

# ICCAT GBYP TAGGING PROGRAMME 2024

Atlantic-Wide Research Programme for Bluefin Tuna (GBYP PHASE 13)

## TAGGING OF ATLANTIC BLUEFIN TUNA WITH ICCAT TAGS ON MEDITERRANEAN SPAWNING GROUNDS

Tristan Rouyer, Olivier Derridj, Antoine Landreau, Ana Gordo, Frederic Valls, Albert Teson



**FINAL REPORT**

15<sup>th</sup> July 2024



Co-funded by the  
European Union

## Introduction

More than 60% of the catch of Eastern Atlantic Bluefin Tuna (ABFT) is caught on the Mediterranean spawning grounds, mostly by purse seiners (PS). This segment supports the largest ABFT fishery and providing information on individuals from the spawning grounds is thus key to inform about movements of fish actually targeted by the ABFT fishery. Previous tagging work from these locations has proved valuable as it has led to propose hypothesis on the size-dependency of ABFT transitions between the Mediterranean and the Atlantic, showing that larger individuals >200 cm displayed large migrations that included Mediterranean/Atlantic transitions, whereas smaller individuals did not show such transitions (Rouyer *et al.*, 2019, 2022, 2020). More recent work from the same team using the ICCAT e-tagging database showed the validity of this hypothesis and identified the transition size to be about 175 cm, meaning that ABFT started to display Mediterranean/Atlantic transitions at about that size (Anonymous, 2023). Tagging operations from spawning aggregations are very valuable, but logistically challenging, because they ride on professional activities and within a very short time-frame, but thanks to a tight collaboration with french professionals (SATHOAN), the spanish association Scientific Angler and a funding from France Filière Pêche (PROMPT project), since 2023 three operations permit to target ABFT from the spawning aggregations and during the spawning season for two major spawning/fishing grounds : south of Malta (Central Mediterranean) and the Balearic area (Western Mediterranean). This allows to spread the risks and to ensure that objectives are met, but also to cover the two most important areas regarding catch by PS. This year, 14 pop-up tags, including 8 GBYP tags, were deployed on fish between 156cm and 275cm (CFL). The objectives are to answer the many scientific questions related to migrations, such as fidelity to the spawning ground

## Materials and Methods

### *Tagging generalities*

Tagging was performed by three experienced taggers from IFREMER that can all demonstrate recent records of tags whose retention times hit more than 365 days. The protocol followed is described in (Rouyer *et al.*, 2020). The tags are prepared with a rigging using an XL Domeier for the main anchor and a Large titanium dart anchor for the secondary anchor, which is attached to a loop acting as a retainer for the tag to limit horizontal movements. The first anchor is inserted in the pterygiophores of the second dorsal fin. Two genetic samples are taken using specifically designed tools (Tissue

Sampling Unit, TSU, Allflex). This tool allows for quick and efficient sampling, with single use vials that are self sealed once the sample is taken, avoiding contaminations.

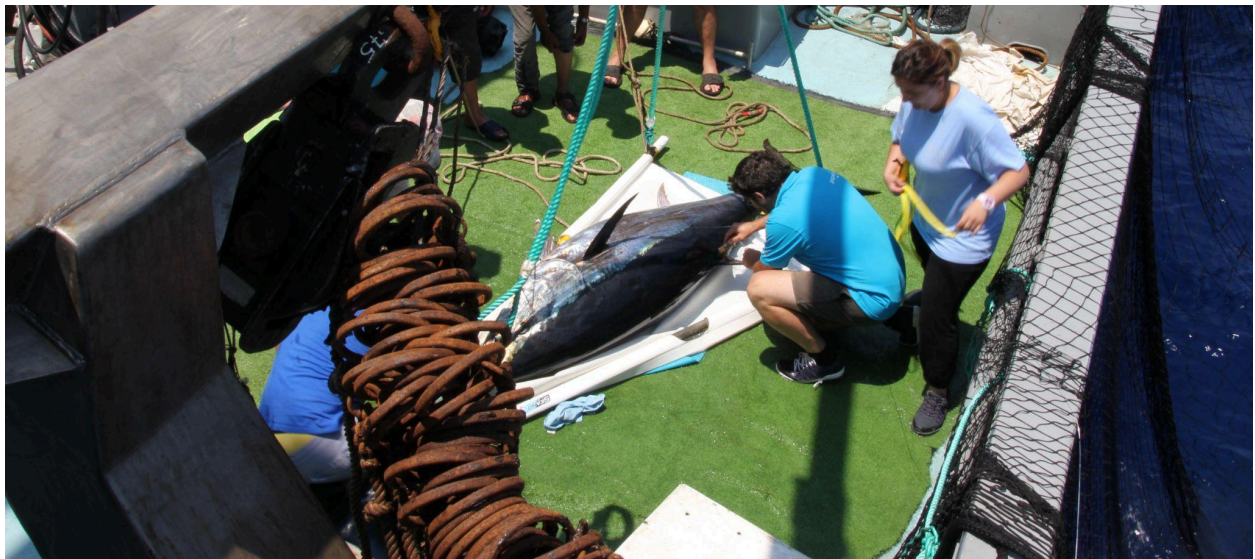


TSU AFX Large Applicator



### *Operation south of Malta*

This operation was done onboard a french purse seiner from SATHOAN (SSF II and SSF III). All details of the operations can be found in (Rouyer *et al.*, 2020). The fish is recaptured from the PS net once the set has been done. This operation is very challenging as it depends on how smooth the fishing season goes, but also on how quickly the fish is transferred from the PS to the cage.



### *Operation in Santa Pola*

This operation is organized by Scientific Angler. It is one fishing event that is organized for the purpose of tagging. In June in Santa Pola, the location is favorable to catch large fish coming to spawn in the Balearic spawning ground. About 10 recreational fishing boats were available to help with the operation. Each fish that is caught is transferred to

a tagging boat where the tagging team could operate. The fish was transferred after being secured on a mouth grip with a rope, thrown from the catching boat to the tagging boat.



### *Operation in the Balearic onboard french longliners*

This operation takes place onboard french longliners that operate in the area before and after the PS fishing season, here the 3 frères II. The operation was successfully realized on the same boat for the first time in 2023, with six tags deployed. Among these 6 tags, only 2 tags released (after 322 and 365 days), four tags that are programmed for 2 years are still at large. The operation is very similar to what is done onboard the PS. Once a fish still alive is caught, it is taken to a stretcher, from where it is then hauled onto the deck for the tagging. This operation is very efficient, but critically depends on how many fish are caught on a given night, as the priority for the fisherman is to load trucks with a minimum quantity. In a night with little catch, no fish will be tagged.



## Results

The tagging operation onboard the PS proved very complex. After 3 weeks onboard the PS, the boats still hadn't caught any tuna. It was therefore decided to move away from this operation so that effort could be put on the other operations. The Santa-Pola operation was very successful, allowing the deployment of 6 GBYP tags. The operation from the french longliner was difficult as it was plagued with a week-long period of low-catch, which only allowed for two fish to be tagged.

Table 1: Information about the fish that were tagged from the three operations. The weights were obtained using the length and girth of the fish. The relationship used was validated by comparing predicted weights to measured weights on a sample of 30 tunas.

PTT	SN	LAT	LON	DATE	TIME	LOCATION	BOAT	CFL	W	SPAG
264259	23P2903	38°02'75 N	000°18'161 W	5/6/2024	11h20	SANTAPOLA	SAMSARA	210	140	22
264255	23P2610	38°02'197 N	000°16'354 W	8/6/2024	10h30	SANTAPOLA	SAMSARA	221	178	NA
244342	23P2902	38°02'197 N	000°16'354 W	8/6/2024	11h10	SANTAPOLA	SAMSARA	241	242	30
264258	23P2820	38°01'859 N	000°17'971 W	8/6/2024	14h05	SANTAPOLA	ARTIC	243	222	33
264256	23P2786	38°01'730 N	000°18'134 W	8/6/2024	14h58	SANTAPOLA	ARTIC	208	128	27
264263	23P2948	38°02'502 N	000°16'706 W	9/6/2024	12h10	SANTAPOLA	SANTA_MARTA	241	217	32
264257	23P2814	38.61967957	0.5953044	5/7/2024	1h29	Longliner	3FRERESII	208	90	34
220566	21P0411	38.68623194	0.59882543	8/7/2024	00h10	Longliner	3FRERESII	156	56	28

## Conclusion

2024 is probably the hardest of our tagging season to date, yet 8 tags over ten were successfully deployed, with a total of 22 tags deployed. These tags have been deployed on fish targeted by fisheries in the Balearic spawning grounds, ICCAT can be thus sure that they are of Mediterranean origin and they could offer valuable information on the fidelity to the spawning grounds.

## Acknowledgements


This work was carried out under the provision of the ICCAT. The contents of this document do not necessarily reflect the point of view of ICCAT, which has no responsibility over them, and in no ways anticipate the Commission's future policy in this area. This work was conducted within the ICCAT GBYP Phase 13 and partially funded by the European Union through the EU Grant Agreement No. 101133291. These

operations benefited from the funding of the PROMPT project by France Filière Pêche. The team is incredibly grateful to the crew of SSF 2, SSF and 3 Frères 2 for their help and skills onboard, without which nothing could be done. The team is also grateful to the french administration (DGAMPA) for their efficient help regarding the paperwork as well to the spanish administration.

## References

- Anonymous. (2023). REPORT OF THE 2023 ICCAT GBYP WORKSHOP ON BLUEFIN TUNA CLOSE-KIN MARK-RECAPTURE, INCLUDING BIOLOGICAL SAMPLING COORDINATION. *Collect. Vol. Sci. Pap. ICCAT*, 80, 25–53.
- Rouyer, T., Bonhommeau, S., Giordano, N., Ellul, S., Ellul, G., Deguara, S., ... Bernard, S. (2019). Tagging Atlantic bluefin tuna from a farming cage: An attempt to reduce handling times for large scale deployments. *Fisheries Research*, 211, 27–31.
- Rouyer, T., Bernard, S., Kerzerho, V., Giordano, N., Giordano, F., Ellul, S., ... Bonhommeau, S. (2022). Electronic tagging of Bluefin Tunas from the Maltese spawning ground suggests size-dependent migration dynamics. *Environmental Biology of Fishes*, 105, 635–644.
- Rouyer, T., Bonhommeau, S., Giordano, N., Giordano, F., Ellul, S., Ellul, G., ... Kerzerho, V. (2020). Tagging Atlantic bluefin tuna from a Mediterranean spawning ground using a purse seiner. *Fisheries Research*, 226, 105522.

Les informations contenues dans ce document sont valides en date d'impression du 30/04/2024


 <p><b>GOUVERNEMENT</b> <i>Liberté Égalité Fraternité</i></p>	<p><b>Autorisation de pêche à des fins scientifiques dans le cadre du projet PROMPT visant à améliorer la compréhension des processus biologiques et écologiques du thon rouge</b></p>	<p>2024/916523/PROMPT/000001</p>
--	--	----------------------------------

<p><b>Références réglementaires</b></p>	<p>*Règlement (CE) n° 1224/2009 du Conseil du 20 novembre 2009 instituant un régime communautaire de contrôle afin d'assurer le respect des règles de la politique commune de la pêche ; *Règlement (UE) n° 1380/2013 du Conseil du 11 décembre 2013 relatif à la politique commune de la pêche ; *Articles R.921-76 et suivants du Code rural et de la pêche maritime *Protocole scientifique pour le projet PROMPT.</p>		
<p><b>Nom du navire autorisé</b></p>	<p><b>TROIS FRERES II</b></p>	<p><b>OP : SA THO AN</b></p>	
<p><b>Immatriculation du navire autorisé</b></p>	<p><b>ST 916523</b> Quartier N° immatriculation</p>		
<p><b>Nom de l'armement</b></p>	<p><b>FREJAFOND RENAUD</b></p>		
<p><b>Caractéristiques techniques du navire</b></p>	<p><b>Longueur hors tout : 17.95 (en mètres)</b></p>	<p><b>Puissance : 280.00 (en kw)</b></p>	<p><b>Jauge : 48.00 (en UMS)</b></p>
<p><b>Pour la période du : 05/06/2024 au 15/07/2024</b></p>			
<p><b>Condition de l'autorisation</b></p>			
<p><b>Activité(s) réglementée(s)</b></p>		<p><b>Condition(s) spéciale(s)</b></p>	
<p>Observateur sur demande</p>		<p>Tout ou partie d'une mission se déroulant dans les eaux d'un Etat membre tiers doit prévoir l'obligation pour le pêcheur d'embarquer un observateur de cet Etat membre sur simple demande.</p>	
<p><b>Date de délivrance : 30/04/2024</b></p>			

<p><b>Actions sur l'autorisation</b></p>			
<p><b>Liste des périodes de suspension</b></p>			
<p>Date de début</p>	<p>Date de fin</p>	<p>Motif juridique de suspension</p>	
<p><b>Abrogation</b></p>			
<p>Date d'effet</p>	<p>Motif juridique d'abrogation</p>		
<p><b>Retrait</b></p>			
<p>Date d'effet</p>	<p>Motif juridique de retrait</p>	<p>Observation</p>	




Les informations contenues dans ce document sont valides en date d'impression du 30/04/2024

 <p><b>GOUVERNEMENT</b> Liberté Égalité Fraternité</p>	<p><b>Autorisation de pêche à des fins scientifiques dans le cadre du projet PROMPT visant à améliorer la compréhension des processus biologiques et écologiques du thon rouge</b></p>	2024/923752/PROMPT/000004
---	--	---------------------------

<b>Références réglementaires</b>	<p>*Règlement (CE) n°1224/2009 du Conseil du 20 novembre 2009 instituant un régime communautaire de contrôle afin d'assurer le respect des règles de la politique commune de la pêche ;          *Règlement (UE) n°1380/2013 du Conseil du 11 décembre 2013 relatif à la politique commune de la pêche ;          *Articles R.921-76 et suivants du Code rural et de la pêche maritime          *Protocole scientifique pour le projet PROMPT.</p>		
<b>Nom du navire autorisé</b>	ST SOPHIE FRANCOIS 3	<b>OP</b> : SA THO AN	
<b>Immatriculation du navire autorisé</b>	ST Quartier	923752 N° immatriculation	
<b>Nom de l'armement</b>	SSF		
<b>Caractéristiques techniques du navire</b>	<b>Longueur hors tout</b> : 37.50 (en mètres)	<b>Puissance</b> : 516.00 (en kw)	<b>Jauge</b> : 251.00 (en UMS)
<b>Pour la période du : 26/05/2024 au 01/07/2024</b>			
<b>Condition de l'autorisation</b>			
<b>Activité(s) réglementée(s)</b>		<b>Condition(s) spéciale(s)</b>	
Observateur sur demande		Tout ou partie d'une mission se déroulant dans les eaux d'un Etat membre tiers doit prévoir l'obligation pour le pêcheur d'embarquer un observateur de cet Etat membre sur simple demande.	
<b>Date de délivrance : 30/04/2024</b>			

<b>Actions sur l'autorisation</b>			
<b>Liste des périodes de suspension</b>			
Date de début	Date de fin	Motif juridique de suspension	
<b>Abrogation</b>			
Date d'effet	Motif juridique d'abrogation		
<b>Retrait</b>			
Date d'effet	Motif juridique de retrait	Observation	

Les informations contenues dans ce document sont valides en date d'impression du 30/04/2024

 <p><b>GOUVERNEMENT</b> Liberté Égalité Fraternité</p>	<p><b>Autorisation de pêche à des fins scientifiques dans le cadre du projet PROMPT visant à améliorer la compréhension des processus biologiques et écologiques du thon rouge</b></p>	<p>2024/859076/PROMPT/000003</p>
---	--	----------------------------------

<p><b>Références réglementaires</b></p>	<p>*Règlement (CE) n°1224/2009 du Conseil du 20 novembre 2009 instituant un régime communautaire de contrôle afin d'assurer le respect des règles de la politique commune de la pêche ;          *Règlement (UE) n°1380/2013 du Conseil du 11 décembre 2013 relatif à la politique commune de la pêche ;          *Articles R.921-76 et suivants du Code rural et de la pêche maritime          *Protocole scientifique pour le projet PROMPT.</p>		
<p><b>Nom du navire autorisé</b></p>	<p><b>ST SOPHIE FRANCOIS 2</b></p>	<p><b>OP : SA THO AN</b></p>	
<p><b>Immatriculation du navire autorisé</b></p>	<p><b>ST 859076</b> Quartier N° immatriculation</p>		
<p><b>Nom de l'armement</b></p>	<p><b>SSF</b></p>		
<p><b>Caractéristiques techniques du navire</b></p>	<p><b>Longueur hors tout : 37.50 (en mètres)</b></p>	<p><b>Puissance : 516.00 (en kw)</b></p>	<p><b>Jauge : 251.00 (en UMS)</b></p>
<p><b>Pour la période du : 26/05/2024 au 01/07/2024</b></p>			
<p><b>Condition de l'autorisation</b></p>			
<p><b>Activité(s) réglementée(s)</b></p>		<p><b>Condition(s) spéciale(s)</b></p>	
<p>Observateur sur demande</p>		<p>Tout ou partie d'une mission se déroulant dans les eaux d'un Etat membre tiers doit prévoir l'obligation pour le pêcheur d'embarquer un observateur de cet Etat membre sur simple demande.</p>	
<p><b>Date de délivrance : 30/04/2024</b></p>			

<p><b>Actions sur l'autorisation</b></p>		
<p><b>Liste des périodes de suspension</b></p>		
<p>Date de début</p>	<p>Date de fin</p>	<p>Motif juridique de suspension</p>
<p><b>Abrogation</b></p>		
<p>Date d'effet</p>	<p>Motif juridique d'abrogation</p>	
<p><b>Retrait</b></p>		
<p>Date d'effet</p>	<p>Motif juridique de retrait</p>	<p>Observation</p>