



TUNA CHAMPIONS

Bluefin forever

SOUTHERN BLUEFIN TUNA

CODE OF PRACTICE - RECREATIONAL FISHERY



Information for responsible catching, handling,
releasing and tagging of Southern Bluefin Tuna

RESEARCH BY



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New South Wales
Recreational
Fishing Trusts

Recreational fishers can each play a part in improving the Southern Bluefin Tuna (SBT) fishery by applying best practices for responsible fishing. Better fishing practices minimise the impact on fish stocks and consider the welfare of individual fish.

This SBT Code of Practice is based on scientific research specific to the recreational SBT fishery, existing science-based literature on the impacts of recreational fishing, and consultation with peak recreational fishing groups.

While there is no legislative requirement to follow them, codes of practice are designed to provide fishers with the fact-based information they need to fish in a responsible way. Taking the time to read, learn and apply this information will improve the recreational fishing experience for everyone.

Predation of hooked fish can be reduced if you avoid fishing in areas where predators are abundant, never feed a predator including with filleted fish carcasses, and reduce fight times.

Hooked fish have a reduced ability to avoid predation. Interactions between hooked SBT and seals are relatively common in Tasmania and, anecdotally, interactions have occurred in South Australia and Victoria.

Whether you plan to keep or release the fish, minimising predation interactions is a good idea. Seals quickly learn to associate boats with a feed, and rewarded behaviour only increases these interactions.

If a predation occurs, move away from the area before you resume fishing – and avoid releasing fish in areas where predators are present, especially if the fish was chased during retrieval to the boat.



Photo: Al McGlashan

CATCHING SOUTHERN BLUEFIN TUNA

Southern Bluefin Tuna (SBT) are a large open-ocean fish, with those caught by recreational fishers typically weighing in at 10–50kg. But it is not uncommon for recreational fishers to catch fish weighing over 100kg.



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Is your fishing gear up to the job? Are you using gear that will minimise impacts to the fish?

Are there things you could do to avoid degrading the quality of the flesh if you plan to keep it for eating – or to improve its chance of survival if you plan to release it?

Some good practices you can follow are discussed below.

Quickly retrieving a fish to the boat means the fish experiences less stress.

When we exercise, lactic acid and stress hormones accumulate in the blood and muscle tissue. This happens in fish too, but it doesn't just reduce the eating quality of the flesh, it slows down its recovery time if you release it after a long fight time.

Fight time can be reduced by using a heavier line class, buying a good quality rod and reel that is up to the job, and knowing about better fishing techniques.

Using heavier line is the best way to reduce fight times for smaller SBT. For larger fish, a combination of a heavier line and angling-boat driving experience is required. For any large fish, a gimbal and harness is essential to help you control the rod and reel.

There are many experienced game fishers who can give you tips on improving fishing techniques, and tunachampions.com.au has links to some good instructional videos.

Joining a fishing club associated with Game Fishing Association Australia (GFAA) is also a great way to meet experienced anglers and access information on responsible fishing practices.

Considering the type of hook you use can minimise damage to the fish. J hooks on trolled lures cause far less damage than treble hooks, while circle hooks should be used when bait fishing for SBT.

It's a simple process to replace treble hooks on hard body lures with single hooks – and it significantly reduces damage and increases the fish's chance of surviving if released.

Research shows that most fish caught when trolling lures are hooked in the mouth, so J hooks are fine for trolling. But when you're bait fishing, the fish has more time to swallow the floating bait and greater potential for deep hooking. Circle hooks will reduce the incidence of deep hooking.



J hooks on trolled lures cause less damage than treble hooks. Circle hooks should be used when bait fishing for SBT.

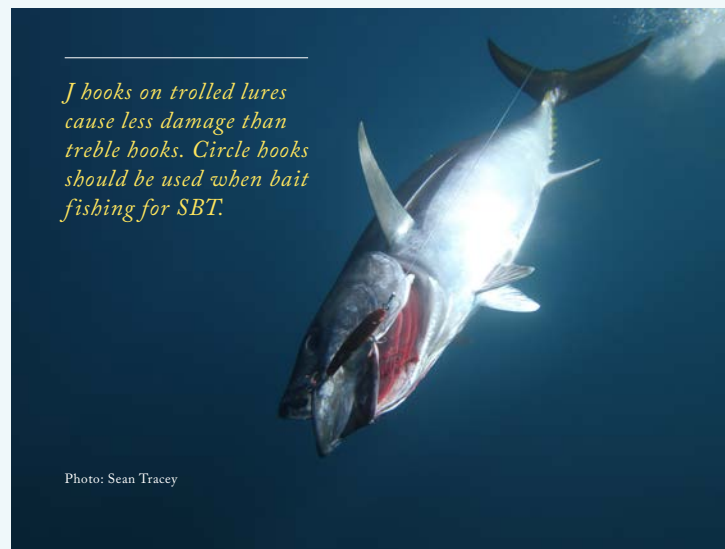


Photo: Sean Tracey

HANDLING SOUTHERN BLUEFIN TUNA

Whether you plan to retain or release a fish, it is important to consider how you handle it. Poor handling techniques can affect the welfare of the animal, reduce its chance of survival if released, and affect flesh quality if you plan to keep it to eat. Good handling techniques are discussed below.

RETAINING FISH

SBT are an iconic species prized around the world for their high-quality flesh, particularly for the sashimi (raw fish) market. This demand has led to commercial overfishing, but stocks are currently rebuilding under strict international fishing management arrangements.

In Australia, recreational fishers can enjoy this highly-prized species – to catch and release or serve as quality seafood. With recreational fishing effort increasing as SBT stocks rebuild, it is important to treat the fish with respect and adhere to the regulations.

Know the regulations before heading out to fish – they may be different in each state. Catch regulations are a limit, not a challenge! Consider the quantity of fish you need to keep and be aware that high grading is illegal.

The bag and possession limits used to manage recreational fisheries are designed to control catch, by stopping individuals taking excessive numbers of fish. Ideally this allows more fishers access to the fish, so the resource is shared.

CATCH REGULATIONS ARE A LIMIT, NOT A CHALLENGE.

However, catch limits alone do not 'cap' recreational harvest, as there is no limit on how many people can join the fishery.

For SBT, a high-profile species recovering from overfishing, it is important authorities know how much is being caught. Fisheries scientists can then use this information to ensure the management of SBT is effective and stocks continue to rebuild.

The size of the SBT you catch can vary greatly and this will impact the amount of fish you could end up taking home. Before you set out fishing, consider how much meat you and the others on the boat really need, rather than how many fish you are going to keep.

You should also ensure you have everything necessary to process and store the fish appropriately – including space in the fridge or freezer at home. Avoiding fish wastage is a crucial part of being a responsible fisher, so only take what you need.

RECREATIONAL FISHING SURVEYS

Recreational catch is determined by specially designed surveys, used regularly across many recreational fisheries to provide data for sustainable management.

If you are invited to join a survey, your participation will help ensure fish stocks are being managed effectively.



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If you plan to keep the fish, first bring it aboard carefully – and avoid damaging it, as bruising reduces the quality of the flesh.

Landing the fish onto a padded mat or soft surface will minimise bruising, while placing a dark, wet cloth over the fish's eyes will help keep it calm.

Once the fish is aboard, follow these steps in quick succession:

1. Immediately dispatch the fish by administering a spike to the brain
2. Make a cut behind the pectoral fins on both sides to bleed the fish
3. Remove the gills and organs straight after brain spiking and bleeding
4. Cool the body temperature by placing the fish trunk into a fish bag, ice chest or esky with ice.

Dispatch the fish quickly and humanely using the *iki jime* process.

The most humane way of dispatching the fish quickly is by spiking the brain, a process known as *iki jime*. Not only is this good practice for the welfare of the animal, it also stops the fish moving which can cause the flesh to heat up and reduce its quality.

Process and cool the fish immediately to retain the quality of the flesh.

Bleeding the fish immediately reduces the amount of blood retained in the flesh – and the more blood released, the milder the flavour. Poorly bled SBT are often too rich in taste for most people, and this can lead to wastage if the flesh is discarded.

SBT are endothermic, which means they can heat their body, maintaining an internal temperature above that of the water.

Once the fish has been processed, reducing the temperature of the flesh as quickly as possible is vital to avoid it degrading. An ice slurry is particularly effective, as there is greater surface area contact than with ice alone.

Reduce wastage by learning how to fillet SBT effectively.

Knowing the best way to fillet SBT so you don't waste the fish is important. Filleting a large fish requires different techniques and a bit more work compared to filleting smaller fish, so visit tunachampions.com.au for links to instructional videos.

Investing in a good quality, large filleting knife and keeping it sharp will also make the job easier.

Fish may swim away immediately or take up to several minutes to recover. Research on recreationally caught large Atlantic Bluefin Tuna shows it may take 15 minutes or more for these big fish to recover.

If the hook can be seen and is not where removing it would cause major damage, remove it with pliers or a de-hooker while the fish is still in the water.

Bleeding can look much worse in the water as the blood is diffused. Minor bleeding from hook damage in the jaw has been shown to have little impact on post-release survival.



Researchers use state of the art satellite tags to investigate post-release survival of SBT.

RELEASING FISH

Releasing fish reduces the impact of fishing on populations. An assumption is that fish survive after release and are not damaged in a way that affects their ability to function normally, including spawning.

While research shows the survival rate of SBT released using typical recreational fishing methods is greater than 80%, little is known about the longer-term effects of catch and release fishing on them.

It is important to reduce stress on the fish, both to increase their chance of post-release survival and to reduce the risk of sub-lethal effects. Consider the handling practices outlined earlier to minimise stress and damage to the fish you release, and don't gaff the fish if you intend to release it.

Common sense is also important. For example, if you've done everything right but the fish is not recovering after extended boatside resuscitation efforts, consider keeping it as part of your catch limit and let the healthy ones go.

When releasing a fish, hold it alongside the boat while moving ahead slowly, so water passes over the gills until it actively swims away – and be aware of sharks, seals and other predators in the vicinity.

Tuna are ram ventilated, which means they need water flowing over their gills to breathe, so holding them in the water while the boat is stationary will impact their breathing.



THE BEST WAYS TO REDUCE STRESS ON A FISH ARE TO:

- ✓ SHORTEN THE FIGHT TIME
- ✓ CHOOSE A HOOK THAT MINIMISES DAMAGE
- ✓ USE GOOD FISHING AND HANDLING TECHNIQUES.

Consider keeping a deep-hooked fish as part of your bag limit – or leave the hook in the fish, cut the line close to the hook, and resuscitate the fish before releasing it.

The potential damage from deep hooking may affect survival after release. Research on other fish species shows that when a fish is deep hooked, leaving the hook in causes less damage than trying to remove it – and the likelihood of survival is higher.

Research also shows that damage to the gills of SBT affects their chance of survival. If the hook has caused obvious damage to the gills, consider keeping it as part of your bag limit.

Make sure anything coming into contact with the fish is wet.

Try to make sure anything touching the fish is wet, including your hands, so less of the fish's protective layer of mucus is removed.

Handle the fish with care for photo opportunities.

If handled carefully, taking a photo of a good catch will not dramatically affect the chance of the fish surviving when it is released. Better fish-handling techniques include:

- Using a landing net
- Avoiding lifting it by the tail unless its body weight is supported
- Taking care not to slip your hand under the gill plate
- Supporting the whole body if possible
- Minimising its time out of water.



This also applies when the fish is onboard. To minimise the fish's time out of the water, make sure your camera is ready and the deck is clear before removing the fish from the water – then make sure the fish is resuscitated once back in the water, before releasing it.

If the fish is too large to retrieve onto the boat without damaging it, it should be left in the water and a photo taken boatside.

TAGGING FISH

Tagged fish can provide useful data for research, if tagging is done properly and recorded accurately. A tagged and recaptured fish can provide information on movement and growth and, in some cases, natural mortality rates across the population.

If tagging is done incorrectly, the data is not as useful and may adversely affect the fish's fate after release.

The NSW Department of Primary Industry (DPI) Game Fish Tagging Program is currently the best source and repository of recreational game fishing tags and data. Good tagging methods are covered below.

It is best to tag the fish while it is still in the water, particularly larger fish.

When possible, leave the fish in the water. But if you do remove the fish for tagging or a photo, follow the approach described earlier.

For tagging fish out of the water, make sure the fish is carefully placed on a wet, padded surface.

To minimise damage to the fish, lay it on a padded surface wetted with saltwater. A wet towel laid over the eye helps calm the fish and makes the tagging process easier and faster. It is also far easier if two people are involved in the process.



Photo: David Hall



Using an appropriate tagging tool, insert the tag directly under the second dorsal fin, angled back towards the tail – and ensure the tag anchor passes through the muscle and bones under the fin.

Poor placement of the tag can have negative effects. If the tag is too low, towards the lateral line of the fish, it can cause significant damage. Poor tag placement may also mean the tag falls out after the fish is released, and this can affect the interpretation of the tagging data, particularly when natural mortality is being assessed.

The tags are designed so the anchor is locked between the bones connecting to the fin rays. To achieve this, apply the tag as above, with a small twist of the applicator to ensure the anchor head is locked in.

Record the length of the fish as accurately as possible.

The easiest way to record the length of the fish is to use a sewing measuring tape. Run the tape from the

tip of the lower jaw, along the body in a straight line, to the shortest point at the fork in the tail. This can be done in water or on the deck and may be easier using two people, depending on the size of the fish.

Record all the capture details accurately on the tagging card.

Each aspect of the capture listed on the card is important and included for a reason. Interpreting the data relies on the completeness and accuracy of the data recorded.

Return the tagging card to the administering group as soon as possible.

The tag recapture rate of SBT is quite low, so the data from each recaptured fish is valuable. If the tagging card is lost or forgotten after tagging and the fish is recaptured, the rare opportunity to learn more about SBT from the individual fish is lost.

Look for the return address on the tag card or return unused tags and cards to your club tagging officer.

Fish showing humane killing method (iki jime) and tag location

RETAINED FISH: First administer iki jime where indicated...

...then make incision behind pectoral fin on both sides to bleed the fish

TAG & RELEASE: Place tag directly under second dorsal fin

NSW Department of Primary Industries
www.fisheries.nsw.gov.au or +61 (0)2 9527 8411

NO A 575941

DATE: 21/08/15
TIME: 10:00 AM
LOCALITY: TATHRA CANYONS (NSW) LAT: 36.44 LONG: 150.25
SPECIES: SOUTHERN BLUEFIN TUNA
LENGTH (cm): 140
METHOD: DEAD BAIT ☒ LIVE ☐ LINE CLASS (kg): 37kg
HOOK LOCATION: THROAT ☒ BODY ☐ BLEEDING FROM GILLS: NO ☒ YES ☐ FISH CONDITION: EXCELLENT ☒ LIVE ☐ MARGINAL ☐
ANGLER'S NAME: PETER STEPHENS
ADDRESS: 59 BERRY ST TATHRA NSW
CLUB: BLUEFIN GFC BOAT NAME: TUNA TIME SKIPPER: PAUL STEPHENS
REMARKS: SWAM AWAY STRONGLY

PLEASE COMPLETE & MAIL TODAY, OTHERWISE TAGGING IS OF NO VALUE.

A correctly completed tag card ready for return.

THE NSW DPI GAME FISH TAGGING PROGRAM

This program has been operating since 1973 and is the largest game fish tagging program of its kind in the world, with over 465,000 fish tagged so far.

It is used to obtain information on the distribution, movement, growth and exploitation (biology) of billfish, tunas, sharks and sport fish – and it encourages game fishers to participate in the management of the fishery.

SBT are a key species supported by the Program, with over 25,000 fish recorded as tagged and released and 170 recaptures. To date, the furthest travelled was a fish tagged in the Neptune Islands, South Australia, and recaptured in the South Atlantic Ocean just past South Africa, clocking up a straight-line distance of 5221 nautical miles.

The Program issues tags free of charge and works closely with the NSW Game Fishing Association and the Game Fishing Association Australia. It is run using funds from the NSW Recreational Fishing Trust.

To be involved, contact your club or call the Game Fish Tagging Program on (02) 4424 7423 or email gamefish.tagging@dpi.nsw.gov.au.

FIND OUT MORE

Visit tunachampions.com.au for tips, tools and useful information on best recreational fishing practices, as well as regulations, codes of practice and more.

This code of practice relates specifically to recreational fishing for Southern Bluefin Tuna, but many of the practices described are relevant for other game fish species.

tunachampions.com.au



TUNA CHAMPIONS

Bluefin forever

CONTACT

Media office

20 Castray Esplanade

Battery Point TAS 7004

+61 3 6226 6379

imas.hobart.reception@utas.edu.au

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THIS CODE OF PRACTICE HAS BEEN ENDORSED BY

