

ICCAT GBYP TAGGING PROGRAMME 2024

Atlantic-Wide Research Programme for Bluefin Tuna
(GBYP PHASE 14)

Tagging of Atlantic bluefin tuna with ICCAT tags in Skagerrak, Kattegat and Øresund



Kim Aarestrup, Kim Birnie-Gauvin, Marie Pedaccini, Freja Azzopardi
Hansen, Henrik Baktoft, & Anders Koed, Technical University of
Denmark (DTU Aqua)

FINAL REPORT

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1. Executive Summary

Atlantic bluefin tuna (ABFT) have, a little under a decade ago, returned to waters in the Skagerrak-Kattegat-Øresund area between Denmark and Sweden. Until then, they had been nearly absent for almost six decades. Knowledge on their distribution, ecology, population structure and survival is necessary to understand their re-occurrence in the region. Hence, we conducted a tagging study to track their migratory behaviour. We deployed, within the framework of the Swedish and Danish collaboration “Scandinavian Bluefin Marathon”, a variety of electronic and conventional tags on 83 ABFT (CFL ranging between 215 to 288 cm) in Skagerrak and Øresund over the course of 12 tagging days between 24 August and 29 September 2024. All ABFT were tagged with a conventional tag (ICCAT tag series), and most (82 ABFT) were also tagged with an acoustic tag (Thelma-Biotel). Thirty-two (32) ABFT were also tagged with PSATs, of which 6 were provided by the ICCAT GBYP program (under an *ad hoc* Memorandum of Understanding), and five were tagged with biologgers. Biological sampling was undertaken during tagging: a fin clip was taken for genetic analysis and a muscle biopsy, blood sample and scales were collected to explore the physiological status (and other parameters) of each tagged individual. The tagging and sampling operations will extend the results already obtained from similar electronic tagging programs conducted between 2017 – 2023. Moreover, given the ongoing deployment of acoustic infrastructure in the Strait of Gibraltar and Danish Straits (under the guise of the EU-funded STRAITS project), our data will contribute greatly to our broader understanding of ABFT movements and population dynamics.

2. Introduction

ABFT have been a rare sight (if not completely absent) in waters of the Skagerrak/Kattegat/Øresund since the early 1960s. However, sightings have been reported with increasing regularity since 2015 (Aarestrup et al. 2022a).

In 2017, the first ABFTs were tagged with electronic tags in the Skagerrak. This was the first time ABFT were tagged in Scandinavian waters since the early 1960s, when ABFT were tagged with conventional tags in Norwegian waters (Hamre, 1963; Mather et al., 1995). Since its inception, the Scandinavian Bluefin Marathon (SBM) – a collaboration between the Technical University of Denmark, National Institute of Aquatic Sciences (DTU Aqua), Denmark, and the Swedish University of Agricultural Sciences (SLU Aqua), Sweden – has carried out seven years (2017-2023) of ABFT tagging. Field operations take place between August and October, a period when ABFT return annually to feed on a diverse assemblage of forage fish. Again in 2024, an important part of this work was carried out under a MoU with the GBYP ICCAT program, which provided conventional tags and 6 of the deployed pop-up satellite archival tags (PSATs). ABFT were caught by experienced big game anglers using established fishing methods (either using bait or by trolling surface lures). Here, as per the request stated in the MoU signed with ICCAT GBYP, we provide a summary of the project, including an overview of the planning process, contact with anglers and the overall results of the tagging operation and related sampling.

2.1 Project objectives

The overall objective of the project was to tag and sample ABFT in Skagerrak and Øresund to: 1) explore the detailed migration routes used by ABFT that undergo a feeding migration into Northern European seas, 2) identify the population of origin and sex of the tagged ABFT, 3) explore relationships between a catch-and-release experience, migratory behaviour and physiological status, 4) investigate long-term and larger-scale movements, and how these might be affected by fishing and ecosystem conditions, and 5) quantify and map mortality along the migration route. To achieve the objectives, ABFT were caught, tagged with some combination of PSATs, acoustic, biologging and conventional tags, and sampled (fin clip, muscle biopsy, blood sample, scales). For such ambitious goals, a continuous multiyear effort is needed.

3. Methods

Briefly:

- a) In Skagerrak and Øresund, experienced big game anglers (a total of 100 boats involving more than 900 experienced anglers) fished for 12 days between 24 August – 8 September and 21 September – 29 October, 2024. All ABFT were caught using rod and reel.
- b) All ABFT were brought on-board the tagging boat to be tagged and sampled. Whilst on-board, fish were measured, sampled and the hook was removed whenever possible. Once back in the water, fish were ventilated to aid in recovery from the capture and subsequent tagging procedure. To do so, fish were towed by rope at 2-4 knots with the head of the fish pointing forward until the fish was deemed fit for release (fin movements, colour, tailbeats and swimming). In most cases, this was less than 1 minute. All tags were deployed following ICCAT GBYP protocols.
- c) In total, 83 ABFT were tagged with a conventional ICCAT tag, with 82 of these also tagged with an acoustic tag, sampled and released. Thirty-two (32) of these were tagged with PSATs, and five (5) with biologgers. Metrics of all tagged ABFT can be seen in Table 1.

3.1 Planning and organisation of tagging operations

Tagging coordination, tag retrieval and planning: Kim Aarestrup, Kim Birnie-Gauvin, Henrik Baktoft

Coordination of fishing and project operation: Marie Pedaccini, Kim Birnie-Gauvin

Onboard tagging operation: Kim Aarestrup, Kim Birnie-Gauvin, Marie Pedaccini, Freja Azzopardi Hansen, Henrik Baktoft

Assistance in tagging operation: Hans Ole Olesen

Data collection: Kim Birnie-Gauvin, Marie Pedaccini, Freja Azzopardi Hansen

3.2 Selection of anglers

All fishing operations were similar to the previous projects (Aarestrup et al. 2022b, Aarestrup et al. 2021, Birnie-Gauvin *et al.*, 2018), but with updates based on previous experience. In brief, together with our collaborators from SLU Aqua in Sweden, we reached out to sport fishing communities in Sweden, Denmark and nearby countries (e.g. Danish Angler Association (Dansk Sportsfiskerforbund) and Swedish Angler Association (Sportfiskarna)) as well as participants from previous years. To ensure that all fish that will be tagged and released are in good condition, very strict requirements were set on experience to handle gear, boat and fish for inclusion of the teams in the fishing operation. To be selected, fishing teams had to have an appropriate boat (including VHF, AIS and safety equipment), powerful gear (minimum 80 lbs reels, 130 lbs main line, 180 lbs leader, circle hooks and a specified hook for gaffing the tuna), and documented experience with big game fishing of species similar to in mass and behaviour to ABFT. We further requested a minimum of 1-week participation during the project in Skagerrak. This community approach is to ensure continued group learning among fishers about best fishing method for ABFT for tagging. A meeting with the participants was held before the fishing to update them on animal welfare and legislation in relation to animal experimentation.

In total, 100 teams met the requirements and qualified to participate. During fishing, each team was provided with a flag and unique number to be placed on the boat. A list of boats participating in the project was handed to the fishing authorities to enable inspection of participating boats. Additionally, a small group of highly experienced anglers were selected to perform a 'gear check' on all new boats to ensure the quality and standards of the gear, as stipulated in the project description.

The fishing and tagging operations took place between 24 August and 8 September 2024 in Skagerrak, and 21 September and 29 September 2024 in Øresund. Due to the sensitivity of the tagging operation to weather conditions, we had 12 realized fishing days, some with only limited time at sea. The fishing area in the period from 24 August to 8 September spanned quite a large area of the Skagerrak, with water depth being 150-350 meters (**Figure 1**, top rectangle). For the period from 21 September to 29 September the tagging was performed in the Øresund (**Figure 1**, bottom square), but this time with fewer fishing boats. Due to the large number of boats and the vast area of sea to cover, we collaborate with SLU Aqua, who also runs a similar tagging operation. This enabled us to have two separate tagging boats cooperating to perform tagging in the entire area, except for the last period in Øresund, where only the Danish tagging boat was present.

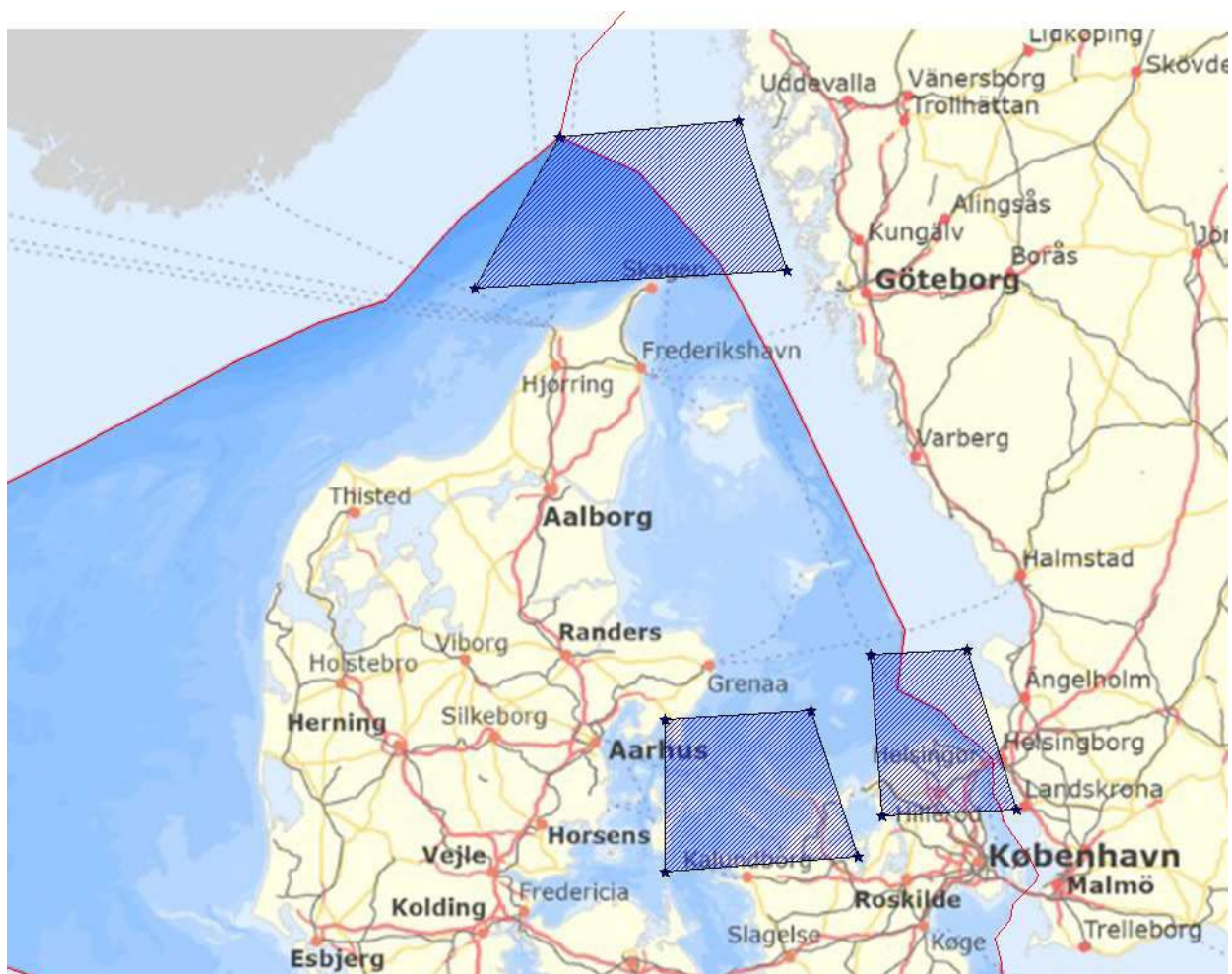


Figure 1. Location of fishing and tagging operations for the Scandinavian Bluefin Marathon (upper crossed polygon) representing the fishing location for 24 August to 8 September 2024; lower right crossed polygon representing the fishing location for 21 September to 29 September 2024, lower left polygon was not fished in 2024).

3.3 Fishing techniques

The fishing was done with rod and reel, typically using balloons and drifting or trolling with baited hooks. The main bait used by the anglers was mackerel, with herring and garfish used to a lesser extent. A few teams opted to chum when deemed necessary. Before the start of each fishing day, a fishing area of approximately 6 to 8 nautical miles in radius was set from a predefined position where the tagging boat was placed (so the tagging boat could reach any fishing position within 20 minutes). Based on the fishing from the previous days or observational data, the fishing area moved slightly from day to day. Each boat had 2-8 crewmembers on board at any given moment. After being caught, ABFT were gaffed by the anglers and towed 5-10m behind the boat at app. 2-4 knots to facilitate recovery. Fish were then transferred with a rope to the tagging boat where tagging and sampling was performed (Fig 2.).



Figure 2. ABFT are gaffed at the front of the mouth and towed after the fishing boat for recovery. A rope, attached to the gaff, was used to transfer the ABFT to the tagging boat, by throwing one end over and releasing the other once the fish is secured behind the tagging boat. Photo: Kim Birnie-Gauvin©.

3.4 Tagging and sampling operations

Once a fish was transferred to the tagging boat (**Figure 2**), the handling protocol was the following:

- 1) ABFT were 'swum' behind the boat and their conditions were evaluated by the tagging team (movement, fins, colours, ventilation, tail beats and swimming);
- 2) ABFT were brought onboard using a winch system by sliding onto a wet aluminium platform fully spray painted with multiple layers of rubber, specifically designed for the tagging of large pelagic fish;
- 3) Fish were continuously ventilated with fresh seawater from the moment they were lifted out of water until they were returned to water following tagging and sampling. In addition, the available eye was covered with a wet dark microfibertowel;
- 4) In no specific order, fish were measured (CFL, curved fork length), tagged, sampled (fin clip, blood sample, muscle biopsy and scales) and the hook was removed. Generally, all tagging, sampling and return to water was done within 2 to 4 minutes.



Figure 3. ABFT onboard the rubber covered ramp of tagging boat specifically designed for the tagging of large pelagic fish. The fish has eyes covered and is continually ventilated with fresh saltwater while

tagging. Photo: Marie Pedaccini ©.

4. Results

4.1 Numbers and sizes of tunas caught and tagged

A total of 83 ABFT were tagged with conventional ICCAT tags, with the majority (82) also tagged with an acoustic tag (Thelma Biotel ID-HP16). Of those fish, a total of six were tagged with ICCAT-provided PSAT (Wildlife Computers miniPAT tags), four from SLU (Wildlife Computers miniPAT tags and Microwave Telemetry X-tags), and 23 PSAT from DTU (15 Wildlife Computers miniPAT tags and 8 Lotek PSATFLEX). Both SLU and DTU's miniPAT tags were programmed to surface after 24 months, while the remaining were programmed to surface after almost 12 months to match next year's planned project to optimize recovery potential. Furthermore, five biologgers + camera were coupled to Wildlife Computer SPOT tags (programmed to release after 3-5 days to facilitate recovery) (Figure 4). All tags were mounted externally.



Figure 4. Package consisting of a PSAT, DST and Camera deployed on ABFT Fins in Skagerrak 2024. Photo: Henrik Baktoft ©.

The 83 SBM-tagged ABFT ranged from 215 to 288 cm (CFL; mean \pm S.D. – 259.2 \pm 16.5 cm), with the individuals tagged with ICCAT-provided PSATs ranging from 226 to 272 cm (CFL) (Figure 5).

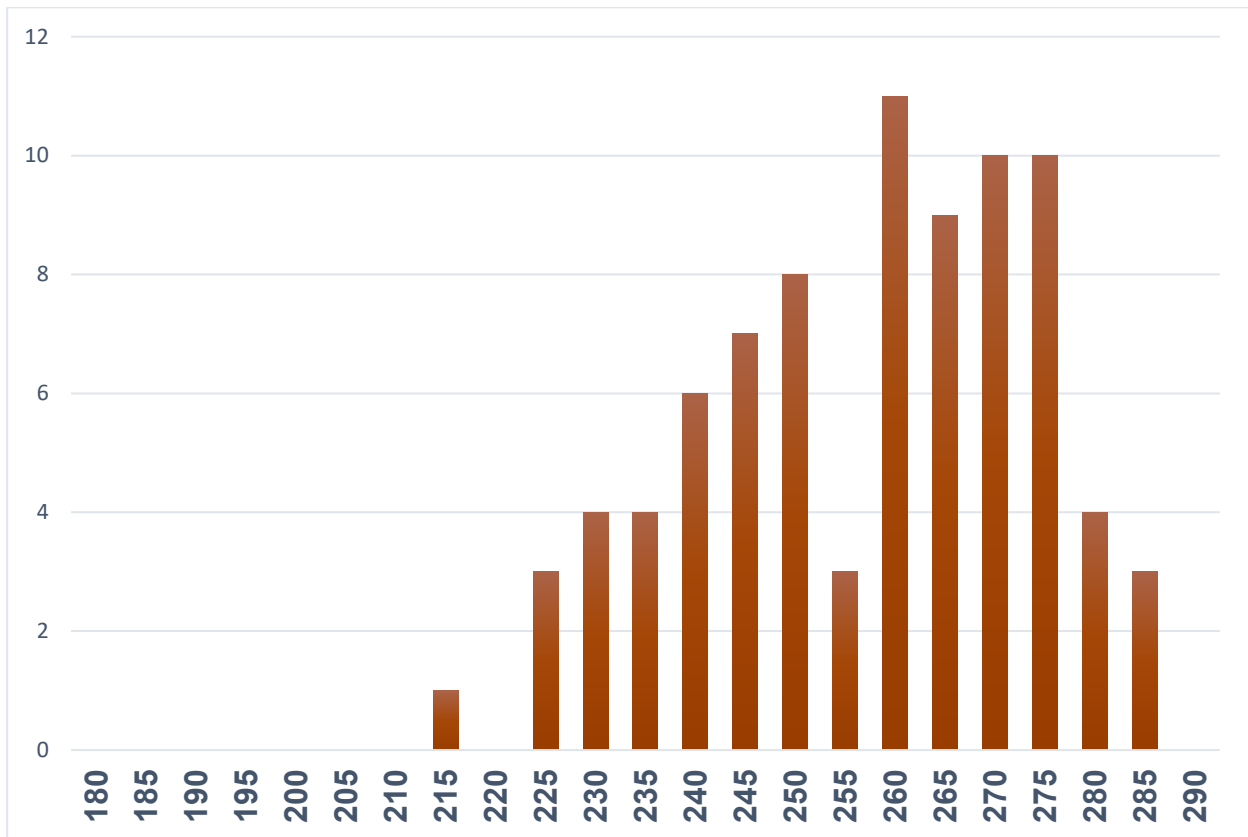


Figure 5. Length-frequency distribution for 83 Atlantic bluefin tunas measured by the Danish Scandinavian Bluefin Marathon during field operations in 2024. Mean length was 259 cm CFL.

4.2 Samples collected

Fin clips (< 0.5 cm in size) were taken from all tagged tunas for genetic assignment to determine population of origin (western vs eastern Atlantic) and sex. In addition, scales, muscle biopsies (< 0.5 cm in size), anal swap by cotton stick and blood samples (<1mL) were obtained from most tagged tunas.

5. Overall summary and conclusions

The project successfully engaged the Nordic big game fishing community to participate in a tagging operation for ABFT in Skagerrak and Øresund. The operations in the Scandinavian Bluefin Marathon 2024 successfully deployed four types of tags (PSAT, acoustic, biologgers, and conventional tags), and the results of these tagging operations will, in the coming years, contribute significantly to new knowledge generated on ABFT migratory behaviour (both short and long-term). Our tagging project is particularly relevant given the acoustic telemetry infrastructure currently being deployed by the EU-funded STRAITS project which will detect acoustically-tagged fish in the Danish Straits, but also as they migrate in and out of the Mediterranean, through the Strait of Gibraltar. Newer telemetry projects instrumenting the Norwegian Trench and the Kattegat/Skagerrak transitions are expected to add many more detections. As such, the large number of ABFT tagged with long-term acoustic tags will provide unprecedented data which will no doubt inform better management practices.

6. Acknowledgements

This work has been carried out under the ICCAT Atlantic-Wide Research Programme for Bluefin Tuna (GBYP), which is funded by the European Union, several ICCAT CPCs, the ICCAT Secretariat, and other entities (see <https://www.iccat.int/gbyp/en/overview.asp>). We wish to thank our skipper, Hans Ole Olesen for his time and dedication to the project. We also wish to thank all the volunteer anglers, without whom this project would not have been possible and various sponsors, especially Tunforeningen af 2019. The content of this paper does not necessarily reflect ICCAT's point of view or that of any of the other sponsors, who carry no responsibility. In addition, it does not indicate the Commission's future policy in this area.

7. References

- Aarestrup, K., Baktoft, H., Birnie-Gauvin, K., Sundelöf, A., Cardinale, M., Quilez-Badia, G., Onandia, I., Casini, M., Nielsen E.E., Koed, A., Alemany, F. & MacKenzie, B.R. 2022a. First tagging data on large Atlantic bluefin tuna returning to Nordic waters suggest repeated behaviour and skipped spawning. *Scientific Reports*, 12(1), 1-11.
- Aarestrup, K., Källo, K., Birnie Gauvin, K., Sortland, L.K., Baktoft, H. & Koed, A. 2022b. Tagging of Atlantic bluefin tuna with ICCAT tags in Skagerrak, Kattegat and Øresund. Atlantic-Wide Research Programme for Bluefin Tuna (GBYP PHASE 11) tagging report, 12 pp.
- Aarestrup, K., Birnie-Gauvin, K., Baktoft, H., MacKenzie, B. R., Righton, D., Witt, M., Hawkes, L., Horton, T., Hellström, G., Sundelöf, A. & Brodin, T. 2021. Tagging of Atlantic bluefin tuna with ICCAT tags in Skagerrak, Kattegat and western English Channel in 2020. ICCAT Atlantic-Wide Research Programme for Bluefin Tuna (GBYP PHASE 10) tagging report, 13pp.
- Birnie-Gauvin, K., MacKenzie, B. R., and Aarestrup, K. 2018. Electronic tagging of bluefin tunas in Scandinavian waters 2018. ICCAT Coll.Vol.Sci.Papers SCRS/2018/178, xx: 6 pp.
- Hamre, J. 1963. Tuna tagging experiments in Norwegian waters (Experience Paper No. 3). Proc. World Sci. Meeting on the Biology of Tunas and Related Species, La Jolla, California, USA, 2-14 July 1962. FAO, Rome. 1125–1132 pp.
- Mather, F. J., Mason, J. M., and Jones, A. C. 1995. Historical document: life history and fisheries of Atlantic bluefin tuna. NOAA Technical Memorandum NMFS-SEFSC, 370: 1–165. US Department of Commerce, NOAA, NMFS, Southeast Fisheries Science Center.

Table 1. ABFT tagged in 2024 by the Danish tagging team of the Scandinavian Bluefin marathon with information on date, acoustic tag ID, PSAT ID, PSAT owner (ICCAT [International Commission Conservation of Atlantic Tunas], DTU [Technical University of Denmark]), tag type (WC = Wildlife Computer miniPAT, LP = Lotek PSATFLEX, WCA = Wildlife Computer SPOT tag + Biologger), conventional tag ID, and release coordinates.

Date	Acoustic ID	PSAT ID	Owner	Tag type	Conventional	Latitude	Longitude	Length	Vial
31-08-2024	03KO-8189	266901	DTU	WC	080363	58.00.060	10.47.278	231	T578
31-08-2024	03KP-8190	266902	DTU	WC	080348	57.56.041	10.47.541	245	T579
01-09-2024	03KQ-8191	266916	DTU	WCA	080335	58.07.815	10.08.350	244	T580
01-09-2024	03KR-8192	266917	DTU	WCA	080332	58.07.948	10.17.752	256	T581
01-09-2024	03KS-8193	266903	DTU	WC	080345	58.09.442	10.01.979	282	T582
01-09-2024	03KT-8194	266904	DTU	WC	080346	58.10.222	10.02.366	262	T583
02-09-2024	03KU-8195	266905	DTU	WC	080227	58.05.377	10.09.616	254	T584
02-09-2024	03KV-8196	266906	DTU	WC	080242	58.06.929	10.06.864	233	T585
02-09-2024	03KW-8197	266907	DTU	WC	080228	58.10.195	10.08.404	245	T586
02-09-2024	03KX-8198	266908	DTU	WC	080232	58.08.917	10.08.665	282	NA
02-09-2024	03KY-8199	266909	DTU	WC	080231	58.08.990	10.05.989	281	T588
02-09-2024	03KZ-8200	266910	DTU	WC	080225	58.10.115	10.05.708	239	T589
02-09-2024	03L0-8201	266911	DTU	WC	080241	58.09.471	10.03.393	247	T590
02-09-2024	03L2-8203	266912	DTU	WC	080239	58.06.681	10.16.708	275	T591
02-09-2024	03L3-8204	266913	DTU	WC	080234	58.08.212	10.06.018	228	T592
02-09-2024	03L4-8205	266914	DTU	WC	080246	58.09.475	10.09.969	233	T593
02-09-2024	03L5-8206	266915	DTU	WC	080248	58.09.159	10.05.252	277	T594
02-09-2024	03L6-8207	NA	NA	NA	080245	58.08.719	10.05.965	266	T595
02-09-2024	03L7-8208	NA	NA	NA	080236	58.08.811	10.01.225	260	T596
02-09-2024	03L9-8210	NA	NA	NA	080247	58.09.795	10.05.018	279	T598
04-09-2024	03LA-8211	264260	ICCAT	WC	080230	58.09.856	10.05.634	259	T599
04-09-2024	03LB-8212	264261	ICCAT	WC	080249	58.11.451	10.09.033	226	T600
04-09-2024	03LC-8213	265012	ICCAT	WC	080238	58.08.706	10.11.621	237	T601
04-09-2024	03LD-8214	265536	ICCAT	WC	080233	58.15.210	10.17.260	249	T602
06-09-2024	03LE-8215	NA	NA	NA	080235	58.07.033	10.01.024	235	T603
06-09-2024	03LF-8216	266917	DTU	WCA	080226	58.08.566	10.01.859	262	T604
06-09-2024	03LG-8217	265548	ICCAT	WC	080244	58.12.231	10.05.181	272	T605
06-09-2024	03LH-8218	266916	DTU	WCA	080229	58.09.591	10.04.502	253	T606
06-09-2024	NA	265532	DTU	WCA	080243	58.06.999	09.53.183	229	T607
07-09-2024	03LI-8219	267253	DTU	LP	080237	58.09.344	09.57.868	274	T608
07-09-2024	03LJ-8220	267252	DTU	LP	080240	58.09.286	09.57.347	256	T609
07-09-2024	03LK-8221	267254	DTU	LP	080282	58.09.399	10.00.360	266	T610
07-09-2024	03LL-8222	NA	NA	NA	080276	58.07.236	09.53.165	244	T611
07-09-2024	03LM-8223	NA	NA	NA	080298	58.08.182	09.55.066	266	T612
07-09-2024	03LN-8224	267251	DTU	LP	080280	58.08.812	09.54.024	270	T613
07-09-2024	03LO-8225	267249	DTU	LP	080295	58.10.814	09.53.502	272	T614
07-09-2024	03LP-8226	NA	NA	NA	080277	58.08.525	09.53.885	232	T615
07-09-2024	03LQ-8227	267250	DTU	LP	080278	58.06.633	09.48.998	246	T616
08-09-2024	03LR-8228	NA	NA	NA	080281	58.10.379	09.58.599	243	T617

08-09-2024	03MC-8249	NA	NA	NA	080287	58.12.598	10.03.645	249	T618
08-09-2024	03MD-8250	NA	NA	NA	080291	58.10.870	10.03.126	244	T619
08-09-2024	03ME-8251	NA	NA	NA	080297	58.13.093	10.04.495	243	T620
21-09-2024	03MF-8252	NA	NA	NA	080292	56.08.322	12.31.350	250	T621
21-09-2024	03MG-8253	NA	NA	NA	080334	56.10.174	12.29.520	253	T622
21-09-2024	03MI-8255	NA	NA	NA	080284	56.10.730	12.30.090	279	T624
21-09-2024	03MJ-8256	NA	NA	NA	080285	56.11.375	12.29.418	261	T625
21-09-2024	03MK-8257	NA	NA	NA	080275	56.10.425	12.29.890	288	T626
21-09-2024	03ML-8258	NA	NA	NA	080290	56.11.036	12.30.478	251	T627
21-09-2024	03MM-8259	NA	NA	NA	080279	56.08.550	12.25.964	271	T628
21-09-2024	03MN-8260	NA	NA	NA	080288	56.11.945	12.30.138	253	T629
21-09-2024	03MO-8261	NA	NA	NA	080286	56.12.876	12.28.195	285	T630
21-09-2024	03MP-8262	NA	NA	NA	080283	56.13.104	12.27.495	275	T631
21-09-2024	03MQ-8263	NA	NA	NA	080296	56.12.784	12.28.328	254	T632
21-09-2024	03MR-8264	NA	NA	NA	080299	56.10.801	12.29.039	262	T633
21-09-2024	03MS-8265	NA	NA	NA	080293	56.08.394	12.25.521	260	T634
21-09-2024	03MT-8266	NA	NA	NA	080289	56.13.978	12.25.361	277	T635
22-09-2024	03MU-8267	NA	NA	NA	088727	56.07.272	12.33.453	261	T636
22-09-2024	03MV-8268	NA	NA	NA	088731	56.06.559	12.35.550	264	T637
22-09-2024	03O0-8309	NA	NA	NA	088738	56.06.610	12.35.958	285	T638
22-09-2024	03O1-8310	NA	NA	NA	088741	56.08.928	12.29.996	277	T639
22-09-2024	03O2-8311	NA	NA	NA	088737	56.10.449	12.28.413	271	T640
22-09-2024	03O3-8312	NA	NA	NA	088745	56.10.930	12.27.430	269	T641
22-09-2024	03O4-8313	NA	NA	NA	088730	56.13.101	12.26.079	238	T642
22-09-2024	03O5-8314	NA	NA	NA	088744	56.14.348	12.27.157	276	T643
22-09-2024	03O6-8315	266917	DTU	WCA	088739	56.12.304	12.27.925	265	T644
22-09-2024	03O7-8316	NA	NA	NA	088750	56.11.367	12.28.334	253	T645
22-09-2024	03O8-8317	NA	NA	NA	088726	56.15.523	12.26.628	274	T646
22-09-2024	03O9-8318	254518	DTU	WC	088748	56.15.946	12.26.115	249	T647
22-09-2024	03OA-8319	254517	DTU	WC	088734	56.09.910	12.29.710	282	T648
22-09-2024	03OB-8320	252387	DTU	WC	088743	56.12.391	12.28.265	272	T649
23-09-2024	03OD-8322	252393	DTU	WC	088749	56.07.081	12.27.969	269	T651
24-09-2024	03OC-8321	NA	NA	NA	088740	56.09.000	12.31.307	276	T652
24-09-2024	03OE-8323	NA	NA	NA	088747	56.06.517	12.34.155	273	T653
24-09-2024	03OF-8324	NA	NA	NA	088735	56.08.370	12.32.223	276	T654
24-09-2024	03OG-8325	NA	NA	NA	088732	56.10.668	12.29.693	264	T655
24-09-2024	03OH-8326	NA	NA	NA	088742	56.10.711	12.31.386	243	T656
24-09-2024	03OI-8327	NA	NA	NA	088729	56.09.891	12.29.412	265	T657
24-09-2024	03OJ-8328	NA	NA	NA	088736	56.10.508	12.30.136	269	T658
24-09-2024	2231-6630	NA	NA	NA	088746	56.11.500	12.28.410	260	T659
24-09-2024	03P0-8345	NA	NA	NA	088733	56.11.960	12.29.927	274	T660
26-09-2024	03OY-8343	NA	NA	NA	088728	56.12.569	12.30.095	260	T661
26-09-2024	03P3-8348	267255	DTU	LP	088761	56.05.300	12.37.375	266	T662

Table 2. Tags deployed within ICCAT GBYP Electronic tagging campaign 2024

Tag Serial No.	Argos No. decimal	Conventional Tag No.	Deployment Date	Deployment Latitude	Deployment Longitude	Specimen length CFL (cm)
23P2943	264260	080230	2024-09-04	58.09.856	10.05.634	259
23P2946	264261	080249	2024-09-04	58.11.451	10.09.033	226
23P2011	265012	080238	2024-09-04	58.08.706	10.11.621	237
24P0021	265536	080233	2024-09-04	58.15.210	10.17.260	249
24P0087	265548	080244	2024-09-06	58.12.231	10.05.181	272
24P0118	265532	080243	2024-09-06	58.06.999	09.53.183	229