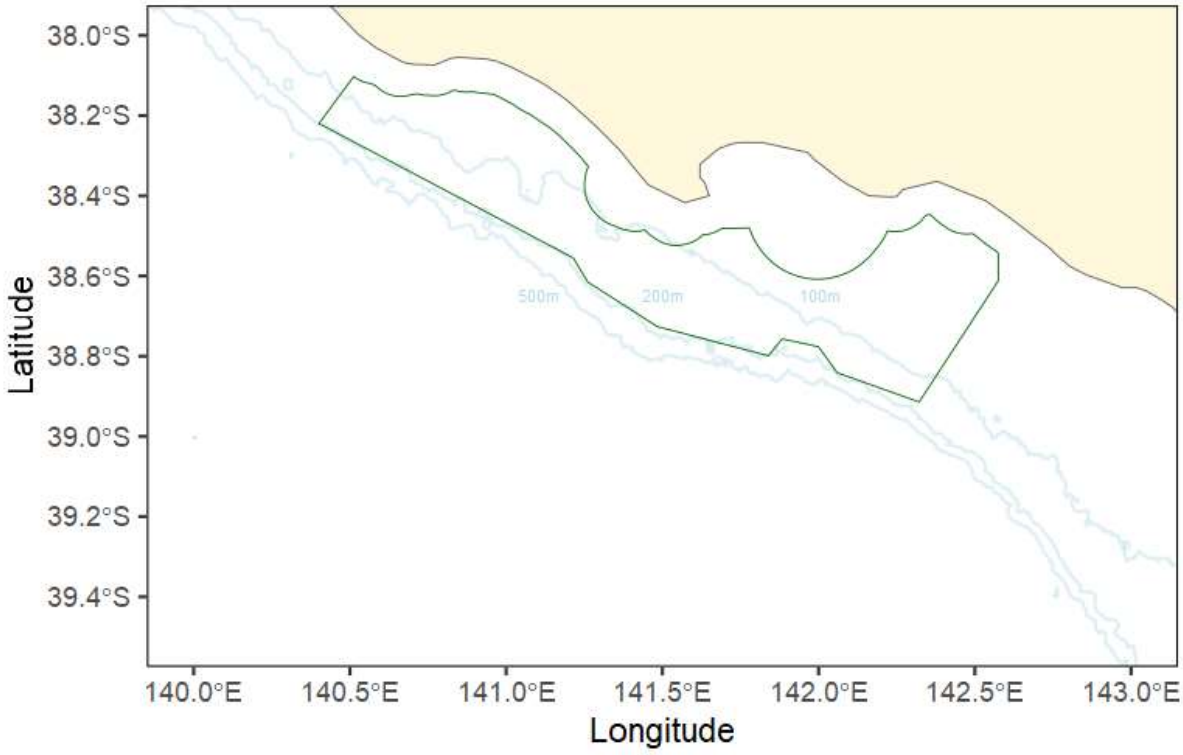
Commonwealth Shark and Trawl Industry Submission:

Offshore renewable energy infrastructure area proposal: Southern Ocean Region off VIC and SA

31 August 2023



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SETFIA SOUTH EAST TRAWL FISHING INDUSTRY ASSOCIATION

sustainable fishing practices protect our future

SSIA SOUTHERN SHARK INDUSTRY ALLIANCE

1. SUMMARY

This submission is from two fishing industry associations representing two very large fisheries managed by the Commonwealth Government:

1. The South East Trawl Fishing Industry Association (SETFIA) representing the Commonwealth Trawl Sector (CTS) (referred to henceforth as the 'trawl fishery').
2. The Southern Shark Industry Alliance (SSIA) representing the Gillnet, Hook, and Trap fishery (the 'shark fishery').

Strong commercial rights are provided to these two fisheries by the Commonwealth Government in two forms:

a) Vessel Statutory Fishing Rights (Vessel SFRs) which limit the number of vessels allowed to fish, set the boundary of the fishery and state other rules like the type of fishing gear that can be used.

b) Quota Statutory Fishing Rights (Quota SFRs) which apportion a share of the sustainable annual harvest to its holders.

In the trawl and shark fisheries the current total asset value of access and harvest rights is ~$450m. This value is driven by many factors that include the cost to catch and fish prices. Quota, the right to harvest an annual portion of the sustainable catch, makes up most of this value with the remainder being the access right (Vessel SFR). Some fishing companies are integrated and own both sets of commercial rights while others own only one or the other. Companies wishing to fish that do not own rights enter into commercial agreements to lease these from other entities. The holders of these rights within these two fisheries pay the Australian Government levies of ~$5.4m per annum with this likely to increase with inflation and management complexity even if catches decline due to displacement by for-profit windfarm developers.

A case study is provided showing that when fishing grounds were closed to protect sea lions, that the cost to catch sharks increased because fishers were forced to move to less productive fishing grounds. As the cost to catch increased, fishers became less profitable. Given lower fishing profitability the lease price that catching companies were willing to pay decreased, meaning the value of quota SFRs decreased.

This submission contends that the Australian Government is seeking to transfer the existing commercial fishing access rights, which it has granted to the fishing industry, to for-profit renewable energy companies. The loss of fishing g rounds will have the same financial impacts on the fishing industry as explained through the case study; fishing profits will fall, and with it the value of Vessel SFRs and Quota SFRs (access and harvest rights).

Even the loss of grounds not currently fished reduces the value of Vessl SFR rights because they could be utilised in the future to catch new or existing fish stocks, and this is part of their inherent value.

For more than a decade SETFIA has led the south-east fishing industry in partnering with shared marine space proponents to develop mutual understanding to mitigate risk and impact on both the incumbent fishing industry and on various shared marine space users I which recently include renewable energy proponents.

However, the understandably rushed consultation about windfarm zones has not adequately taken commercial fishing into account and it falls on the fishing industry to put fine level fisheries data forward and remind the Government of the commercial right they granted the fishing industry.

This submission acknowledges the Australian Government's endeavours to reduce carbon emissions. The fishery data presented proposes a way to continue to extract seafood from the Southern Ocean Windfarm Zone (SOWZ) and also harness the renewable energy benefits available.

The SOWZ is unlikely to ever be completely populated with windfarms but data shows that in its current form, catch from the two fisheries within the zone is around 62 tonnes per annum and has a current annual catch value of $426,000.

There has been a series of fishery management interventions (ground closures), buy-backs, marine parks, displacement by the oil/gas industry, continual periodic displacement by marine seismic surveys and drilling activities, that now mean most grounds in both fisheries are closed (Figure 5 and Figure 6).

The grounds that remain are threatened by future carbon storage projects, displacement by aquaculture and potentially even changes to the south-east's 17-year-old marine parks.

These two fisheries are now confronted by a new threat in the form of renewable energy zones, with three proposed in the shark fishery and four in the trawl fishery. The shark fishery is particularly impacted by the SOWZ given low total catch in the fishery (<2,000 tonnes), high cost-recovered levies, significant loss of catch from the Gippsland renewable energy zone, and likely significant loss of catch from the future Northern Tasmania windfarm zone. The trawl fishery is composed of three smaller sub-fisheries; a 4,00 tonne mixed species sub-fishery will be impacted by the SOWZ. These two fisheries are reaching a crash point where there are insufficient grounds from which to catch its quotas and pay levies.

To move forward positively, for the Australian community to continue to have access to fresh local seafood (noting that 75% of seafood consumed in Australia is imported) but also to extract the renewable energy on offer, three reasonable recommendations are made:

1. When possible (and it likely is not for trawling and gillnetting), renewable energy generation and commercial fishing should try to co-exist in the same space.
2. Given that co-existence for gillnetting and trawling is highly unlikely this submission makes two specific recommendations in section 8.2 for minor modifications to the proposed SOWZ. These effectively remove most of the impact on trawl and shark fishing grounds. Specifically this submission proposes to excise from the proposed SOWZ:
   - All areas deeper than 150m (which is where trawling occurs) – most of the zone is less than 150m and our understanding is that windfarm construction costs are lower in shallower areas closer to shore (see Figure 7).
   - A second area to the north-east where gillnetting occurs (see Figure 10).
3. These proposed spatial changes could significantly reduce the compensation owed to fishing businesses and the owners of quota SFRs. However, even if implemented Vessel SFR owners will be impacted, because the value of their asset and their future profits will decline. The Exposure Draft Offshore Electricity Infrastructure Regulations 2022 allows for compensation to be paid and discussions with multiple windfarm developers has revealed an expectation to pay compensation. This submission notes the potential for a 'community benefit fund' which could form part of the compensation payments.

2. CONTENTS

1. SUMMARY ii
3. BACKGROUND 5
3.1. This submission is on behalf of the Commonwealth-managed Shark and Trawl Fisheries 5
3.2. Trawl Fishery [represented by SETFIA] 6
3.3. Shark Fishery [represented by SSIA] 7
4. THE FISHING INDUSTRY HAS STRONG AND ENTRENCHED COMMERCIAL ACCESS RIGHTS 8
4.1. There are two forms of commercial rights in the fishing industry 8
4.2. The value of fishing rights is driven by many factors 8
4.3. Significant Government cost-recovery occurs against these property rights 9
4.4. CASE STUDY: loss of grounds reduces fishing right asset values 9
4.5. There have been long term cumulative impacts on fishing property rights 11
4.6. Prospectivity adds to the value of the Vessel SFR 12
5. OUR APPROACH TO SHARED MARINE SPACE 12
5.1. Co-existence is probably not possible for trawl and shark fishing 13
6. PROCESS TO DECLARE OFFSHORE RENEWABLE ENERGY ZONEs 14
6.1. There is an opportunity to reduce the impact on fishing 14
6.2. The consultation process is weakened by the use of no or poor fishing data 14
6.3. The use of fine scale fishing data is the solution 16
7. IMPACTS OF THE proposed southern ocean windfarm zone 17
7.1. Trawl fishery grounds have been impacted by recent changes and face several new threats 17
7.2. One of three trawl sub-fisheries is impacted by the SOWZ 18
7.3. The shark fishery's grounds are threatened by many forces 18
7.4. Current Commonwealth fishing in the proposed SOWZ 20
8. RECOMMENDATIONS 25
8.1. The aim should be co-existence but it is likely not possible 25
8.2. The area declared can avoid shark and trawl fishing 25
8.3. Fair compensation must be paid to three fishing industry beneficiaries 25

3. BACKGROUND

3.1. This submission is on behalf of the Commonwealth-managed Shark and Trawl Fisheries

This submission is on behalf:

1. The *South East Trawl Fishing Industry Association Pty Ltd* (SETFIA) representing the Commonwealth Trawl Fishery; and,
2. The *Southern Shark Industry Alliance Pty Ltd* (SSIA) representing the Gillnet, Hook, and Trap (shark) Fishery.

The South East Trawl Fishing Industry Association (SETFIA) is a not-for-profit entity representing the interests of trawl fishers, quota owners, wholesalers, and others with a stakeholding in the Commonwealth Trawl Sector (CTS, colloquially the 'South East Trawl'). Members pay an annual voluntary fee to the Association dependent on their level of activity in the fishery. Members elect a board of their peers from within membership. More than 80% of the Commonwealth Trawl Fishery's quota owners and fishers are SETFIA members. The fishery's catches include tiger flathead, pink ling, various dories, orange roughy and a variety of other mixed species.

The Southern Shark Industry Alliance (SSIA) is similar in structure but represents those with an interest in the Gillnet, Hook and Trap shark fishery. The fishery catches the gummy shark, also known as flake, the most popular fish and chips species with the Australian consumer.

3.2. Trawl Fishery [represented by SETFIA]

The Commonwealth Trawl Sector (CTS) is one of the oldest commercial fisheries in Australia, with over a 100-year catch history. Permitted fishing grounds in the CTS are shown in red in Figure 1 and include all waters inside the Australian Fishing Zone (AFZ) from Barrenjoey Point (north of Sydney, NSW) to Cape Jervis (South Australia) excluding Australian Marine Parks and fishery closures.

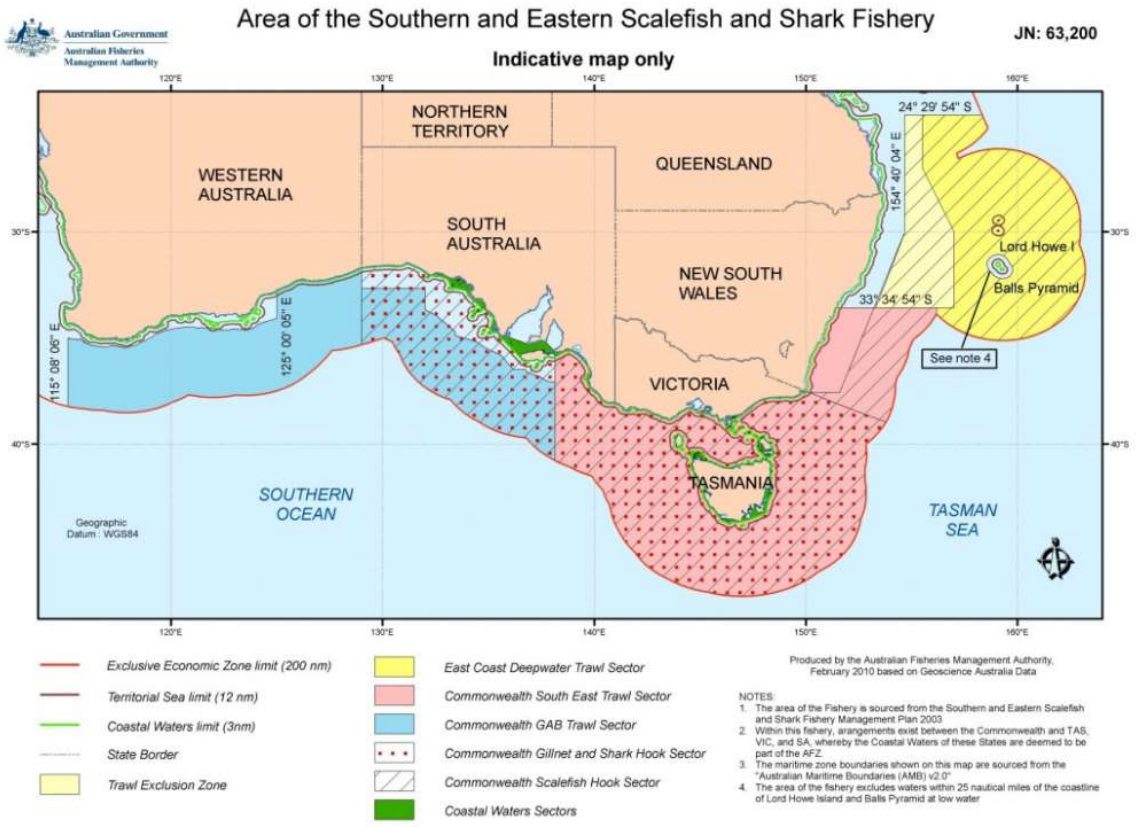

Figure 1 Area of the Commonwealth Government managed Southern Scalefish and Shark Fishery (SESSF)

There are two forms of trawling used in the Commonwealth Trawl Sector;

1. Demersal trawling (also called *board trawling*).
2. Danish seining.

Demersal trawling involves towing two otterboards (also called *trawl boards*) behind the fishing vessel using two long steel cables called *warps*. When towed the otter-boards provide a spreading force opening of the mouth of the trawl horizontally. The vertical opening of the net is maintained open using floats. The distance between otterboards can be 120m in width.

Danish seine trawl vessels are an alternative form of trawling. They use seine nets that are conical in shape with two long wings, and a bag where fish collect. Most Danish seining occurs shallower than 100m, making the area under consideration of particular importance and concern. The seine gear is set in a circle and hauled slowly back to the vessel, only moving about 1nm (1.85 km) while it surrounds a large, pear-shaped area.

Catch from a single board trawl fishing operation (a *tow*) can be up to 20 tonnes. Trawl fishing vessels have powerful engines given the need to tow heavy fishing gear, sometimes catching large volumes of fish, at depths down to 1,200m.

3.3. Shark Fishery [represented by SSIA]

The shark fishery includes waters of the Australian Fishing Zone southward from the New South Wales/Victorian border to the South Australian/West Australian border and is shown in Figure 1 in red dots.

The fishery uses demersal (on the seafloor) gillnets, longlines, droplines (a vertical form of longlining) and sometimes traps to target pink ling, blue eye trevalla and gummy shark. Traps are currently not used in the fishery off Victoria.

Demersal gillnets used the shark fishery are up to 6km long. Gillnets are a *passive* fishing gear meaning they are not towed — the fish must swim into the gear. The net is held upright in the water column by a series of floats. Gillnets catch gummy and a few other by-product species.

Demersal longlines are set horizontally along the ocean floor and are held in place using anchors. When set, the longline can be many kilometres in length (typically 1.5 – 5 km) and may have several thousand hooks. Lines are normally left to '*soak*' (fish) for around 6 to 8 hours before being hauled by hydraulic winches. Longlines are used to target fish such as pink ling and blue eye but also gummy sharks.

Drop lining is a lesser used method and is like demersal longlining but occurs vertically rather than horizontally.

All methods in the shark fishery use fishing gears that are not attached to the fishing vessel and these gears can and do move in currents.

4. THE FISHING INDUSTRY HAS STRONG AND ENTRENCHED COMMERCIAL ACCESS RIGHTS

4.1. There are two forms of commercial rights in the fishing industry

In commercial fisheries, rights exist in two forms. Both forms exist in the two Commonwealth managed fisheries that are the subject of this submission. Both rights are traded within the industry and have a value set by the open market.

1. The first commercial right is the Access Right which allows a fisher to access fishing grounds and use a particular type of fishing gear. Sometimes this is the only right in a fishery. In the two fisheries represented by this submission the access right is a Commonwealth *Vessel Statutory Fishing Right* (Vessel SFR) (colloquially called a *fishing permit*). In other fisheries this type of right is sometimes called a licence, permit, concession, or endorsement. Fisheries that are run solely on access rights rely on the use of operational inefficiencies to indirectly limit catch, interventions include limited net size, fishing times, vessel power and other inefficiencies set to ensure the catch extracted is sustainable.

2. The second commercial right is the right to harvest a set portion of the commercial and sustainable catch for sale and is called a Quota SFR. This right does not exist in all fisheries but does in the two subject fisheries. The right allows fishers to catch that volume in the most profitable way possible, providing fishing methods are environmentally acceptable. Quota systems are not without their own issues.

When quota management is not part of the management arrangements in a fishery, the total value of the rights flow to the access right. When both types of rights are used the value is split between them but in the two fisheries discussed here most value is held within quota SFRs. Although not without significant issues and certainly not suitable for all fisheries, quota management is generally viewed as best-practice contemporary management for larger fisheries because it allows management to limit catches to sustainable limits and/or to achieve economic goals.

Quota is sometimes owned by active fishers but is also owned by entities that do not fish. In this case fishers and quota owners reach a commercial agreement where the quota is leased to the fisher, enabling them to fish.

4.2. The value of fishing rights is driven by many factors

Fishing right values are determined by many factors (some of which have interwoven relationships) including but not limited to:

- Revenue; market price of fish, ease of catch, fish demand, variability of demand.
- The cost to catch; distance from port to fishing grounds, availability of fishing grounds, fishing method, degree of stock aggregation, fish abundance.
- Profit.
- Biological risk; the likelihood of variation in the sustainable annual harvest that can be taken.
- Science; the accuracy of the sustainable harvest that can be taken.
- Environmental issues; social licence, interactions with protected species and the emergence of 3rd party sustainability accreditations.

The total value of access and quota rights in the trawl and shark fisheries is approximately $450m. Thus, any reduction in the value of these rights represents a significant impairment to the balance sheets of south eastern seafood companies.

4.3. Significant Government cost-recovery occurs against these property rights

Shark and trawl Vessel SFRs currently provide access to all fishing grounds now proposed to become the SOWZ. Further, quota SFRs are held for the right to catch fish stocks that are currently caught in the SOWZ.

The cost to manage both fisheries is largely cost-recovered from the holders of these two commercial rights (Table 1). Fishery management fees are largely fixed in nature and generally not proportional to the number of fishing vessels or amount of fishing occurring. Therefore, fees will not reduce if a portion of these commercial rights are transferred (by way of exclusion zones) to other for-profit industries such as renewable energy developers. Rather, for the reasons described in section 4.4 below the value of commercial fishing rights will decline following the transfer.

Table 1 Levies cost recovered via charges on fishing property rights.

Fishery	Approximate annual Total Levy	Approximate annual fee per fishing vessel	Levies as % of annual review (port price)
Trawl Fishery	$2.9m	$51,000	4%
Shark Fishery	$2.5m	$36,000	7%
TOTAL BOTH FISHERIES	**$5.4m**	**$43,000**	**5%**

4.4. CASE STUDY: loss of grounds reduces fishing right asset values

The clearest example of how reduced access to fishing grounds negatively impacted the value of the commercial fishing right occurred in the Commonwealth managed shark fishery.

Following several interactions between gillnet vessels with endangered Australian sea lions, a management decision[1] was made around 2010/11 to implement a range of area closures (no fishing) totalling 18,500km^2 (noting that the proposed SOWZ is around a third of this size). This closure prevented gillnets from being set in the areas of key sea lion habitat and near breeding colonies (green shaded area in Figure 2). No data is available about the catch or revenue taken from within the grounds that become these closures but fishermen report that it was historically an important fishing area.

[1] Page 20 https://www.afma.gov.au/sites/default/files/uploads/2014/03/Australian-Sea-Lion-Management-Strategy-2015-v2.0-FINAL.pdf

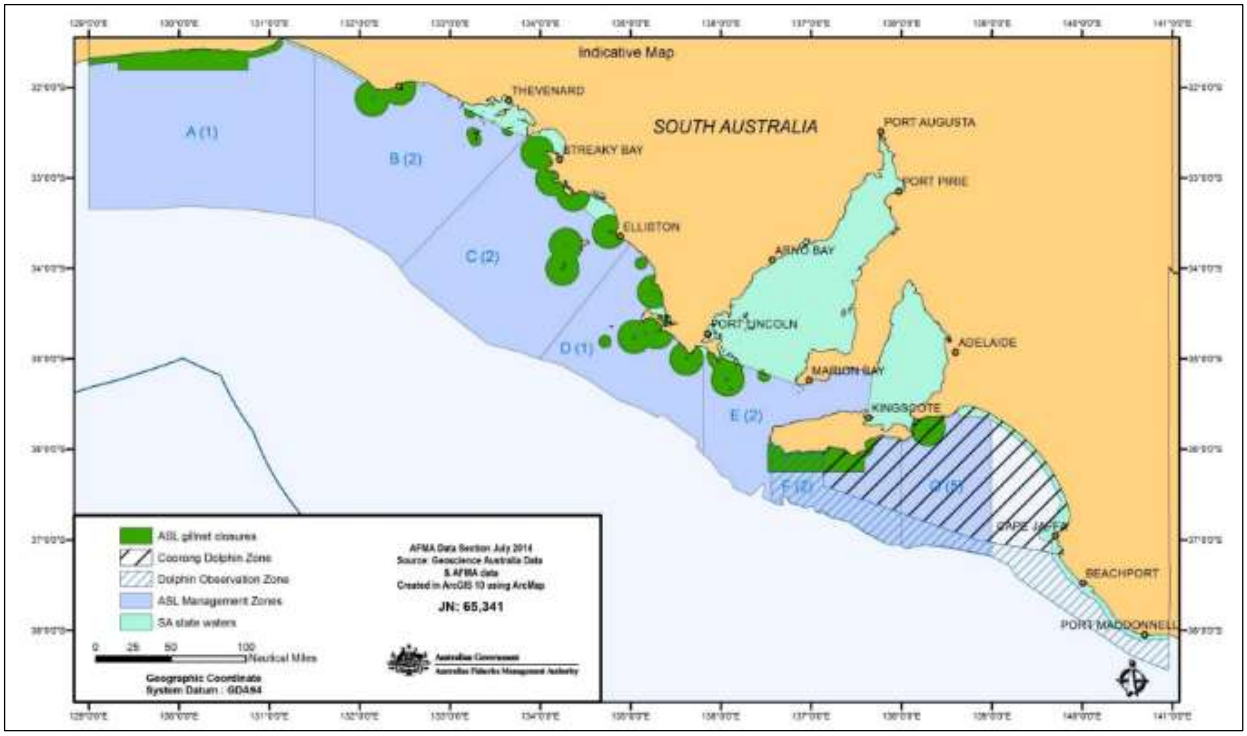

Figure 2 Gillnet closures for the protection on marine mammals in South Australia – Australian sea lion closures shown in green.

When grounds were closed, gummy shark became more difficult to catch and catch costs increased. Vessels deployed into other fisheries and there were less vessels targeting gummy shark. The demand for quota (from vessels) declined so therefore the lease price for quota fell.

As a result, gummy shark quota capital value fell from ~$40,000/tonne to ~$25,000/tonne. Based on the size of the quota this represented a total capital loss (asset impairment) of ~$25m (see Figure 2). The same chart also shows that this value drop occurred even through the retail price of gummy shark continued to climb (potentially due to reduced supply of gummy shark into the market).

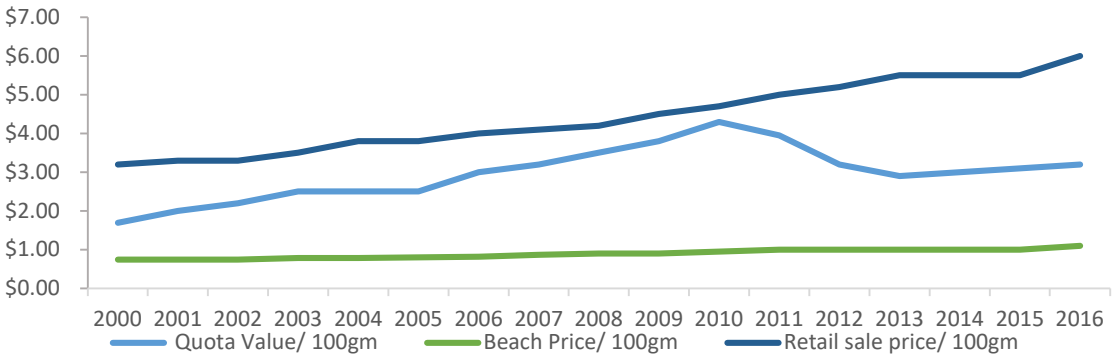

Figure 3 Gummy shark quota value, beach rice and retail price – all per 100g.

This example shows how and why the value of fishing rights in a fishery are likely to be negatively impacted by any transfer of the fishing right to offshore renewable energy companies in the form of commercial fishing exclusion.

The fishing industry has not historically been compensated for the loss of fishing grounds caused by fishery management closures because they are a direct consequence of the commercial fishing itself. Further, when ground closures are used for purposes of rebuilding fish stocks or protecting juvenile fish and breeding areas, in time these closures will have a positive impact on fish stocks and presumably on future fishing profits as

well as access right values. It is clear however that there is no direct future benefit to the fishing industry from displacement by renewable energy generators who will profit from the fishing industry's absence.

4.5. There have been long term cumulative impacts on fishing property rights

The trawl fishing footprint is limited by the permitted fishing grounds (the area allowed to be fished).

It is also naturally limited by unfishable ground that is too rough and too risky to fish, fish productivity: some areas are non-productive are generally not fished. The fishing ground's proximity to ports of domicile, markets, and other services also limits its use.

In addition to these natural restrictions, numerous negative management interventions and incursion by newcomer shared marine space industries have had a significant cumulative impact on fishing. Interventions over the last 20 years include:

- Fishery closures put in place to manage fish stocks (like those shown in Figure 2).
- Marine parks (388,000km^2 in south-east Australia) that protect sensitive marine habitats from potentially damaging fishing gears and other threating activities and also provide reference points.
- Permanent fishing exclusions called petroleum safety zones (PSZs) which protect fragile oil/gas seabed infrastructure.
- Temporary displacement by marine seismic companies and oil/gas companies. Two surveys are planned in the Otway region of western Victoria in 2023-24 and numerous drilling programs are ongoing.

The CSIRO has mapped the extent of trawl fishing in South East Australia finding that (at that time) only 6% of the seafloor in the fishable area 3nm from shore to 1,000m deep was trawled annually[2]. This study found that large areas (44% in total) are closed by marine parks (9%) and fishery closures (39%) – with some overlap.

The Australian Fisheries Management Agency (AFMA) closed significant additional trawl grounds off Gippsland in May 2023. The purpose of these new closures is to rebuild several fish stocks that have declined due to climate change. These new closures will further reduce trawl catches in the mixed species part of the trawl fishery, further reducing the trawl footprint downward from the 6% calculated by CSIRO in 2015 to perhaps 4% or 5%.

Under their trawl and shark Permit SFRs, all the proposed SOWZ is currently available to the shark and trawl fisheries.

[2] http://nerpmarinebiodiversity2015.report/predicting-benthic-impacts-and-recovery-to-support-biodiversity-management-in-the-south-east-marine-region/

4.6. Prospectivity adds to the value of the Vessel SFR

Prospectivity is a term first used by the mining industry to describe the potential for future discoveries of valuable resources that might one day be extracted. The same phenomenon exists in commercial fishing. Thus, some of the value of the Vessel SFR is the inherent potential to fish in new areas and catch existing fish stocks or new stocks with emerging value. Over the last five years new fisheries have developed in the south east including an octopus trap fishery and a hagfish pot fishery. The loss of grounds (in this case due to displacement by renewable energy companies) is a reduction of future prospectivity which further erodes the value of the Vessel SFR.

5. OUR APPROACH TO SHARED MARINE SPACE

SETFIA is well resourced to develop mutually positive outcomes and has been actively assisting proponents wishing to enter shared marine space to understand and with the fishing industry.

SETFIA and SSIA do not broadly oppose all shared marine space projects (oil, gas, carbon sequestration, fish aggregation devices, aquaculture development, gas arbitrage, gas/electricity transmission and offshore marine windfarms). Rather, SETFIA and SSIA's high level aim is to reduce mutual risk and impact and seek co-existence if possible. SETFIA's six position statement regarding shared marine space are that the fishing industry:

1. Enjoys and uses the products (renewable energy, oil, electricity, gas etc.) and acknowledges the need for these products and their contribution to the economy.
2. Will act in good faith, with all users of the marine environment and expect the same from shared marine space proponents.
3. Expect the Proponent to minimise and mitigate the impact of their activities on the fishing industry where reasonably possible (which generally must occur under the applicable Act in any case).
4. Expects the Proponent to actively undertake and finance the work required to minimise impacts and risks on both industries.
5. Expects the Proponent to consult with integrity and to consider all requests of relevant stakeholders proportional to the extent of individual stakeholders. Biasing the presentation of stakeholder feedback to the Regulator to suit existing plans (*consultation shopping*) is unacceptable and will be called out.
6. Expects that if the incumbent fishing industry is displaced by new industries that profit from fishing's absence, that these industries will pay reasonable compensation for lost catches and loss of property right asset value.

SETFIA has created a collaborative shared marine space environment and assisted around 40 shared marine space proponents undertake major projects in the trawl fishery without major incident. On only one occasion in the last decade did the fishing industry and a foreign national proponent not reach a mutually beneficial and co-operative position. In that case NOPSEMA upheld SETFIA's complaint with the marine seismic survey company paid $3m in compensation to the fishing industry.

5.1. Co-existence is probably not possible for trawl and shark fishing

Co-existence between the commercial fishing and renewable energy industries must always be the goal and is the first of this submission's recommendations (8.1).

The fishing industry has completed several studies on behalf of offshore marine windfarms in Gippsland assessing the forces of commercial fishing; fishing vessel impact, fishing gear impact, anchor drop, anchor drag and where applicable the force required to *unsnag* fishing gear.

There are several inherent issues that make co-existence between fisheries and offshore renewables difficult, these include: safety risks (collision, cable damage/entanglement), or the distance between infrastructure (such as wind turbines being sufficient to allow safe fishing operations).

The fishing industry has not yet formed a view on the level of risk that fishing vessels present to windfarms and other renewable energy infrastructure nor to what level of risk is acceptable.

However, it is the view of the two associations that for safety reasons, trawl and gillnet fishing will unfortunately probably not be able to continue within the part of SOWZ in which windfarms are placed.

6. PROCESS TO DECLARE OFFSHORE RENEWABLE ENERGY ZONES

The South East Australian fishing industry understands the need to reduce Australia's carbon emissions and Australia's commitments to international targets. However, the south-east fishing industry's efforts to be part of this solution have been largely rebutted by the Australian Government to date.

6.1. There is an opportunity to reduce the impact on fishing

Given that co-existence with trawl fishing is highly unlikely (there is no trawl occurring globally within windfarms) and for shark gillnet and longline it is unlikely, it is critical that the area released for future renewable energy generation be the optimum compromise of the requirements of windfarms but positioned in low fishing areas (for fishing methods that will be displaced). However, this is complicated by a void of understanding regarding which fishing methods will be unsafe, which will be permitted, and which fisheries might even have improved catch rates.

The use of fine scale fishery data in Gippsland meant that SETFIA was able to negotiate the removal of a section of a feasibility licence application with an applicant which removed all trawl fishery overlap halving the total impact on commercial fishing. The fishing industry worked constructively with numerous applicants during the Gippsland process and thanks them for their good will.

Of note is that some Gippsland applications had almost no impact while others impact to end a small fishery by removing access to most of their grounds. The difference in Gippsland between the least impactful and most impactful windfarm proposals was a factor of 140 (i.e. the most impactful windfarm proposal covered 140 times more fishing catch than the least, per 100km^2 of proposed windfarm).

With the permission of feasibility licence applicants SETFIA and SSIA wrote several letters to the Registrar explaining the impacts of various proposals in the context of the average. The Associations noted that several proposals were very low impact.

6.2. The consultation process is weakened by the use of no or poor fishing data

To some extent the process to date has been 'tokenism', where consultation is a mere prerequisite that occurs prior to the area being declared.

The fishing industry is particularly frustrated by repeated comments from the Australian Government, including the document titled, "Marine Users, Interests, and the Environment", to the affect that co-existence between fishing and windfarms will be possible. It is most likely that it will not for many or most fishing gears. The process would benefit from accepting this.

The Offshore Infrastructure Regulator recently released a document titled, *Offshore renewables and interactions with fisheries June 2023*. The document states that "project developers should not be undertaking project-specific consultation with stakeholders". This is a high-risk strategy that might inadvertently see the Minster forced to make a decision based on misleading fishery data when there were other win/win options that could have been selected.

The fishing industry's fear is that at best only coarse fishing intensity data has been considered. The Australian Government and some windfarm proponents in Gippsland have explained to the fishing industry that it has relied on fishing data from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). Although this data is a useful starting point it has numerous weaknesses:

- It is recent and does not consider medium term (decades) changes in fishing locations.
- It is generally at a resolution of 60 nautical mile grids (one degree) meaning that the data can be misleading and fishing locations be moved up to 60 nautical miles toward or away from the area of interest.
- It considers effort in by fishery only as high, medium and low.
- It does not consider all fisheries because it generally does not consider those run by the States.
- It generally does not consider catch.
- It generally does not consider the revenue from catches.

The ABARES trawl footprint reproduced below in Figure 4 should be compared to the output that is possible using fine scale data and analysis as set down in Table 3, Figure 7, Figure 9 and Figure 10.

The fishing industry has by far the strongest commercial property right in the area under consideration, so it is a significant failing of the process that fine scale commercial fishing data was not considered, or at least not put forward within the consultation documents, for the SOWZ under consideration. This is especially disappointing given that the Commonwealth Government is running the consultation process and is also the holder of Commonwealth fisheries dataset which details the shark and trawl fishing occurring in the area under consideration.

The detail applied, or at least provided, has been significantly inferior to that used in the planning of the Commonwealth Government's marine parks a few years ago.

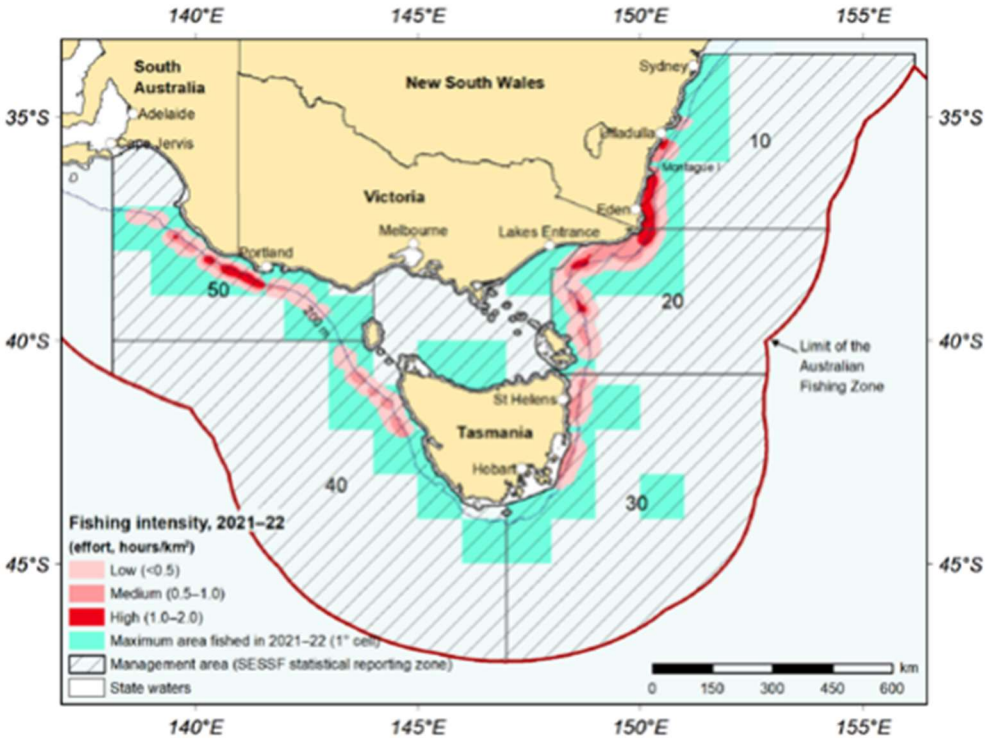

Figure 4 ABARES: Fishing intensity in the Commonwealth Trawl Sector for (a) otter-board trawl and (b) Danish-seine, 2021–22 fishing season.

6.3. The use of fine scale fishing data is the solution

This submission contends that the aim of the consultation process with the fishing industry is to inform the Minister's decision about commercial fishing occurring in the SOWZ and how the zone and commercial fishing could be best separated or co-exist.

It has fallen to the fishing industry to engage (at our cost) suitably skilled mapping and data consultants to apply for and analyse historical fishing data in the area under consideration. Only the improved data request turnaround performance of AFMA (which we thank them for), and the experience of the fisheries consulting firm engaged, have made this possible within the short period provided for consultation.

The data presented that follows in this report is the output of a 20-year data request (expressed as an average annual) placed on and supplied by AFMA for the trawl and shark fisheries. The analysis uses the start position of every fishing operation (tow or set) considering its catch, effort and revenue if it was within the SOWZ. As such, the analysis that follows in this submission is a very accurate representation of thousands of fishing operations in these two fisheries over two decades.

Our hope is that the process acknowledges and takes account of the constructive work undertaken by SETFIA and SSIA.

7. IMPACTS OF THE PROPOSED SOUTHERN OCEAN WINDFARM ZONE

7.1. Trawl fishery grounds have been impacted by recent changes and face several new threats

In addition to the significant long term management changes and spatial incursions by other users (set down in 4.5) there has been an acceleration of significant changes to management settings and spatial displacement in last two years in the trawl fishery. These are set down visually in Figure 5 where it is evident that most trawl fishing grounds are now closed.

Noteworthy recent management interventions in the trawl fishery include:

1. The establishment of five closures in key eastern fishing grounds on 1 May 2023 that are modelled to reduce catch by nearly 700 tonnes and will push vessels from the east to the west toward the proposed SOWZ.
2. The impact of these five closures was so significant that the Australian Government implemented a $23m structural adjustment that has reduced trawl permits (Vessel SFRs) from 57 to 36 (effective July 1, 2023).
3. A precautionary change to an estimated biological variable within the eastern orange roughy assessment model that reduced the total allowable catch by around 20% (200 tonnes of annual catch) and will do so going forward.
4. A $1m * 3-year (total $3m) Australian Government levy subsidy, for which the industry is very grateful. This is mostly applied to this inshore trawl mixed species fishery described in C below. The industry is currently insulated from levies but will have a hard landing in 18 months when levies are fully reapplied.

A series of future threats also confront the trawl fishery:

5. The declaration in December 2022 of a ~14,000km^2 renewable energy zone (windfarm zone) off Gippsland[3]. SETFIA modelling indicates impacts perhaps in the range of 20t of catch lost per annum in 5-7 years. See yellow shaded area in the east of Figure 5 indicating the now-declared Gippsland REZ.
6. The SOWZ but also future renewable energy zones in Illawarra and Northern Tasmania.
7. The current review of South-East Marine Park Network is unlikely to impact the trawl fishery given current zoning (allowed activities) within all parks already excludes trawling. However, if amended marine park zoning impacts other Commonwealth fisheries these fisheries will be displaced into grounds traditionally fished by trawlers.
8. The scheduled creation of carbon storage leases in Bass Strait with unknown impacts.
9. Several wellhead decommissioning disruptions as well as new wellheads in the west.
10. Two major marine seismic surveys (MSSs) in western Victoria over the next few years. And a pattern of such surveys displacing the fishing fleet every three to five years in that area. It is now normal for MSS proponents to compensate the fishing industry for this displacement when catch rates decline.

[3] SETFIA and SSIA submission on the Gippsland area under consideration here: https://consult.dcceew.gov.au/oei-gippsland/feedback/view/692

7.2. One of three trawl sub-fisheries is impacted by the SOWZ

The trawl fishery's annual catch is ~11,000-16,000 tonnes with the fishery composed of three distinct sub-sectors with minimal overlap between vessel operators within each:

A. The ~1,200t deepwater sector (orange roughy and dories) which has been slightly impacted by 3 above.

B. The ~6,000-11,000 tonne (2022) deepwater foreign (New Zealand) freezer boat blue grenadier fishery on Tasmania's west coast (south of this MSS).

C. The inshore mixed species fishery of ~4,000 tonnes. This has declined by 700 tonnes for reasons outlined above in 1 from 2023 onwards.

The proposed SOWZ overlaps mostly with this third mixed inshore component of the trawl fishery (as well as the shark fishery). And it is this inshore mixed part of the trawl fishery that has been most impacted by recent changes in management.

7.3. The shark fishery's grounds are threatened by many forces

The shark fishery has experienced similar long-term events (explained in 4.5) as well as a series of currently live threats that have or might further reduce the fishery's grounds from those that remain, shown in Figure 6.

Current threats that may further displace the shark fishery include:

1. The declaration in December 2022 of a ~14,000km^2 renewable energy zone (windfarm zone) off Gippsland[4]. Detailed SSIA modelling indicates impacts perhaps in the range of up 100t per annum of shark catch lost (albeit in 5-7 years) depending on the number of windfarms commercialised. See yellow shaded area to the east of Figure 5 indicating the now-declared Gippsland REZ.

2. The SOWZ and a future renewable energy zone in Northern Tasmania. Impacts from the loss of fishing grounds off Northern Tasmania would likely be in the range of those modelled in Gippsland – 100 tonnes of annual catch.

3. The current review of South-East Marine Park Network has the real possibility to impact shark fishing because the current *zonation* (allowed activities) within about half of these parks already allows shark fishing methods because they have minimal impacts on benthic habitats.

4. The scheduled creation of carbon storage leases in Bass Strait with unknown impacts.

5. Several wellhead decommissioning disruptions as well as new wellheads in the west.

6. Two major marine seismic surveys (MSSs) in western Victoria over the next few years. And a pattern of such surveys displacing the fishing fleet every three to five years in that area. It is now normal for MSS proponents to compensate the fishing industry for this displacement when catch rates decline.

The gillnet fishery is particularly exposed to additional displacement given the currently high management levy charged (Table 1: 7% of current shark fishery catch revenue) - this will increase per kg of landed catch and as a % of catch revenue, as catches fall.

[4] SETFIA and SSIA submission on the Gippsland area under consideration here: https://consult.dcceew.gov.au/oei-gippsland/feedback/view/692

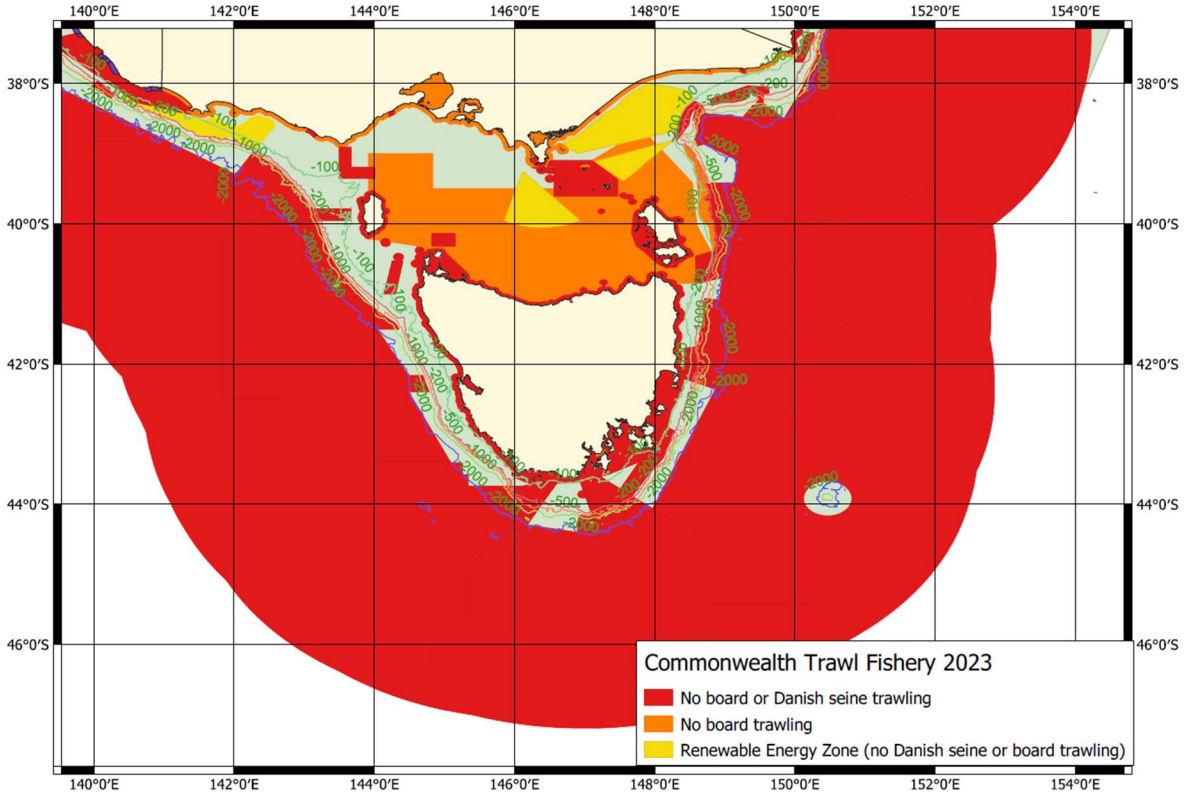

Figure 5 Trawl fishery ground losses over previous 20 years

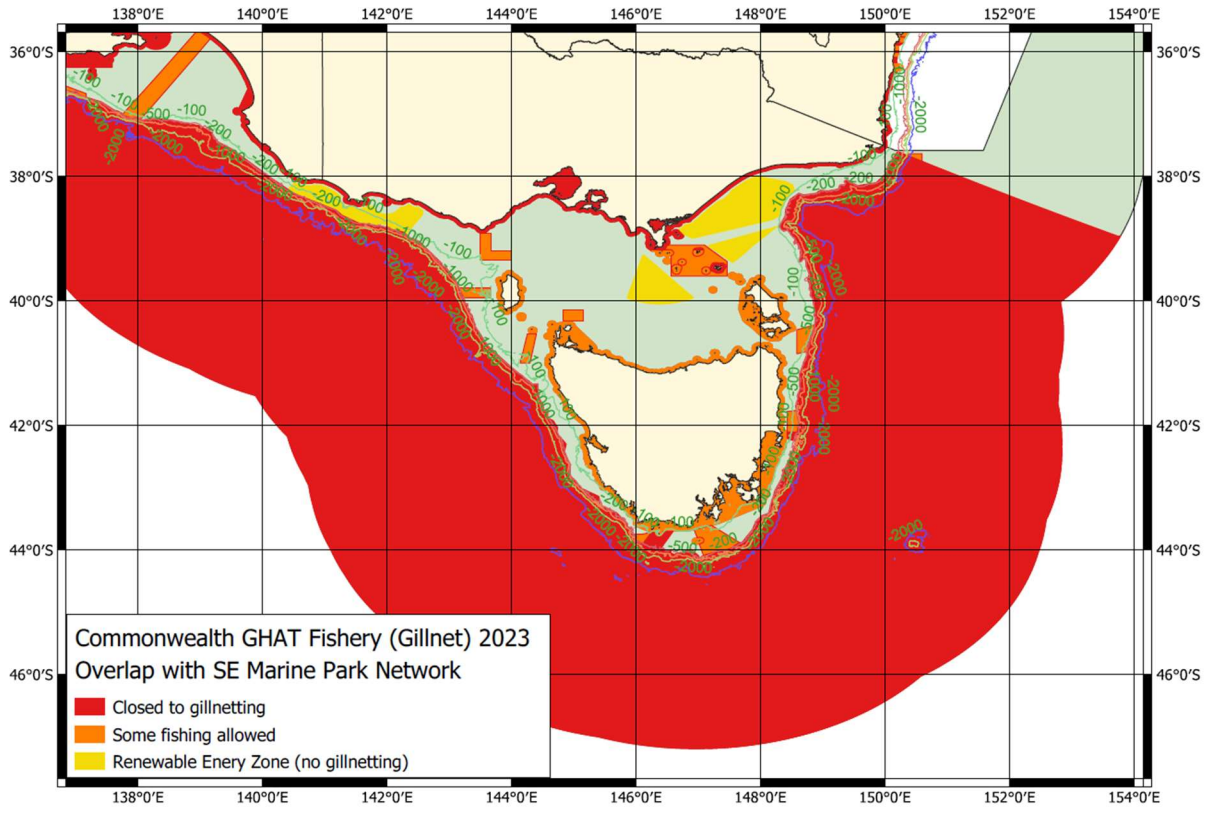

Figure 6 Shark fishery grounds losses over previous 20 years.

7.4. Current Commonwealth fishing in the proposed SOWZ

The proposed SOWZ overlaps with 12 Commonwealth managed fisheries (and many other from South Australia and Victoria which are not the domain of this submission). However, only six of these have catch recorded from with the proposed SOWZ in the last 20 years. Both groups are shown in Table 2. Both the shark fishery and trawl fishery have recent catch in the proposed area. The remaining four fisheries are not the subject fisheries authoring this submission, so this report has not mandate to present them.

Table 2. Fisheries entitled (legally permitted) to fish in the proposed SOWZ that either actively have, or have not, fished there in the previous 20 years.

	Commonwealth-managed fisheries
Active	Commonwealth Trawl Sector (trawl)
	Gillnet, Trap and Hook Sector (shark)
	Southern Squid Jig Fishery
	Eastern Tuna and Billfish Fishery
	Southern Bluefin Tuna Fishery
	Victorian Inshore Trawl Fishery[5]
Inactive	Bass Strait Central Zone Scallop Fishery
	Small Pelagic Fishery
	Jack Mackerel Fishery
	Eastern Skipjack Tuna Fishery
	Western Tuna and Billfish Fishery
	Western Skipjack Tuna Fishery

Both subject fisheries are impacted to approximately equal extents by the proposed SOWZ:

- The trawl fishery has 31 tonnes of annual average catch within the proposed zone of mixed species (see Figure 12).
- The shark fishery has 30 tonnes, mostly gummy shark (see Figure 11).

Figure 7 and Figure 9 show that all the trawl effort within the proposed SOWZ is board trawling and that there is no Danish seining occurring. Further, this data shows that the board trawling is occurring on the deeper southern edge of the proposed zone. Figure 8 shows that board trawlers have utilised this contour line consistently for at least the previous 11 years. SETFIA members in Portland confirm that they fish from 150m and deeper and that the grounds are critical for the continued economic survival of the mid trawl species component of the trawl fishery (described on page 18).

Similarly, Figure 10 shows that shark gillnetting is only occurring in the north-eastern corner of the proposed zone.

[5] A Commonwealth permit that is an addition to the trawl vessel permit.

Table 3 Commonwealth shark and trawl fishery overlap (in order of overlap) with the proposed SOWZ - fishery, catches, TAC, recent fishery total catch, average catch per 100km2 (of proposed zone), average annual revenue.

Fishery	Fishing methods (gears)	Average annual catch in area (tonnes)	Average annual catch (tonnes) in area per 100km² (tonnes)[6]	Average annual revenue from area ($A)
Trawl Fishery	Danish seine, board trawl	31.9	0.6	$159,000
Trawl Fishery VIT[7]	Danish seine	confidential	confidential	confidential
Shark Fishery	Gillnet, longline variants	30.0	0.6	$267,000
TOTALS		**61.9**	**1.2**	**$426,000**

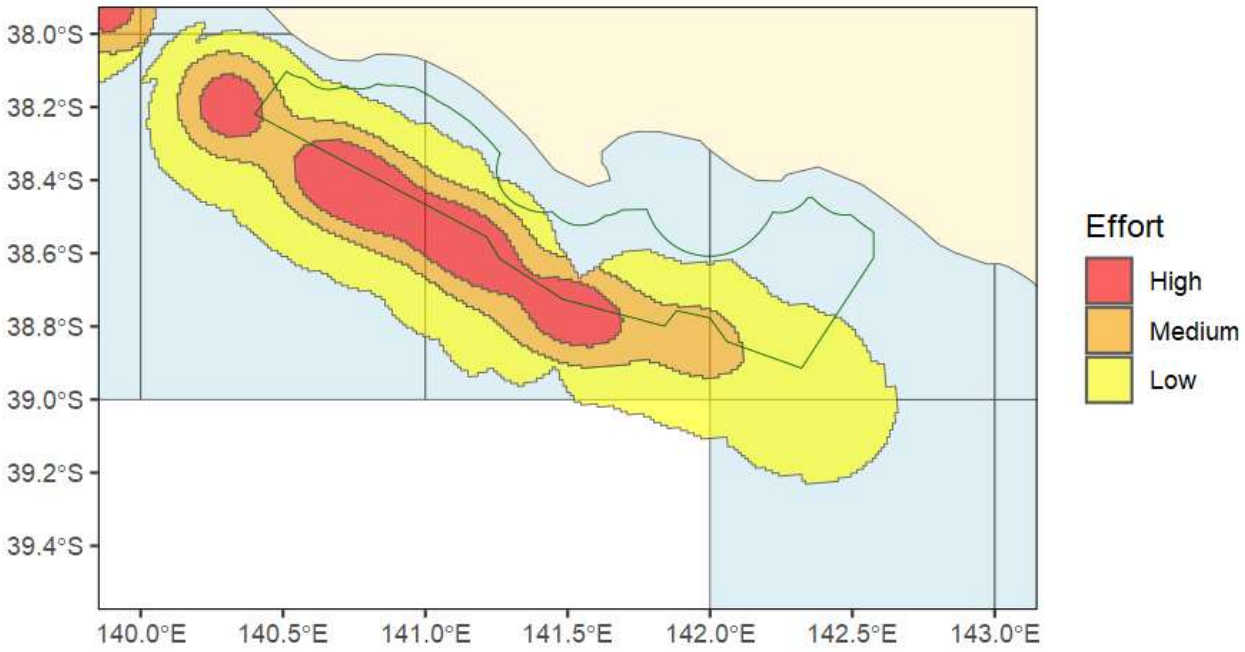

Figure 7. Map showing effort reported by the Commonwealth Trawl (otter trawl) Fishery for 2020-21. The blue shaded areas show the total area fished and the yellow-red scale shows relative fishing effort. Green polygon shows the SOWZ.

[6] The proposed SOWZ is 5,135km².

[7] A trawl fishery Commonwealth endorsement allowing Danish seine gear on trawlers to be used inside Victorian coastal waters.

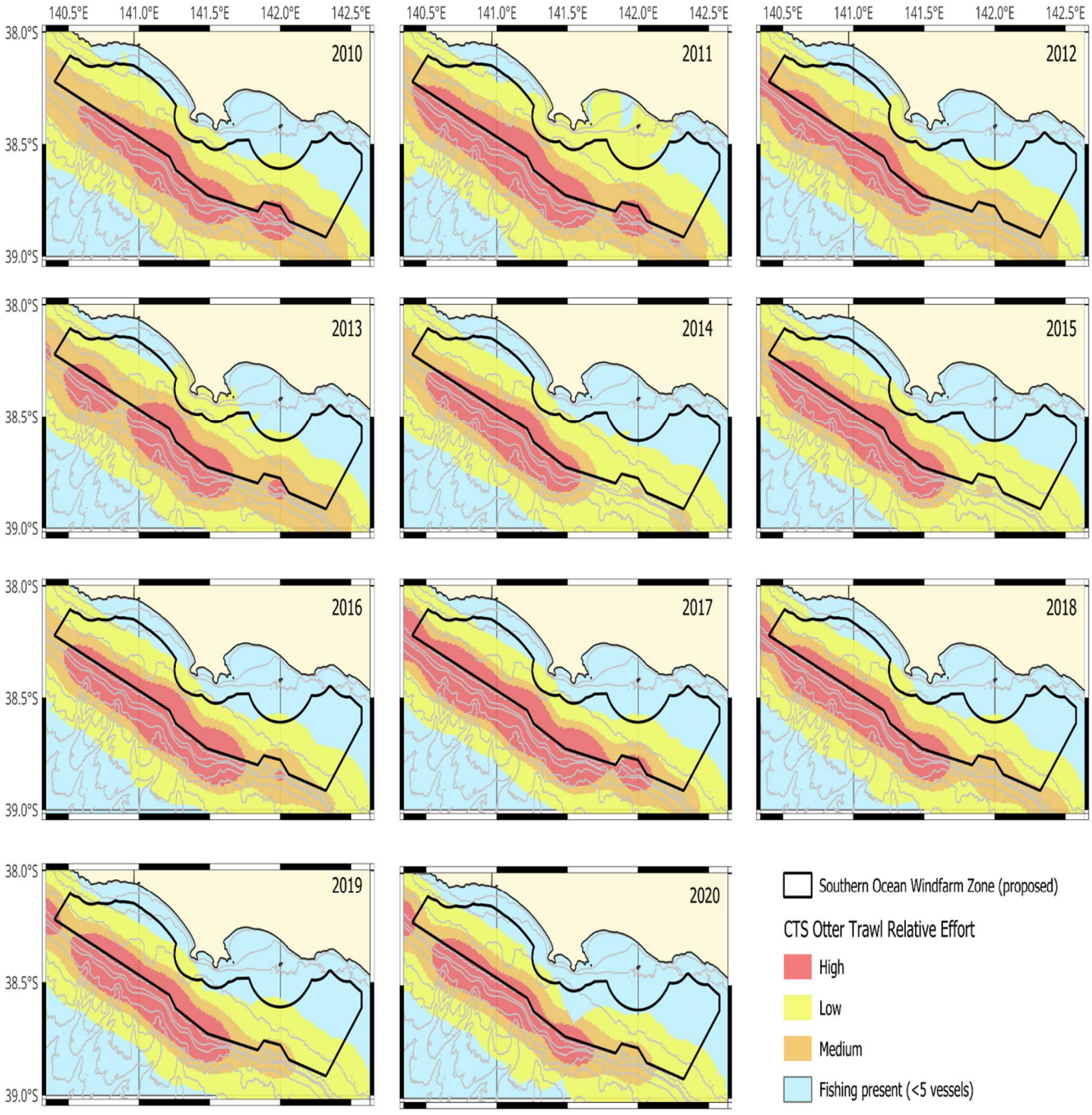

Figure 8 Board trawl effort 11 years 2010-20 (fine scale presentation of ABARES data)

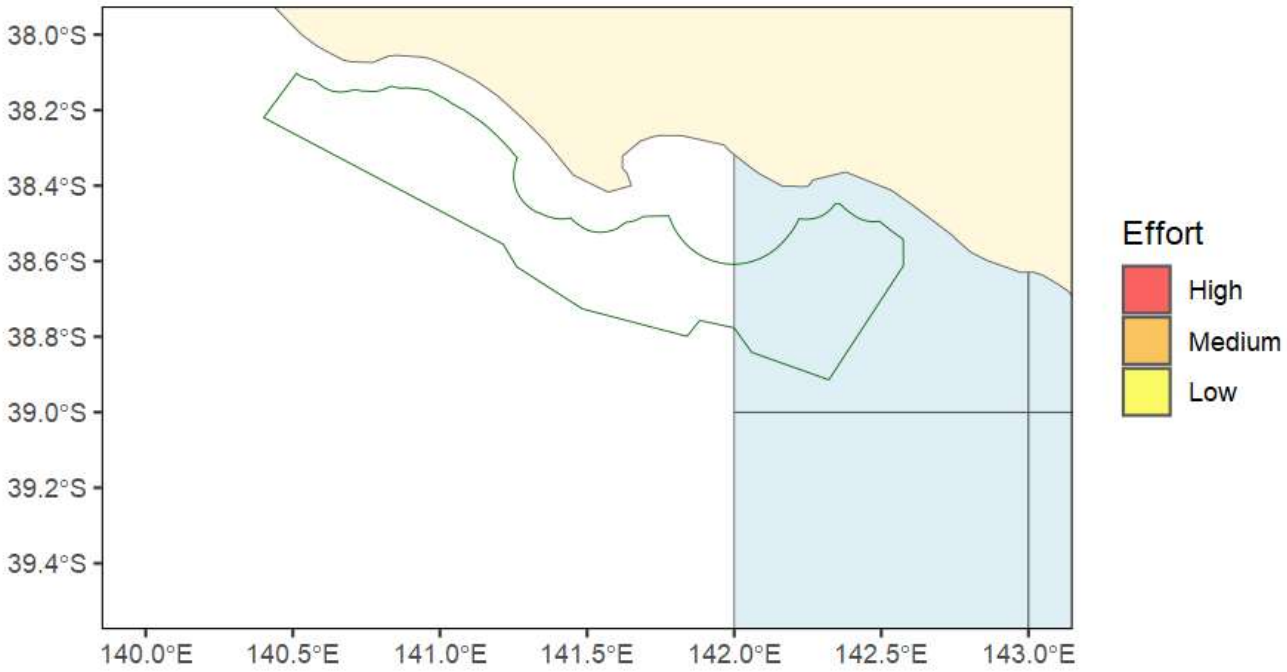

Figure 9. Map showing effort reported by the Commonwealth Trawl (Danish seine) Fishery for 2020-21. The blue shaded areas show the total area fished and the yellow-red scale shows relative fishing effort. Green polygon shows the SOWZ.

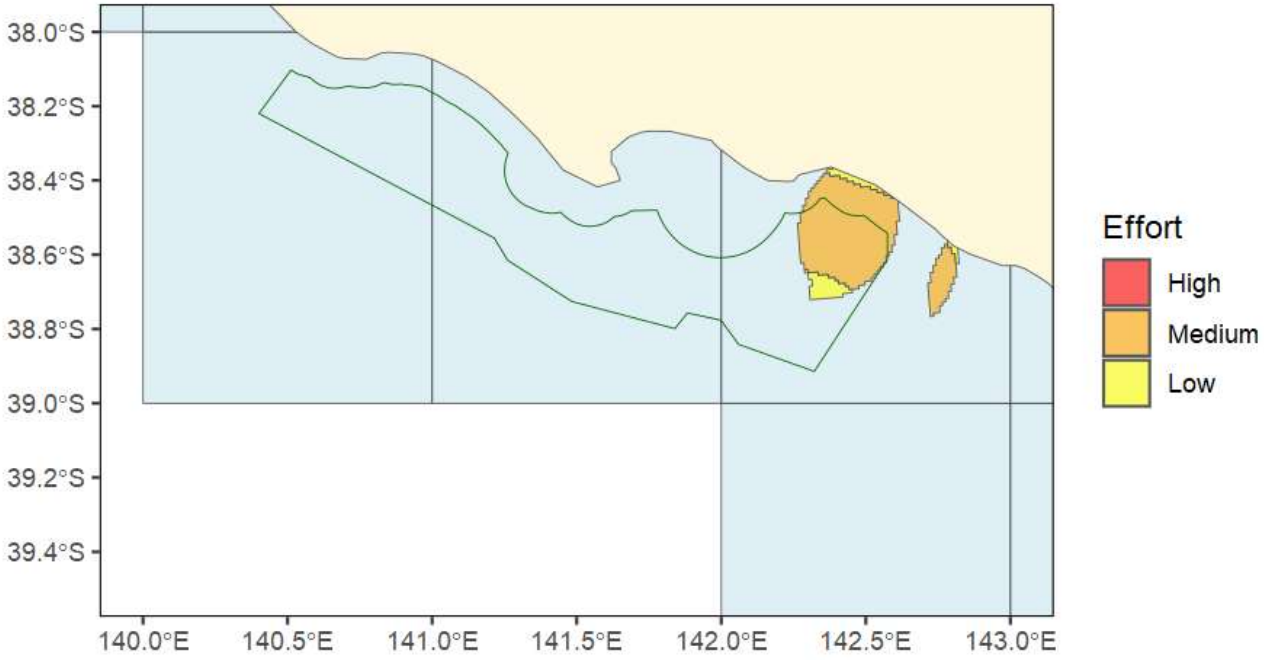

Figure 10. Map showing effort reported by the Shark Gillnet Fishery for 2020-21. The blue shaded areas show the total area fished and the yellow-red scale shows relative fishing effort. Green polygon shows the SOWZ.

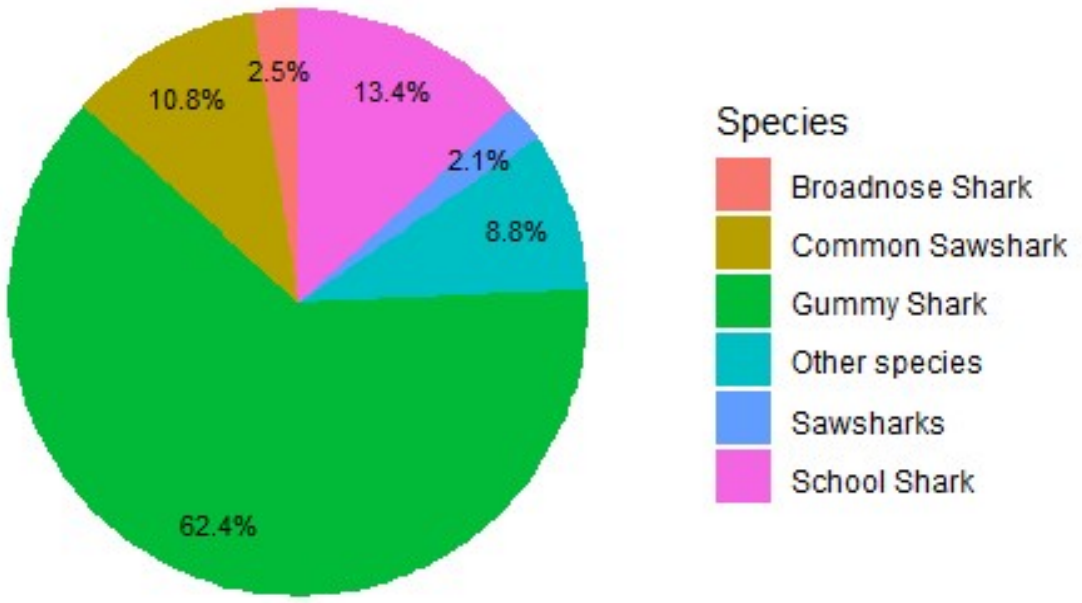

Figure 11 Catch composition of main shark fishery catch species within the proposed SOWZ.

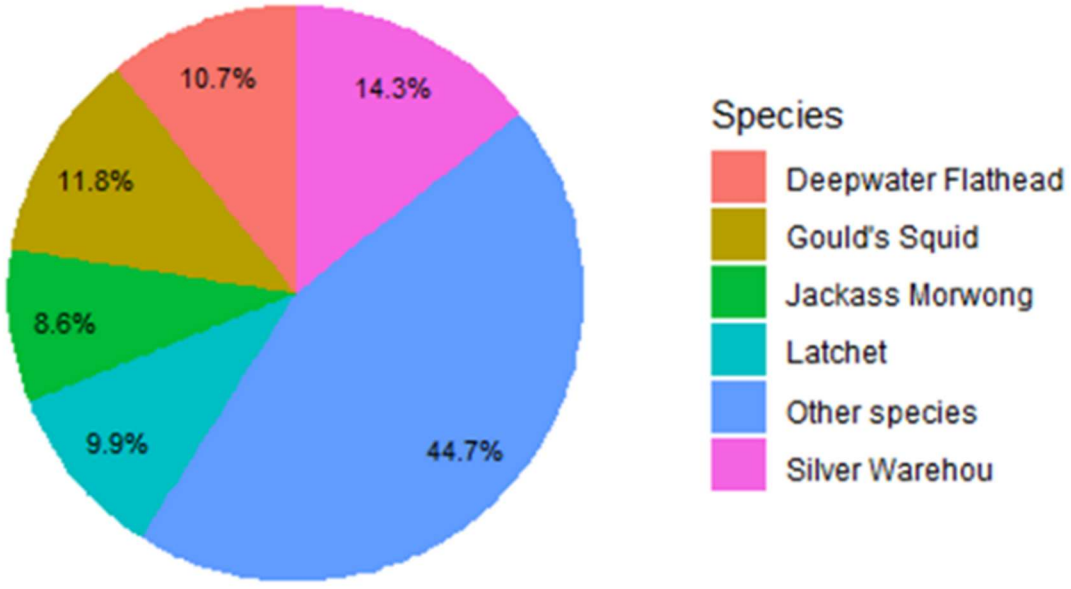

Figure 12. Catch composition of main trawl caught species from the proposed SOWZ.

8. RECOMMENDATIONS

8.1. The aim should be co-existence but it is likely not possible

Where possible, co-existence of renewable energy generation and commercial fishing must be the goal. Although a noble principle, the reality of commercial fishing using trawl nets and shark gillnets within a windfarm array is that it will most likely not be safe, and fishing will not continue.

8.2. The area declared can avoid shark and trawl fishing

As per Figure 7 the SOWZ should be declared only to 150m. Similarly, Figure 10 shows an important shark gillnet fishing area in the north-east corner of the proposed zone which should also be excised from the declared zone. These two modifications significantly reduce impacts on both fisheries.

8.3. Fair compensation must be paid to three fishing industry beneficiaries

The fishing industry (and its financers) believed this Commonwealth fishing property right to be strong and therefore bought, sold and borrowed against it. The proposed transfer of rights will reduce fishing vessel profits and therefore reduce (impair) asset values in the balance sheets of south eastern fishing companies. Compensation must be paid to the fishing industry for these reasons.

Part 2 Division 4 of the *Exposure Draft Offshore Electricity Infrastructure Regulations 2022* sets down that the Minister can consider:

- Section 85/4(d) other users;
- Section 85/4(e) measures can be proposed mitigate conflicts (presumably including financial measures); and,
- Section 90 financial offers.

Compensation must be paid to three beneficiaries:

1. **Operators (fishing businesses)**
   The recommendations in 8.2 significantly reduce or even remove the impact on shark and trawl fishing businesses. However, if these recommendations are not taken up and fishing is displaced, operators will be forced to fish in area of lower fish abundance, they may not catch the fish they historically did and even if they do, catch costs will increase. The reasoning for this is set down in the case study in section 4.4. Compensation formulas are available and have been based on lost catch and prices. Windfarm developers seem to accept that such a payment is essential.

2. **Quota Owners (quota SFR owners)**
   Compensation must also acknowledge that quota owners are being disadvantaged by the impairment of asset values due to reduced lease fees paid (even if the company is vertically integrated and is currently catching quota it owns). This too is explained in section 4.4. Further, quota SFR owners pay the Commonwealth Government significant annual levies. However, if grounds continue to be gifted to other industries and/or closed the quota cannot be caught and has less value.

3. **Vessel Permits (Vessel SFR owners)**
   Inherent in the vessel SFR was future prospectivity; the potential to catch new fish species and fish in new areas – so losing grounds reduces the value of this within the Vessel SFR. Equally if grounds continue to be gifted to new industries the trawl industry will again generate latent capacity of licences (latent effect), the shark industry already has latent effort.

Community Benefit Fund may be part of the compensation solution

SETFIA is currently working with several oil and gas companies in eastern Bass Strait who have advised that after 40-50 years of energy production that they now plan to decommission. The fishing industry's understanding was always that full decommission would occur and fishing grounds would be returned to their natural state. However, oil/gas companies are instead now proposing leaving their assets in place (to some extent). These abandoned infrastructure remnants are a safety risk for fishing and reduce fishing grounds forever. The abandonment of oil and gas infrastructure provides no benefit to the fishing industry.

To move forward the fishing industry in Eastern Bass Strait has proposed to the departing oil/gas industry the establishment of a 'community benefit fund'. Such a fund might form part of the compensation paid by windfarms. Annual payments would be made by newcomer industries displacing the fishing industry. The fund would be administered by a board made up of the fishing industry and the fund's funders. The entity may have goals which include the reduction of the costs of fishing, increase revenues and improve safety. The concept has also been tabled with Gippsland windfarm applicants and it is possible that both the oil/gas industry and renewable energy industry could participate in the same fund.