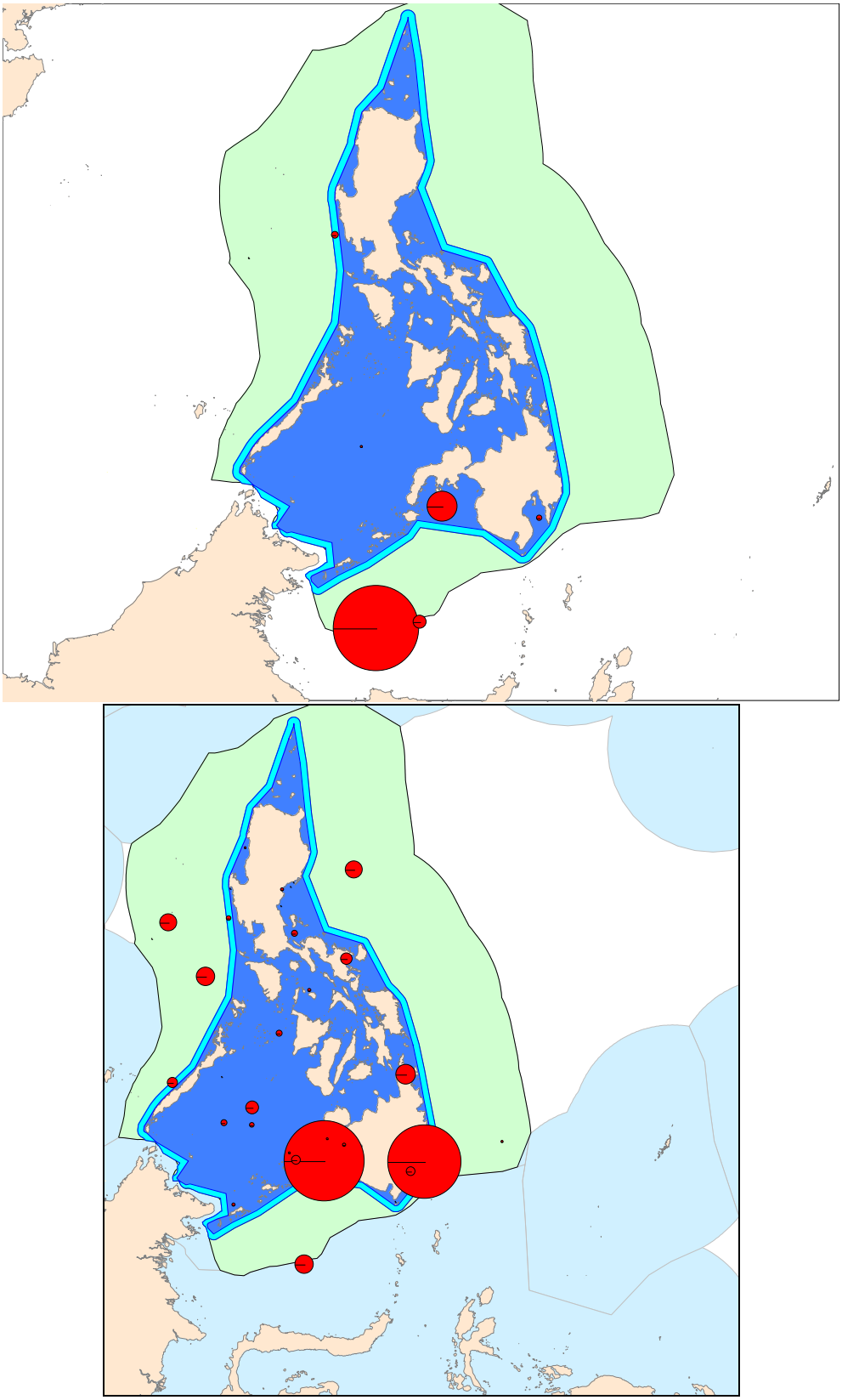

Figure A2. Distribution of tuna catch from the Philippines **large-fish HANDLINE** gear by fishing ground, top: 2002—2004 and bottom: 2015-2020
(Philippines National Stock Assessment Project (NSAP) database)

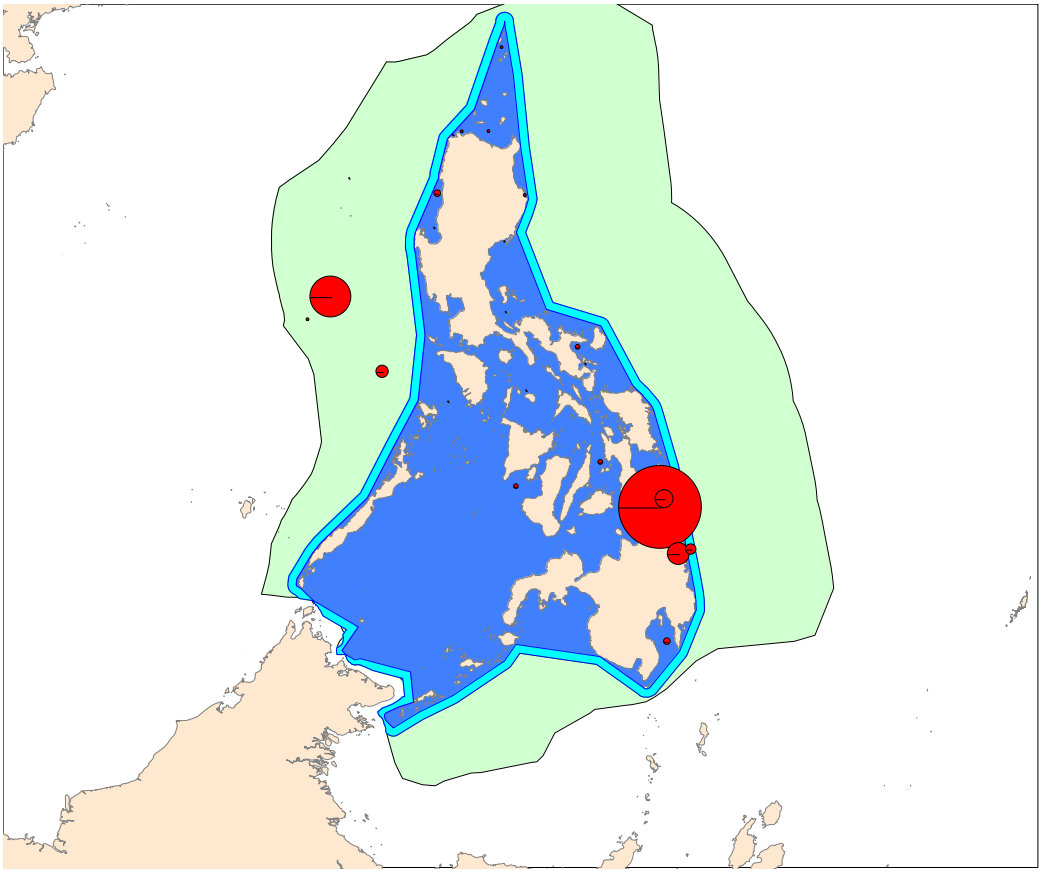

Figure A3. Distribution of tuna catch from the Philippines **TROLL** gear by fishing ground (Philippines National Stock Assessment Project (NSAP) database, 2015-2020)

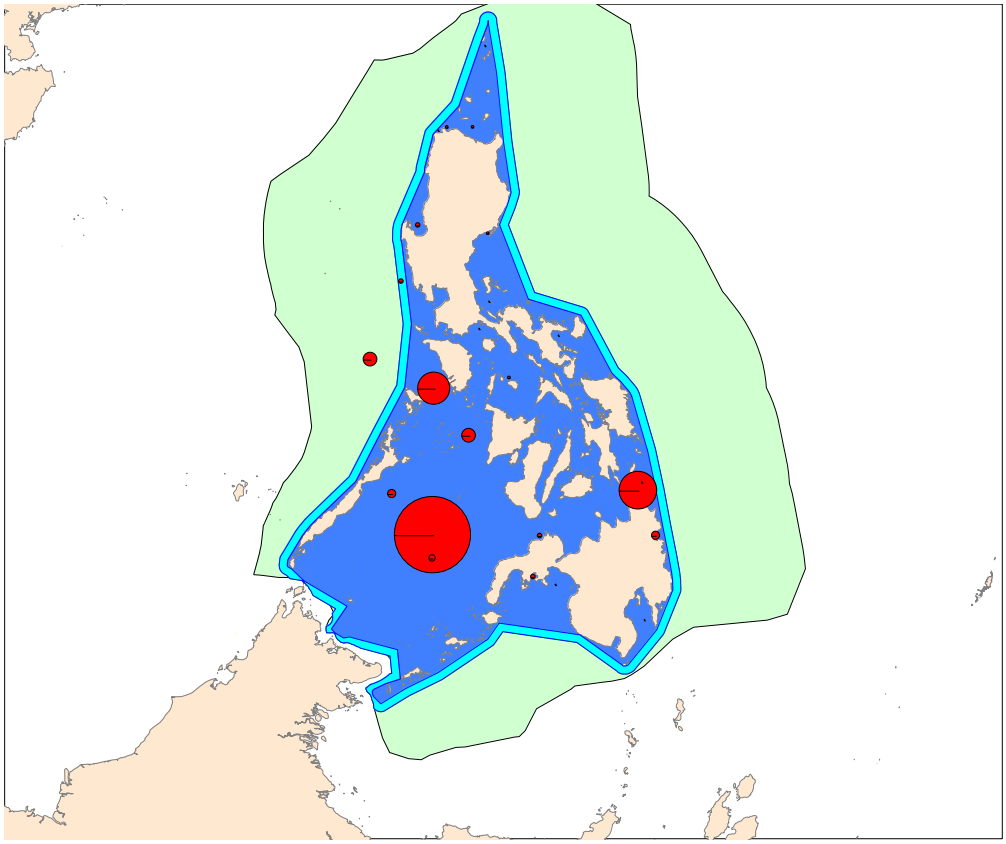

Figure A4. Distribution of tuna catch from the Philippines **OTHER small-scale** gears (bagnet, beach seine, small-scale drift longline) by fishing ground
(Philippines National Stock Assessment Project (NSAP) database, 2015-2020)