

Government Of Jersey

Atlantic Bluefin Tuna Report

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Abstract

The sighting and capture of Atlantic bluefin tuna (ABFT) in Channel Island waters has created issues around the species' management, population structure, migration patterns and the feasibility of an emerging fishery. To address this, the Government of Jersey has reviewed current international legislation and transborder fishery management agreements to determine the island's obligations with regard to managing what is a commercially and recreationally sought after species. This report particularly focuses on the role of the International Commission for the Conservation of Tuna (ICCAT), on quota application and Jersey's relationship with and obligations to the United Kingdom (UK), European Union (EU) and United Nations (UN). This report also examines research options for the study of ABFT and the feasibility of a commercial fishery emerging in the future.

1.0 - Summary

Over the past decade shoals of Atlantic bluefin tuna (ABFT; *Thunnus thynnus*) have been documented in the Western English Channel, Celtic Deeps, West Coast of Ireland and the Western Isles of Scotland. Since 2016 ABFT have been sighted inside Jersey's territorial waters usually during late summer and autumn months and sometimes in shoals of tens or possibly hundreds of individuals. This has attracted the attention of commercial and recreational fishers as ABFT are an economically valuable commodity in the sashimi trade and are prized as a sport fish.

However, as a top pelagic predator with a wide geographic range, ABFT are particularly vulnerable to being overfished. The species has a historical track record of mismanagement and overexploitation which reduced stocks to a point where, in 2009, they were classified as an endangered species by the International Union for Conservation of Nature (IUCN).

Since 1966 the management of ABFT within the Atlantic Ocean has been coordinated by The International Commission for the Conservation of Atlantic Tuna (ICCAT) whose membership of 53 contracting parties includes the EU. The objective of ICCAT is to create a sustainably managed fishery for tuna (and other closely related) species within the Atlantic Ocean and adjacent waters.

Until recently ICCAT had a mixed track record of success but a recent change in ethos has seen the adoption of recovery plans for key species (include ABFT) based around strict quota. For example, the total allowable catch (TAC) of ABFT in the eastern part of its range fell from 24,500 tonnes in 2007 to 12,100 tonnes in 2014. A perceived recovery in ABFT has led to a gradual increase in TAC to 36,000 for 2020. In 2015 the IUCN reduced the conservation status of ABFT to 'near threatened' and in 2021 to 'least concern'.

The UK is contracting party to ICCAT but up until 2020 had no demonstrable track record of fishing for tuna and so has a zero annual quota for landing ABFT. The Bailiwick of Jersey is a Crown Dependency with its own territorial waters that are outside the jurisdiction of the UK

and the EU. Jersey is not a contracting party to ICCAT and so is not bound by its management framework. However, Jersey has a Fisheries Management Agreement (FMA) with the UK which includes a commitment that the island's commercial fishery adheres to the UK's EU quotas for fish species. The UK's zero quota for catching and landing ABFT therefore also applies to Jersey. Since 2020, the UK has acquired a quota and has administered this to be used in a scientific C&R fishery run by CEFAS. This is exclusive to charter fishing vessels.

As a Crown Dependency, Jersey is not recognised as an independent state by the UN and so cannot apply to join ICCAT in its own right. The UK represents Jersey on matters of foreign affairs and can apply to ICCAT to extend ratification to a Crown Dependency. The application process is evidence based and will require considerable political and government resources both locally and in the UK. With the UK having left the EU and with international fisheries being a key part of the Brexit negotiations, ICCAT ratification will look to be extended to Jersey in the near future.

The recent presence of ABFT inside Jersey's territorial waters, the lack of fishing quota and the species' least concern conservation status has generated controversy and publicity locally, nationally and internationally. The complicated international regulatory framework associated with ABT has prohibited the commercial sector from targeting and landing ABT and, following the landing of an ABT by a recreational vessel in 2018, a zero bag limit has placed restrictions on the recreational sector.

Fisheries regulation within Jersey's territorial waters is managed by the Marine Resources section of the Government of Jersey. As well as local regulations, Marine Resources is obliged to ensure Jersey's compliance with its UK FMA as well as regional and international conventions and agreements.

Since 2018 pressure has been placed on the Government of Jersey and the States of Jersey from individuals and organisations to: (1) enable local commercial and recreational fishers to land ABT; or (2) give full protection to a ABT. These positions are contradictory and on occasion generated publicity in which information about ABT and its management have been unintentionally misrepresented.

Part of Jersey's marine management framework includes a quarterly stakeholder meeting (the Marine Resources Panel) for representatives of the fishing sector, merchants and scientific groups as well as government ministers and regulators. On the 9 September 2019 fishing representatives asked the Marine Resources section to prepare a paper on ABT with the objective of documenting and explaining Jersey's current position and obligations and to explore any possibilities for an ABT fishery within the commercial and recreational sectors. The results of this review are presented here.

2.0 – The Distribution and Status of ABFT

ABT are primarily found in the North Atlantic and in the Mediterranean Sea. The fish was historically present in the Black Sea and its presence there was well documented in ancient times although no individuals have been seen or caught there since the 1980s. There are currently two known spawning aggregation area, one in the Gulf of Mexico and the Mediterranean Sea. These areas are not isolated and there is an exchange of individuals between the eastern and western populations.¹ The most recent stock assessment conducted by ICCAT suggests that recent management efforts to reduce fishing mortality are working but that the stock remains overfished. The current IUCN status for ABT is Least Concern.

2.1 – The occurrence of ABFT in Jersey waters

The Bailiwick of Jersey has no documented track record of a historical ABT fishery. Species of tuna (probably ABT) have been historically reported from Channel Islands waters with reliable sightings from the years 1949, 1953 (both Jersey waters) and 1962 (north of Alderney). Prior to 2018 the only traceable tuna catches come from newspaper reports in the 1860s although the species of tuna caught was not usually given. That such catches should be newsworthy suggests that tuna captures were, even then, an unusual event (this is sometimes said in the articles). Other historical catch records may exist but if tuna were previously caught in large numbers (as has been claimed in some recent publicity) then the evidence needed to demonstrate this has not yet been found.²

Tuna seem to have been absent from the region since the 1960s but recent anecdotal reports suggest that ABT have been sighted sporadically in local waters since at least 2016 with confirmable sightings being made in 2017. During 2018 and 2019 large shoals of ABT were seen to the west and north of Jersey and isolated individuals have been seen around the island including close inshore.

The driver behind the arrival of ABT in local waters is unknown. The range of ABT is broad and historically includes waters that are colder and more northerly than the Channel Islands. Rather than expanding its range further north, it would appear that ABT has been travelling further east than in previous years and entering the English Channel from the Atlantic Ocean. Whether this is a permanent change in their range or just temporary is not known and it may be that it is the bait prey that is moving into our area, bringing in the ABT. The ABT shoals seen off Jersey have been accompanied by pods of Risso's and Common Dolphins as well as Blue Sharks suggesting that it is not just tuna that are following bait species (such as sprat) into local waters.

¹ Riccioni *et al*, 2013. Genetic Structure of Bluefin Tuna in the Mediterranean Sea Correlates with Environmental Variables.

² Historical sources checked include the Marine Resources' archive, digitised Victorian newspapers from Jersey and Guernsey, biological records held by the Jersey Biodiversity Centre, Patrick Le Mao (Ifremer) and Société Jersiaise, late Victorian fish market records, and several Victorian guides to Jersey/Channel Islands that include descriptions of the fishing industry.

2.2 – The status of the ABFT Stock

The recent historical absence of ABT in local waters and the animal's size, speed and offshore habit, means that local stocks have not been assessed for their population size, fecundity, recruitment, mortality or yield potential. The collection of the data needed to do this is a challenge even for well-equipped fisheries scientists and is certainly beyond the resources and logistical capability of Jersey's marine managers.

However, ABT is a migratory species that can travel thousands of kilometres in a year and so the shoals that visit Jersey waters will be part of the same populations that are encountered in other Atlantic countries. As the international management authority, ICCAT gathers ABT fishery statistics from its contracting parties and coordinates research relating to stock assessment. This is the primary information source for ABT stocks and is what underpins the species' management in the Atlantic Ocean including EU waters.

The ABT stock assessment performed by ICCAT uses Virtual Population Analysis (VPA) which is a widely used statistical method applied to commercial fish stocks. To work correctly, VPA requires a sizeable quantity of detailed catch data, the total catch weight and mathematical knowledge of a species' biology and its fishery. This information is precise and often difficult to obtain even for accessible species, such as lobsters. It is especially problematic for an offshore cross-border ABT fishery that is known to have a sizeable proportion of unrecorded and illegal catches. According to ICCAT there will be a degree of uncertainty around the accuracy of the VPA as applied to ABT stocks.

ICCAT's assessment indicates that the ABT stock (measured by estimating spawning biomass) declined to its lowest level between the 1970s to the late-2000s. After this the state of the stock seemed to improve but ICCAT caveats this trend analysis by highlighting uncertainties around the base dataset and the estimates used within the model.³

The ICCAT assessment suggests that ABFT populations remain historically depressed due to overfishing but that numbers have been recovering. In 2021, this assessment has since lead to a conservation status of Least Concern in the European marine region but apprehension over the accuracy of the VPA results is still present. ICCAT estimates that a relaxing of its current fishery management framework would, within a decade, lead to an ABT population decline exceeding 30 percent.⁴

Management of the eastern Atlantic stock is considered essential to the future of ABT as this represents the majority of the global population. The health of the European ABT stock is dependent on management measures (primarily those from ICCAT) designed to prevent its population from collapsing. All authorities acknowledge that there is a need to have more reliable and complete data for ABT in European waters to improve the statistical models and better understand the exploitation, biology, behaviour and trophic importance of this species.

³ ICCAT, 2019. *Executive Summary: BFTE*. ICCAT Report, pp.101-112.

⁴ Website: IUCN Red List of Threatened Species.

Catch data, tagging programs, fishery independent surveys and mining of historical data will contribute to a better understanding of the status of this species.

3.0 – Pathways to a Commercial ABFT Fishery for Jersey

3.1 – The international regulation of the commercial ABFT fishery

The Bailiwick of Jersey has internationally recognised territorial waters which are regulated independently of the UK and EU. Within this regulatory framework are international fisheries agreements between Jersey, the UK and France. However, the Fisheries Management Agreement (FMA) that Jersey has with the UK does restrict the island's ability to develop a commercial tuna fishery.

As part of the FMA, Jersey must comply with the UK's use of quota. Under the terms of the FMA any fish caught by commercial vessels registered in Jersey must comply with Total Allowable Catch (TAC) rules applicable to English vessels for sea fish TAC stocks in ICES division VIIIE. This includes ABT which, if caught locally, will count against quota allocated to the UK. However, as the UK has been allocated an ABT quota of 50 tonnes which is to be used for a scientific catch and release programme, this effectively prohibits any Jersey vessel from targeting or landing ABT. To do so would not only break the terms of the FMA but also see the UK breaking the EU CFP rules.

The TAC for ABT that is shared out within the CFP is allocated to the UK via ICCAT. Understanding the role that ICCAT plays in the management of ABFT is an important prerequisite to understanding the issues and limited future options being faced by Jersey fishing vessels in relation to landing tuna. The background to ICCAT and management of stock is given below.

3.2 - International Commission for the Conservation of Atlantic Tuna (ICCAT)

The eastern ABT stock is coordinated across the species' range by the International Commission for the Conservation of Atlantic Tunas (ICCAT). ICCAT was formed in the 1960s following stock collapses of Southern BFT and ABFT but was generally acknowledged to have had a mixed track record in the management global tuna stocks. Changes to the ICCAT management framework over the past decade have been better received and the health of some key tuna stocks, including ABT, appears to have improved.

As a heavily fished commercial species with a wide geographic migratory route, cross border stock management for ABT is important. A common method for managing heavily fished commercial stocks is to set a total allowable catch (TAC) which limits the weight of fish that may be caught annually. This weight is often based on the predicted maximum sustainable yield (MSY) which equates to the maximum weight of fish that may be taken from a stock without affecting its ability to maintain a viable breeding population. ICCAT regulates the international ABT TAC using scientific advice from advisory boards (see Section 2.2).

TACs for ABT are set annually with the share being split across countries in the form of national quotas (Figure 4). Within this TAC countries may exchange quotas with each other with regulation of the fishery being left in the hands of governments. This means that each country is responsible for ensuring their fishery is not overexploited and that, when their allocated quota has been used, the fishery is closed.

The 2019 EU ABT TAC was 17,536 tonnes and this was increased to 19,360 tonnes for 2020. The countries that receive the largest amount of quota are those who have a demonstrable track record in commercially fishing for ABT. This means that a majority of the TAC is allocated to countries such as France, Italy and Spain. Currently the UK has a quota of 50 tonnes for ABT (Figure 4).⁵

In terms of recreational fisheries, EU countries typically allocate 1 to 2% of their TAC quota to non-commercial fisheries. Canada and the USA administer higher levels at 10%, and 20 to 25% respectively.

While the FMA exists and the UK has a small scientific quota, an internationally recognised ABT fishery will not be possible for Jersey at this moment. This leaves Jersey with the options of either: (1) obtaining quota for ABT via the UK's allocation or directly from ICCAT; or (2) establishing its own tuna fishery outside of ICCAT. Both options are explored below.

3.3 – The allocation of ICCAT quota to Jersey

Contracting parties to ICCAT include the EU plus almost every country within the geographic range of ABT. To have an internationally recognised Jersey tuna fishery will require obtaining quota from ICCAT and adherence to its management policies. Quota for Jersey could be obtained if some of the ICCAT quota is allocated to the UK and then, under the FMA, passed on to Jersey. A lack of a historical track record for ABT fishing by the UK and the occurrence of Brexit, which will require the UK to apply for ICCAT membership in its own right, makes the possibility of the UK requesting or being allocated ABT quota a remote possibility in the short-term. Jersey has expressed interest to the UK in applying to ICCAT as part of any future application.

A second option would be for Jersey to disregard its FMA with the UK and to apply to ICCAT for membership with an allocated quota for ABT.

However, to gain ICCAT membership Jersey must be a member of the UN but, being a dependency of the English Crown, the Bailiwick is not currently recognised as an independent state. As such Jersey cannot represent itself in matters of foreign affairs which includes applying for membership to international agreements. To achieve this requires the UK government to agree to extend the UK ratification for any international agreements to Jersey.

⁵ Iccat 2019, Recommendation by ICCAT amending the recommendation 14-04, pp. 3.

Jersey could therefore join ICCAT but only if the UK is prepared to extend its ratification to the Bailiwick of Jersey.

An application for the extension of ICCAT ratification to Jersey is a diplomatic process which will require backing from the Government of Jersey (and possibly sponsorship from DEFRA) and then discussions with the UK government (usually via the Foreign Office) by the Attorney-General. As the guarantor of Jersey's compliance, the UK will need assurance that the island will not break the terms of the agreement. This entails a compliance process to demonstrate that Jersey has the resources and management capability that will ensure conformity to the ICCAT's regulations.

3.4 – Establishing an ABT outside of ICCAT

The prospect of obtaining quota through ICCAT (via the UK or directly) has significant issues that may be politically complicated and time consuming to resolve. In light of this it has been suggested that Jersey should 'go it alone' and establish its own regulated ABT fishery outside of recognised international management frameworks.

A precedent sometimes cited for this is the British Oversea Territory of Gibraltar which has established its own ABT fishery outside of ICCAT. However, Gibraltar has no FMA with the UK whereas Jersey does. This means that for Jersey to establish its own tuna fishery the island would have disregarding its UK FMA obligation to following CFP fish quotas.

In response the UK is liable to suspend the FMA with Jersey and refuse to undertake the administration of fishing licences. This is what happened to Guernsey in 2015 after it failed to adhere to the UK's ray quotas.⁶ Losing the ability to trade Jersey fishing licences with the UK would render the local licences valueless. Additionally, any breaching of agreed measures around quota would risk the Jersey's 'third country status' and the island's ability to trade with the EU.

The decision to establish an independent ABT fishery in Jersey waters will need to be given careful consideration as it is probable that any short term economic benefit gained from the fishery will be outweighed by far larger negative effects associated with the island's traditionally fished species. This, together with possible political repercussions resulting from the breaching of the FMA and/or EU trading regulations, means the Government of Jersey and UK ministers are unlikely to agree to this course of action.

It has been argued that the FMA does not apply within the three-mile limit around Jersey as this area is not part of the island's extended territorial sea area. Historically quotas have been equally applied inside and outside the three-mile area as it would be difficult to determine with certainty which side of zone catches were made. New technologies, such as iVMS and ERS (Electronic Recording System) could assist with this but they are not mandatory and still present compliance issues. It has been suggested that such an arrangement around quota

⁶ See, for example, www.gov.gg/article/157378/Fisheries-Management-Agreement-re-instated.

species would still be viewed unfavourably by the UK as it potentially provides a mechanism for avoiding quota regulations.

4.0 – Pathways to a Chartered/Recreational Fishery

Additional to industry calls for a Jersey commercial ABT fishery is a desire for recreational fishers (and those operating commercial charter fishing vessels) to be able to catch and release ABFT.

4.1 – Current and Future Recreational ABFT Regulation

Under current regulations Jersey commercial fishing vessels (those prefixed with a single letter 'J') are unable to fish for or target ABT (see Section 3.0). Jersey recreational fishing vessels (those prefixed by 'JY' or with no registration number) are subject to an ABT bag limit of zero which means they may not land ABT. This last regulation was enacted in 2018 following the well-publicised landing of an ABFT at St Helier by a recreational vessel. With no allocated quota for ABT, this landing in Jersey risked the island being in breach of its FMA and, conversely, the UK being in breach of the CFP.⁷

The calls for a recreational ABFT fishery in Jersey waters are subject to the same quota issues discussed in Section 3.0. In 2019, it remained technically possible for recreational (but not commercial) vessels to target but not land ABT in Jersey waters which brings with it the risk of the inadvertent killing or injuring of fish. This is viewed as a loophole in the current regulations that, as with the landing of ABFT by recreational vessels, risks Jersey breaching its management obligations. The Minister for the Environment has closed this loophole in 2020 by adding ABFT as a protected species under the Conservation of Wildlife (Jersey) Law. This prohibits the targeting of ABFT by all vessels including those from outside of Jersey waters such as French commercial vessels and charter vessels from the UK, France and other Channel Islands.

It has been argued that the establishment of a recreational fishery and/or a recreational charter fishery for ABFT has the potential to attract tourists into the island and so be economically beneficial for local fishing establishments. However, the zero bag limit and legal protection of ABT prohibits a general recreational fishery but the Conservation of Wildlife (Jersey) Law does contain provision to exempt the capture named protected species as part of an accredited research project.

The landing of an ABFT at St Helier in October 2018 brought with it comments from conservation groups and individuals about the ethics of fishing a near threatened species.⁸ The claims and counterclaims that followed drew attention to European scientific monitoring

⁷ The EU legislation that prevents recreational vessels from targeting ABFT in UK waters is (EC) No 302/2009 (Article 19) which states that 'each Member State with a bluefin tuna quota shall regulate sport and recreational fisheries by issuing fishing authorisations to vessels for the purpose of sport and recreational fishing'. The UK does not have a quota and therefore has no recreational fishery.

⁸ See, for example, *Jersey Evening Post* 28 August 2019.

projects that are collecting data through catch and release fishing. It has been suggested that a catch and release fishery for Jersey-based recreational and charter vessels could be undertaken to provide data for one of these scientific studies.

There is provision under the Conservation of Wildlife (Jersey) Law and for ICCAT contracting parties (and cooperating non-contracting parties, which could include Jersey) to licence a limited number of sport vessels to target ABT with the purpose of 'tag and release' but, in the case of ICCAT, without the need to allocate them a specific quota. This applies only to vessels operating within a scientific research program attached to an accredited research institute and with this comes a list of compliance measures designed to ensure that the vessel is properly monitored and that only a specified number of fish are captured, tagged and released in a quick and humane manner.

Establishing a local tag and release scheme under ICCAT will require the oversight, resources and analytical capability of an accredited academic research institution. There are no universities or institutions on Jersey which have the necessary scientific expertise (and financial and other resources) needed to establish, fund, monitor and scrutinise an ABT research project. A local ABT research-based project was successfully administered in 2021 catching and PSAT tagging seven ABT.

4.2 – ABT Tag and Release Research 2021

Thunnus UK is a research project jointly managed by the University of Exeter, the Centre for Environment, Fisheries and Aquaculture Science (Cefas) and the Tuna Research and Conservation Centre which is part of the USA based Stanford University. The project's objective is to provide a baseline understanding of the ecology of ABFT in British waters. Within this there are three principal aims:

1. Collate information on the presence and abundance of ABFT in UK waters.
2. Undertake a tracking programme using electronic tags.
3. Provide information and advice for stakeholders.

Thunnus UK is based in south-west England and Wales and gathers its data primarily from pop-up satellite archival tags which are mounted externally to ABT. The tags record information such as location, light, depth and temperature every 15 seconds and then, on a predetermined date, will detach from the ABT and float to the sea surface. From there it transmits a summary of its dataset to a satellite network. The data are used to reconstruct ABT migration routes and behavioural patterns and environmental preferences.

Deploying the tags required the use of a chartered 'tagging vessel' with trolling equipment (a vessel with a minimum of a skipper and three crew) to find, catch, tag and release individual ABT. The vessel, officers and crew received official dispensation to target ABT from the Government of Jersey and a scientific exemption under the Wildlife law.

The sole use of inexpensive passive (Floy) tags as part of a tag and release scheme has been rejected by the University of Exeter and other Thunnus UK partner organisations. The

recapture rate for Floy tags is very low (<1%) which makes them ineffective for data gathering and so they cause more harm to the animals than the expected scientific research outcome. This also causes them to score poorly within the harm-benefit assessment that is used when conducting animal research.

Between 4 and 9 September 2021, seven ABT were tagged in total from local charter fishing vessel Anna III. Five of these fish were tagged with PSAT tags programmed to pop off after one year at sea. The remaining two ABT were equipped with both a PSAT and acoustic tag. This study was the first of its kind in Jersey territorial waters with Marine Resources using this study to guide management of ABT for the future.

4.3 – The operation of a Jersey-based tag and release scheme

The complexities around quota and ICCAT means that the THUNNUS UK project offers the best (or indeed only) means by which local charter vessels can participate in a local fishery without infringing the UK's quota regulations.

In practical terms Thunnus UK would facilitate the issuing of ICCAT Scientific Permits (see Appendix VI) on the condition of tagging and releasing a set number of ABT. A local exemption permit may also be required. As detailed in Section 4.2 and Appendix VII and IX, Thunnus UK and the Government of Jersey would not be able to pay for this project.

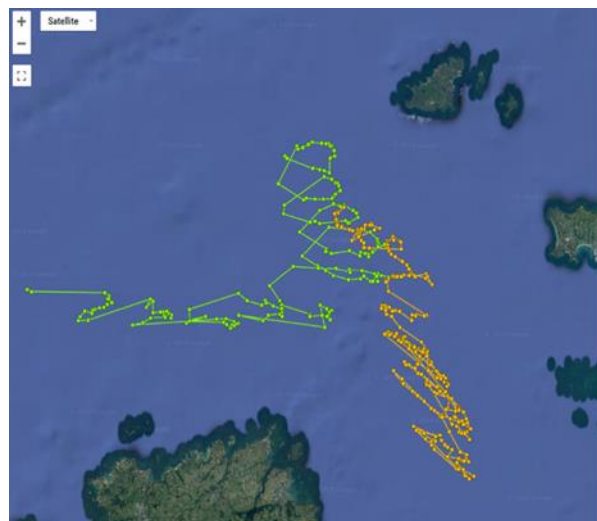


Figure 1. PSAT tag tracks that have left their host in CI waters from the THUNNUS UK project.

As with Thunnus UK operations elsewhere in the UK, satellite tags could only be deployed on vessels that have approved and trained persons on board including a scientist from the project. Other conditions would include restrictions on the gear that could be used (to minimise reel-in time) and the mandatory use of VMS/iVMS.

If the correct gear and techniques are used then post-release mortality should be below five percent but mortality is a possibility and in such a circumstance the fish would become the property of Marine Resources who would cooperate with the Thunnus UK scientists to obtain DNA, stomach contents and other samples (e.g. otoliths and eye lenses). The fish would be disposed of and not sold.

5.0 - Conclusion

The occurrence of ABT in Jersey waters over recent years is unexpected. The island is obliged to follow the UK's quota for ABT which is currently issued through ICCAT. The UK is currently a contracting party to ICCAT in its own right. The UK has no historical track record of ABT fishing which means quota levels are currently low but have the potential to increase in future years.

Jersey has a FMA with the UK which means that the island comes under the UK's CFP quota for fish. As the UK has a quota used only for scientific purposes for ABT, the commercial targeting and landing of this species is illegal both in the UK and Jersey. Disregarding the UK's zero quota for ABT would risk a suspension of the FMA.

To enact a legitimate ABT commercial fishery in Jersey will require the island being given quota from ICCAT either directly or via the UK. To have a commercial fishery without allocated quota would not only jeopardise Jersey's relationship with the UK but also the economic viability of other parts of the fishery including the commercial value of UK administered licences.

Now the UK has joined ICCAT, Jersey is applying to the British government to have its ratification extended to the island. As a Crown Dependency Jersey cannot apply to join ICCAT in its own right. Given the uncertainty around Brexit and the compliance and political procedures required when applying for extended ratification, it is likely that it could be several years before ICCAT membership is extended to the island.

All of this means that there is little prospect of the Government of Jersey being able to sanction an internationally compliant local ABT fishery in the short term. The option of establishing a fishery outside of the ICCAT framework brings with it the prospect of Jersey's entire fishery being classed as Illegal, Unreported and Unregulated (IUU). This will disrupt the island's regional management agreements and its ability to land or export catches outside of Jersey waters. As such, establishing an ABT fishery without ICCAT quota is not an option the Government of Jersey is prepared to consider.

The issue of quota also impacts the recreational and charter fishing sectors (the latter needing to be commercially licenced to fish) as it prohibits the landing of ABT. The prospect of allowing a catch and release fishery has been raised but local and ICCAT exemptions will be required. The possibilities for this have been explored and costed.

The 2021 ABT study conducted by Marine Resources Jersey in collaboration with the University of Exeter administered PSAT tags to the first scientifically caught ABT in Jersey. This was part of an ICCAT approved research project and was funded by the Government of Jersey's emergency climate fund.

Appendix I – ABFT French Regulations

Currently a limited number of French commercial and recreational vessels are permitted to fish in waters outside of Jersey's three-mile limit if they hold a Jersey fishing license. France has TAC for ABT however French vessels holding a Jersey fishing licence by way of licence condition cannot fish for or retain ABT in Jersey territorial waters. This is also apparent for both recreational and commercial fishers due to the addition of ABT to the Conservation of Wildlife (Jersey) Law making it illegal for any vessel to target or possess an ABT on board. This includes French recreational vessels who hold a catch and kill permit.⁹

Commercial fishery

ABT regulations in France are based on 18-02 ICCAT recommendation and EU regulations. ABT fishing in French waters is incredibly restrictive. The regulations are as follows:

- The fishers need a permit.
- They must declare all their catches in order to respect the fishing quota (which was 4934 tonnes in 2018).
- 2/3 of the French quota is fished using seine nets. They are authorised to fish between 26th of May and 1st July.
- Regional observers are based on each seine netting vessel. Underwater cameras are used to allow the observers to count the tunas. No ABT can be landed under 30 kg or 115 cm.
- Any catches must be landed in designated ports. Fishers must inform their landing of ABT four hours before their arrival.

Recreational fishery

Recreational fishing for ABT requires an authorisation delivered by the government. This authorisation regulates two types of activity: the possibility of catching, holding and landing ABT and the possibility of catching and releasing.

- In addition to the authorisation, it is necessary to have a marking ring, which must be placed on the tail of the fish as soon as it is on board.
- There is a quota for recreational fishing which is divided between the various fishing federations and non-adherents to a federation.
- A fishing period for recreational fishing for ABFT is an Eastern Atlantic regulation and is during the period from 16th June to 14th October.
- In accordance with the ICCAT recommendation, it is not possible to hold more than one tuna per vessel, and the minimum size is the same as the commercial fleet at 30kg or 115cm.

⁹ Source for this section: Department of Maritime Fisheries and Aquaculture, France

Appendix II – ABFT USA Regulations

All owners/operators of vessels in the U.S. Atlantic Ocean, Gulf of Mexico, and Caribbean must obtain a federal permit to recreationally or commercially fish for regulated Atlantic Highly Migratory Species (HMS), including ABT. A minimum size of 73 inches (185 cm) is in place. Complete no take zones are enforced in known spawning areas for ABT such as the Gulf of Mexico.

There are open and closed seasons depending on which gear type is used or when quota is filled. If landings are high, restricted fishing days can be enforced or “days off” to moderate landings. A strictly regulated number of boats are allowed to target ABT who have an Atlantic Tunas Permit. The cost of the permit is \$26 USD per annum.

The overall U.S. ABT quota is negotiated at ICCAT, usually specified as an annual quota, although other specifications may be made through negotiations. The quota is usually negotiated during years that coincide with updated stock assessment. NOAA Fisheries then allocates the quota among the different permit categories, including the Reserve category, while also considering the most recent estimate of dead discards and over- and/or under-harvests (NOAA Fisheries, 2019). Quota levels of ABT in the western Atlantic are considerably lower than those found in the eastern Atlantic and Mediterranean (Figure 2).

Species	Region	Catch			U.S. percentage of total catch	
		Landed	Discarded dead	Total		
Atlantic bluefin tuna	W Atlantic	<i>U.S.</i>	986	11	997	53.9
			1,839	12	1,851	
	E Atlantic and Med	23,606	10	23,616	0.0	
	Total	25,445	22	25,467	3.9	

Figure 2. U.S. vs total international catch of HMS reported to ICCAT in 2017.

Recreational retention limit is 1 tuna per annum and requires a non-resident special tuna permit. It is unlawful to fish for tuna with gear other than a harpoon, hook and line or possess tuna taken in unlawful manner. The permit cost is \$26 USD per annum. Vessel owners/operators must report all recreational ABT landings and dead discards.

Appendix III - Irish Regulations

Ireland currently run an ICCAT approved Catch, Tag and Release programme. Ireland as an EU member is an ICCAT member but like the UK, does not have any TAC for ABT. This programme allows 15 authorised vessels to catch and release ABT from August to mid-October and has obtained a research mortality allowance from ICCAT.¹⁰

Programme restrictions are as follows:

- All fishing trips that target ABT must be reported to Sea Fisheries Protection Authority and Inland Fisheries Ireland giving at least 24 hours' notice.
- All fish caught must be recorded both on paper and digitally using a tablet based system that is submitted on a daily basis.
- Each of the licenced vessels is fitted with VMS.
- Gear is restricted to trolling type gear only (no stand up fishing) with minimum 80lb class rods and reels. No casting or spinning gear is permitted.
- Bait fishing is allowed but the gear used must be minimum 80lb class with main line strength being minimum 130lb breaking strain. Leaders must be 400lb minimum.
- Deck restrictions are in place with swivel rod holders and fighting chairs being mandatory.

¹⁰ Source for this section: Adrian Molloy (pers. comm.) Irish Charter boat Skipper.

Appendix IV - Gibraltar Regulations

Since 2014, Gibraltar has their own recreational and commercial fishery with a quota of 12 tonnes in 2014 to the current limit of 16.74 tonnes. A large influx in numbers has been seen in the last few years similar to the situation of the Channel Islands. Gibraltar is not part of ICCAT but implements parallel regulations in order to cooperate in international conservation methods. Gibraltar does not consult with the UK as there is no FMA but if they were to join ICCAT Gibraltar would be bound by the UK quota scheme. Gibraltar have been trying to enter ICCAT but they have not been successful.

Gibraltar has currently suspended their catch and release tagging programme. After handing out catch and release licences, this was seen as a tactic for multiple vessels to tag several fish each day and still retain one. The quota is spread out over the season by only allowing a chosen number of boats to land one fish per day above the minimum landing size.¹¹

- Open season commences 16th June 2019 to 14th October 2019 or until the TAC of 16.74 tonnes is reached.
- A licence is required to fish for ABT.
- Popping for ABT, where a lure is pulled along the sea surface is not allowed in Dolphin Protected Zones (Figure 3).
- A tagging programme has previously been in place.
- A dedicated office and landing point has been set up where all tuna caught must be landed to this dock, reported and weighed. A catch form must be filled out and staff contacted as soon as a fish is landed on board a vessel.
- The minimum size of ABT that can be landed is 30kgs or 115cm fork length.
- Only one tuna may be landed per day.

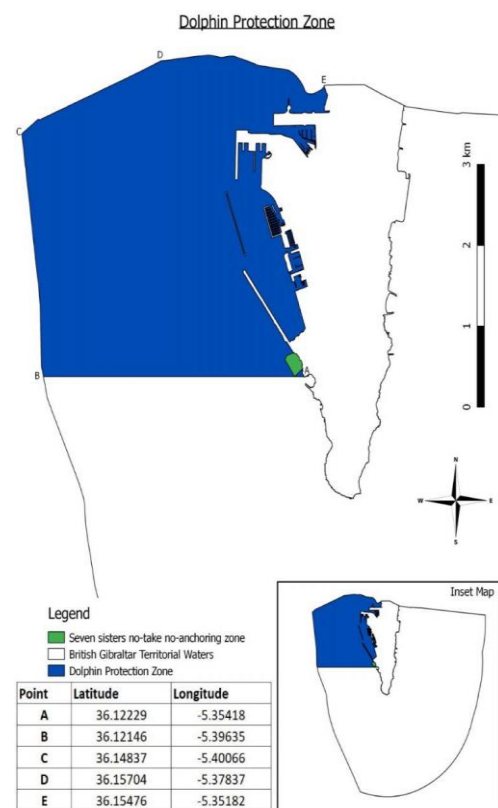


Figure 3. Gibraltar's Dolphin Protected Zone and territorial seas.

¹¹ Source for this section: Stephen Warr (pers. comm.), Senior Environmental Officer, Government of Gibraltar

Appendix V - Case Study: Prince Edward Island (PEI), Canada

PEI is an island in the Gulf of St Lawrence off the east coast of Canada that has a population of 150,000 people. PEI has been known as a top destination for ABT in recent years. The season runs from late July to Early October. There is a large charter fishing operation where customers will pay \$1500 CAD (£900 - £1000) or more per day to hire a crewed vessel and tackle. Skippers of charter boats are allowed to keep one fish per season and are able to choose which fish this will be. Industry participants indicated that demand for



ABT charters has grown consistently since 2010. In 2012 it was estimated that the live-release charter vessels operated approximately 1000 trips, earning an estimated \$1.8 million CAD.

PEI currently has 359 tuna fishers who catch ABT both commercially and recreationally with a quota of 155 tonne for 2019. It has been 20 years since commercial licences were handed out. Recently the only way to receive a licence to catch ABFT is if the licence enters the open market. The average price is \$70,000 CAD and allows catch and release fishing. If the fishery was a simple quota scheme with no catch and release, the quota has the potential to fill in less than two days' fishing.

Appendix VI - ICCAT Scientific Permit and current quota levels

Any Contracting Parties and Cooperating non-Contracting parties (CPC) wishing to conduct a sport catch-and-release fishery in the north east Atlantic may allow a limited number of sport vessels to target bluefin tuna with the purpose of “tag and release” without the need to allocate them a specific quota.

This applies to those vessels operating in the context of a scientific project of a research institute integrated in a scientific research program results of which shall be communicated to the Standing Committee on Research and Statistics (SCRS).

In this context the CPC shall have the obligation to: a) submit the description and associated measures applicable to this fishery as integral part of their fishing and control plans as referred under paragraph 12 of this Recommendation: b) closely monitor the activities of the vessels concerned to ensure their compliance with the existing provisions of this Recommendation; c) ensure that the tagging and releasing operations are performed by trained personnel to ensure high survival of the specimens; and d) annually submit a report on the scientific activities conducted, at least 60 days before the SCRS meeting of the following year.

CPC	Quota 2018 (t)	Quota 2019 (t)	Quota 2020 (t)
Albania	100	130	140
Algeria	1,260	1,398	1,600
China	79	89	100
Egypt	181	240	300
European Union	15,850	17,536	19,360
Iceland*	84	112	140
Japan	2,279	2,528	2,801
Korea	160	167	180
Libya	1,846	2,021	2,210
Morocco	2,578	2,892	3,219
Norway	104	152	200
Syria	66	73	80
Tunisia	2,115	2,344	2,590
Turkey	1,414	1,824	2,240
Chinese Taipei	79	84	90
Subtotal	28,195	31,590	35,250
Unallocated Reserves	5	650	750
TOTAL	28,200	32,240	36,000

Figure 4. The TAC for the years 2018-2020 shall be set at: 28,200 T for 2018; 32,240 T for 2019; and 36,000 T for 2020, in accordance with the above quota scheme.

Appendix VIII – Global Charter and Recreational ABFT Fisheries

An exploration of ABFT recreational/charter fisheries in other parts of the world may be of assistance when evaluating similar schemes in Jersey. In the Republic of Ireland there was just only one full time charter vessel fishing ABFT from 2002 to 2006. This vessel was able to operate profitably during September and October which is a time when most charter vessels see a significant decline in charter angler numbers. The late seasonality of ABFT could offer charter vessels the ability to extend their summer season into the autumn months (poor weather notwithstanding).¹²

Charter boats offering ABFT have a higher than average trip charge compared to anglers targeting other species. Charter fees for ABFT fishing in Ireland are €800 to €1,200 (£680 to £1030) and in Canada and the USA charter fees range from \$1,200 to \$2,000 CAD per day (£705 to £1180). The vessel income for charter catch and release ABFT fishing may be up to six times per tonne higher than for commercial vessels engaged in tuna fishing.¹³

Between 1994 and 1996 an economic impact assessment was undertaken for the Hatteras (North Carolina) ABFT charter industry. Of 1,051 anglers sampled, 15% were from the local area with the rest having deliberately travelled to fish ABFT. Across one season ABFT anglers are estimated to have spent \$3.6 million locally and \$200,000 elsewhere in North Carolina. It is estimated that 126 full time jobs were attributable to this fishery in 1997.¹⁴ Restrictions associated with visitor and fleet numbers would dramatically reduce these figures in Jersey.

¹² Molloy, 2019.

¹³ Ecologyaction.ca, 2014.

¹⁴ Bohnsack et al, 2002.

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